INPRATEX

EQUIPMENT & SOLUTIONS FOR HAZARDOUS AREAS

PRODUCT CATALOG

C18.26

INPRATEX

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EXPLOSION PROOF PRODUCTS AND SOLUTIONS FOR HAZARDOUS AREAS.

Equipment supply, Engineering and Manufacturing.

Inpratex provides a wide range of custom-made products and solutions for different industries operating in hazardous and potentially explosive environments.

Inpratex SL is based in Eibar (Gipuzkoa, Spain). We are specialists in supplying equipment, in engineering and in the manufacture of products for industries working in Hazardous Areas.

Our engineering team provides solutions combining the limitations related to the use of the equipment with the potentially dangerous environment in which it must be used.

Inpratex supplies ATEX/IECEx equipment and custom-made solutions for manufacturing and process industries.

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1 LIGHTING SOLUTIONS

1 - LIGHTING SOLUTIONS

Inpratex proposes a wide range of ATEX-certified industrial lighting solutions, designed for safe and reliable operation in hazardous areas, both indoors and outdoors.
Our equipment is specifically developed for workplaces with potentially explosive atmospheres caused by gases or vapours (Zones 1 and 2) or combustible dust (Zones 21 and 22).

The range includes high-efficiency industrial LED luminaires, emergency lighting fixtures, floodlights, suspended lamps, and, in general, robust and durable lighting systems for industrial plants, storage areas, tanks and process zones where there is a risk of explosion.

Inpratex also offers a selection of portable ATEX-certified lighting equipment, ideal for maintenance, inspection and temporary work in explosive atmospheres, ensuring maximum safety and operational reliability at all times.

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Our product ranges are constantly updated on our website: ***www.inpratex.com***

1.1

LIGHT FITTINGS

LED LIGHT FITTINGS

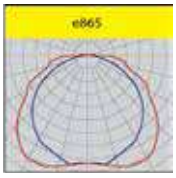
ZONES 1, 2 (gas) & 21, 22 (dust)

For lighting of hazardous areas zone 1 and 21, the product series e865 is the perfect choice. It excels with its innovative encapsulated LED modules, the sandwich design of diffuser and reflector to protect the LED modules from mechanical and electrostatic damage, as well as homogeneous illumination and excellent glare limitation because of the frosted diffuser.

High-quality LED and electronic control gears guarantee high efficiency and an extremely long service life. And with the FastFix quick mounting system, installation of the light fittings is easy and saves time.

Supplied without mounting brackets.

EU-Type Examination Certificate



Looping the cable on one side: All light fittings of series nD866... have got 2 cable entries on one small side of the housing for cable looping instead of the through wiring system.

** This light fitting is not suitable for applications in areas with permanent high humidity in combination withonly short periods of operation, such as sewage orstormwater retention tanks or water treatment plants.*

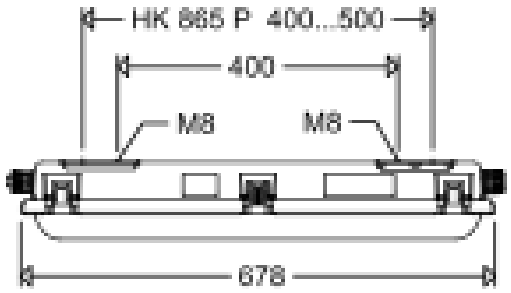
ITEM REFERENCES

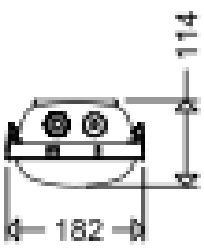
Designation:	Cover:	Power:	Luminous flux:	Luminous efficacy:	T. Max:	Weight:	Item No.:
Standard versions:							
e865F 06L22	Frosted	15 W | (2x18W)	2170 lm	145 lm/W	55 °C	4,6 kg	1A330A
e865F 06L42	Frosted	28 W | (2x36W)	4120 lm	147 lm/W	55 °C	4,7 kg	1A330B
e865F 06L60	Frosted	40 W | (2x58W)	5700 lm	143 lm/W	50 °C	4,7kg	1A330C
e865F 12L42	Frosted	28 W | (2x36W)	4360 lm	156 lm/W	55 °C	6,7 kg	1A3301
e865F 12L60	Frosted	40 W | (2x58W)	6020 lm	151 lm/W	55 °C	6,7 kg	1A3302
e865F 12L85	Frosted	54 W | (>2x58W)	8620 lm	160 lm/W	50 °C	7,0 kg	1A3305
Dimmable via DALI interface:							
e865F 06L42 DIMD	Frosted	28 W | (2x36W)	4120 lm	147 lm/W	55 °C	4,7 kg	1A3307
e865F 06L60 DIMD	Frosted	40 W | (2x58W)	5700 lm	143 lm/W	50 °C	4,7 kg	1A3308
e865F 12L42 DIMD	Frosted	28 W | (2x36W)	4360 lm	156 lm/W	55 °C	6,7 kg	1A3309
e865F 12L60 DIMD	Frosted	40 W | (2x58W)	6020 lm	151 lm/W	55 °C	6,7 kg	1A3310
e865F 12L85 DIMD	Frosted	54 W | (>2x58W)	8620 lm	160 lm/W	50 °C	7,0 kg	1A3311
For high temperature (through-wiring or looping the cable is not allowed):							
e865F 06L22 H65	Frosted	15 W | (2x18W)	2170 lm	145 lm/W	65 °C	4,6 kg	1A3312
e865F 06L42 H60	Frosted	28 W | (2x36W)	4120 lm	147 lm/W	60 °C	4,7 kg	1A3313
e865F 06L60 H55	Frosted	40 W | (2x58W)	5700 lm	143 lm/W	55 °C	4,7 kg	1A3314
e865F 12L42 H65	Frosted	28 W | (2x36W)	4360 lm	156 lm/W	65 °C	6,7 kg	1A3315
e865F 12L60 H65	Frosted	40 W | (2x58W)	6020 lm	151 lm/W	65 °C	6,7 kg	1A3316
For low ambient temperatures down to -40 °C:							
e865F 06L22 T40	Frosted	15 W | (2x18W)	2170 lm	145 lm/W	55 °C	4,6 kg	
e865F 06L42 T40	Frosted	28 W | (2x36W)	4120 lm	147 lm/W	50 °C	4,7 kg	
e865F 12L42 T40	Frosted	28 W | (2x36W)	4360 lm	156 lm/W	55 °C	6,7 kg	
e865F 12L60 T40	Frosted	40 W | (2x58W)	6020 lm	151 lm/W	55 °C	6,7 kg	

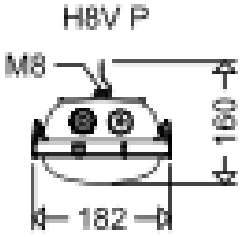
ITEM REFERENCES							
Designation:	Cover:	Power:	Luminous flux:	Luminous efficacy:	T. Max:	Weight:	Item No.:
Through-wiring versions:							
e865F 06L22 DV	Frosted	15 W | (2x18W)	2170 lm	145 lm/W	55 °C	4,6 kg	1A3317
e865F 06L42 DV	Frosted	28 W | (2x36W)	4120 lm	147 lm/W	55 °C	4,7 kg	1A3318
e865F 06L60 DV	Frosted	40 W | (2x58W)	5700 lm	143 lm/W	50 °C	4,7kg	1A3319
e865F 12L42 DV	Frosted	28 W | (2x36W)	4360 lm	156 lm/W	55 °C	6,7 kg	1A3320
e865F 12L60 DV	Frosted	40 W | (2x58W)	6020 lm	151 lm/W	55 °C	6,7 kg	1A3321
e865F 12L85 DV	Frosted	54 W | (>2x58W)	8620 lm	160 lm/W	50 °C	7,0 kg	1A3322
Light color 845 (4500K):							
e865F 06L22 845	Frosted	15 W | (2x18W)	2170 lm	145 lm/W	55 °C	4,6 kg	1A3326
e865F 06L42 845	Frosted	28 W | (2x36W)	4120 lm	147 lm/W	55 °C	4,7 kg	1A3327
e865F 06L60 845	Frosted	40 W | (2x58W)	5700 lm	143 lm/W	50 °C	4,7 kg	1A3328
e865F 12L42 845	Frosted	28 W | (2x36W)	4360 lm	156 lm/W	55 °C	6,7 kg	1A3329
e865F 12L60 845	Frosted	40 W | (2x58W)	6020 lm	151 lm/W	55 °C	6,7 kg	1A3330
e865F 12L85 845	Frosted	54 W | (>2x58W)	8620 lm	160 lm/W	50 °C	7,0 kg	1A3331
Light color 845 (4500K) through-wiring versions:							
e865F 06L22 DV 845	Frosted	15 W | (2x18W)	2170 lm	145 lm/W	55 °C	4,6 kg	1A3335
e865F 06L42 DV 845	Frosted	28 W | (2x36W)	4120 lm	147 lm/W	55 °C	4,7 kg	1A3336
e865F 06L60 DV 845	Frosted	40 W | (2x58W)	5700 lm	143 lm/W	50 °C	4,7 kg	1A3337
e865F 12L42 DV 845	Frosted	28 W | (2x36W)	4360 lm	156 lm/W	55 °C	6,7 kg	1A3338
e865F 12L60 DV 845	Frosted	40 W | (2x58W)	6020 lm	151 lm/W	55 °C	6,7 kg	1A3339
e865F 12L85 845	Frosted	54 W | (>2x58W)	8620 lm	160 lm/W	50 °C	7,0 kg	1A3340

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb mb q IIC T4 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Glass fibre reinforced polyester resin.
Cover:	Injected polycarbonate, frosted, silicone gasket.
Closure:	Stainless steel clips (KE), two of them as safety clip (KES), to be opened with screwdriver only.
Reflector:	Sheet Steel, painted, carrying the LED-modules and all electrical components, clipped into the cover, removable as a unit.
LED:	Line modules appr. 6,500K, CRI > 80 | L_{80} > 100.000h at max. ambient T. L_{90} > 85.000h (06L..) at 25°C ambient T. | L_{90} > 80.000h (12L..) at 25°C ambient T.
Operating temperature:	-30°C up to .. see Item table
Operating frequency:	0 or 50/60 Hz
Rated voltage:	220-240V AC/DC. Overvoltage, overload and short circuit protection.
Ingress protection:	IP66
Connection:	3 poles up to 4 mm^2
Mechanical installation:	Standard: Facing downwards or forwards. Mounting accessories: see accessories.
Cable entries:	3xM25x1,5 (2 plastic cable glands (one of them plugged) + 1 plastic plug)

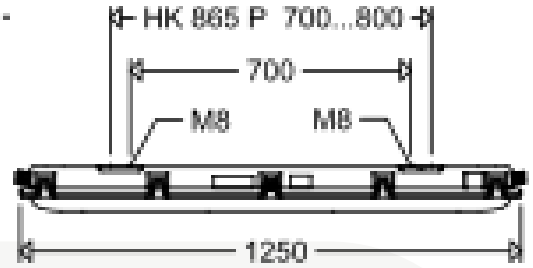
e865 06L..

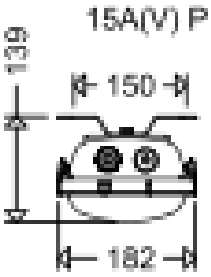


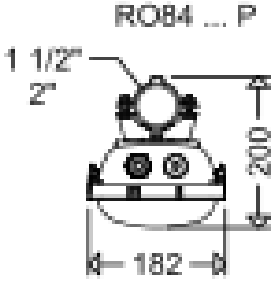


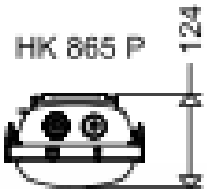


e865 12L..









ACCESSORIES	
Designation:	**Item No.:**
2 suspension eyes with bolts, stainless steel	H8V P
2 ceiling brackets, hot galvanized steel	DS 15A P
2 ceiling brackets, stainless steel	DS 15AV P
2 pipe clamps 1 ½", stainless steel, with support	RO84 112 A P
2 pipe clamps 2", stainless steel, with support	RO84 2 A P
2 retaining clips for variable mounting distances	HK 865 P
2 wall mounting angles, hot galvanized steel	WW 26 L P
2 wall mounting angles 30°, hot galvanized steel	WW 26 30 P
2 wall mounting angles 45°, hot galvanized steel	WW 26 45 P

LED LIGHT FITTINGS

ZONES 1, 2 (gas) & 21, 22 (dust)

Extremely robust and reliable explosion-proof LED light fittings of product series e840. With their high wall thickness of housing and diffuser as well as the high impact resistance of both components, they are able to withstand extreme loads and thus are particularly well suited for use in tough environments.

Frosted elements on the LED modules for glare limitation result in excellent illumination and protect the LED modules from mechanical or electrostatic damage during installation of the light fittings.

The comfortable central locking system saves time and makes installation easier (13mm hex key).

OPTION: Control gear with DALI-interface for dimming (DIMD)

EU-Type Examination Certificate

Supplied without mounting brackets.

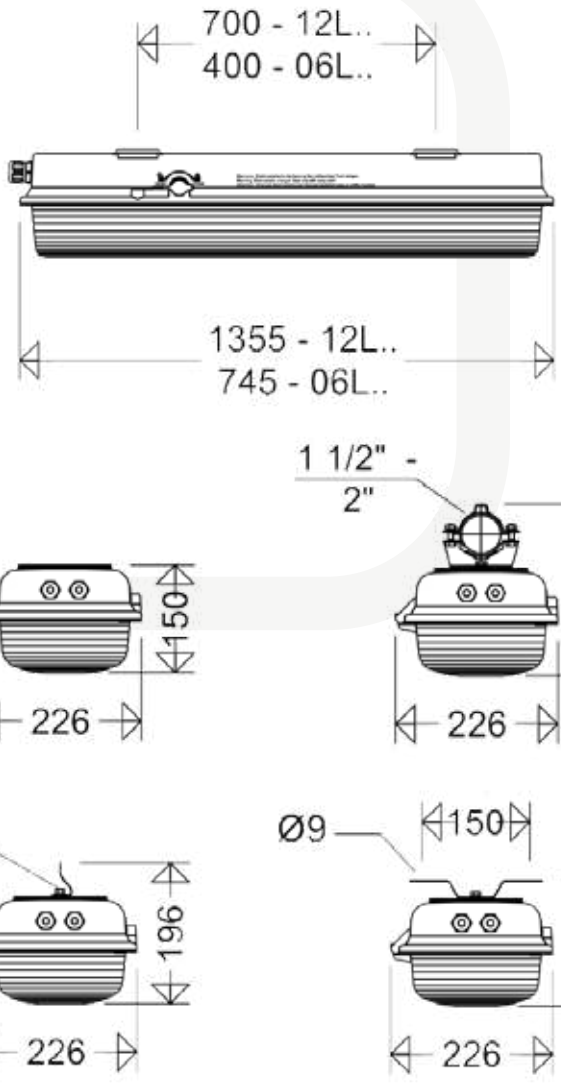
Looping the cable on one side:

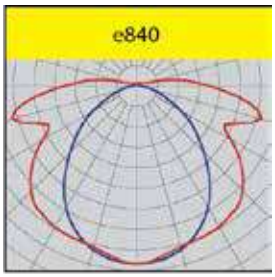
All light fittings of series e840... have got 2 cable entries on one small side of the housing for cable looping instead of the through wiring system

ITEM REFERENCES						
Designation:	Power:	Luminous flux:	Luminous efficacy:	T. Max:	Weight:	Item No.:
e840 06L22	16 W | (2x18 W)	2054 lm	128 lm/W	55°C	5,6 kg	1A3804
e840 06L42	28 W | (2x36 W)	4067 lm	145 lm/W	55°C	5,7 kg	1A3805
e840 12L42	28 W | (2x36 W)	4230 lm	151 lm/W	55°C	8,0 kg	1A3801
e840 12L60	40 W | (2x58 W)	5850 lm	146 lm/W	55°C	8,0 kg	1A3802
e840 12L85	54 W | (>2x58 W)	8300 lm	154 lm/W	50°C	8,5 kg	1A3803

ACCESSORIES	
Designation:	Item No.:
2 suspension brackets, stainless steel	H8V P
2 ceiling brackets, hot galvanized steel	15A P
2 ceiling brackets, stainless steel	15AV P
2 pipe clamps 1 ½", stainless steel, with support	RO84 112 A P
2 pipe clamps 2", stainless steel, with support	RO84 2 A P
1 pair of brackets, stainless steel, for compensating the different mounting distances	84 AA
2 wall mounting angles	W26/L P
2 wall mounting angles 30°	W26/30 P
2 wall mounting angles 45°	W26/45 P

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb mb op is q IIC T4 Gb II 2D Ex tb op is IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Glass fibre reinforced polyester RESIN
Cover:	Clear polycarbonate with internal prisms, hinged, silicone gasket.
Reflector:	Aluminium, carrying the encapsu-lated LED-modules with frosted covers for glare limitation, hingeable and removable.
LED:	Line modules appr. 6,500K, CRI > 80. $L_{70}B_{10}$ > 100.000h | $L_{80}B_{50}$ > 100.000h (each at max. ambient temperature)
Operating temperature:	-25°C up to .. see Item table
Operating frequency:	0 or 50/60 Hz
Rated voltage:	220/240 VAC
Ingress protection:	IP66
Connection:	3 poles up to 4 mm²
Mechanical installation:	Standard: Facing downwards or forwards. Mounting accessories see spare parts/ accessories
Cable entries:	3 entries M25x1,5 (2 glands - one of them is plugged)





** This light fitting is not suitable for applications in areas with permanent high humidity in combination with only short periods of operation, such as sewage or stormwater retention tanks or water treatment plants.*

LED LIGHT FITTINGS

ZONES 1, 2 (gas) & 21, 22 (dust)

Explosion-proof compact LED light fittings.

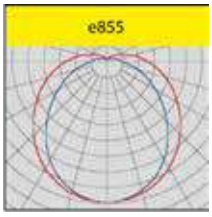
Housing from glass fibre reinforced polyester. Frosted polycarbonate diffuser.

Central locking system (operated by a hexagonal box spanner 13mm.)

EU-Type Examination Certificate

** This light fitting is not suitable for applications in areas with permanent high humidity in combination with only short periods of operation, such as sewage or stormwater retention tanks or water treatment plants.*

Supplied with mounting brackets. Prepared for looping the mains cable.

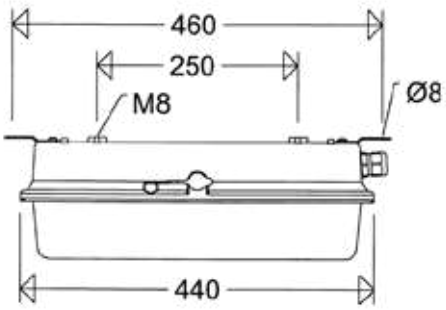


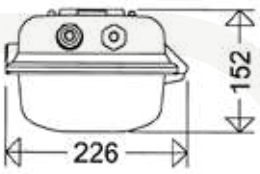
ITEM REFERENCES

Designation:	Power:	Luminous flux:	Luminous efficacy:	T. Max:	Weight:	Item No.:
e855F L05	5 W | (1x8 W)	510 lm	102 lm/W	60°C	5,0 kg	1A4101
e855F L10	10 W | (2x8 W)	1060 lm	106 lm/W	60°C	5,0 kg	1A4102
e855F L20	18 W | (2x18 W)	2050 lm	114 lm/W	60°C	5,1 kg	1A4103
e855F L10 DIMD	10 W | (2x8 W)	1060 lm	106 lm/W	60°C	5,0 kg	1A4104
e855F L20 DIMD	18 W | (2x18 W)	2050 lm	114 lm/W	60°C	5,1 kg	1A4105

TECHNICAL SPECIFICATIONS

Marking:	Ex II 2G Ex eb mb op is q IIC T4 Gb Ex II 2G Ex db eb mb op is q IIC T4 Gb Ex II 2D Ex op is tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Glass fibre reinforced polyester
Cover:	Polycarbonate
LED:	Line modules appr. 6,500K, CRI typically 80 $L_{70}B_{10}$ > 80.000h, $L_{80}B_{50}$ > 80.000h (each at max. ambient Temp.)
Operating temperature:	-30°C to +60°C
Operating frequency:	50/60 Hz
Rated voltage:	220/240V AC
Ingress protection:	IP66
Connection:	Terminal L1+N+PE; up to 2,5mm²
Cable entries:	1xM25X1,5 plastic cable gland 1xM25X1,5 plastic plug





ACCESSORIES

Designation:	Item No.:
2 suspension brackets, stainless steel	H8V P
2 ceiling brackets, hot galvanized steel	15A P
2 ceiling brackets, stainless steel	15AV P
2 pipe clamps 1 ½", stainless steel, with support	RO84 112 A P
2 pipe clamps 2", stainless steel, with support	RO84 2 A P
2 retaining clips for variable mounting distances	HK 865 P
2 wall mounting angles	W26 P
2 wall mounting angles 30°	W26/30 P
2 wall mounting angles 45°	W26/45 P

LED LIGHT FITTINGS

ZONES 1, 2 (gas) & 21, 22 (dust)

High efficiency Zone 1 and Zone 21 LED Luminaire for use in hazardous areas. Manufactured from impact resistant polycarbonate and high specification marine grade aluminium, the fitting is supplied anodised and painted.

Low maintenance high efficiency LED light source.

Energy efficient control.

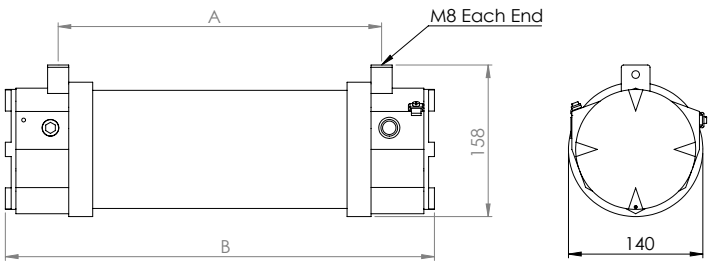
2 different versions.

Robust long life Zone 1 enclosure.

EU-Type Examination Certificate

ITEM REFERENCES				
Designation:	Power:	Size:	Luminous flux:	Item No.:
15W Ex d Zone 1 Luminaire	15 W	1 - 448 mm	1335 lm	1A4701
30W Ex d Zone 1 Luminaire	30 W	2 - 752 mm	2670 lm	1A4702

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db op is IIC T6 Gb II 2D Ex tb op is IIIC T85°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +55°C
Housing:	Marine grade aluminium body with high impact polycarbonate tube
Ingress protection:	IP66
Light output:	High efficiency LED with various outputs
Supply voltage:	230V 50/60Hz.
Control gear:	Electronic drive
Electrical connections:	3 wire and earth cable size 4mm² max. Through wiring as standard
Installation / Mounting:	2 x M8 tapped holes. Size 1: 335 mm, size 2: 632 mm
Cable entries:	4 x M20 (3 plugged)



DIMENSIONS			
SIZE	A:	B:	Weight:
1	335 mm	448 mm	3 kg
2	632 mm	752 mm	5 kg

TUBULAR LED LIGHT FITTINGS SERIES EVF..RUN

Zones 1, 2, 21, 22

LED LIGHT FITTINGS

ZONES 1, 2 (gas) & 21, 22 (dust)

The ATEX lighting fitures series EVF..RUN for Ø 26 mm LED lamps are supplied completed with electronic ballast, starter and fuses interconnected. They are charcterized by a tubular thermo-insulating borosilicate glass.

Supplied brackets can be used for ceiling installation.

External reflector (not included in the standard equipment) can be installed on site.

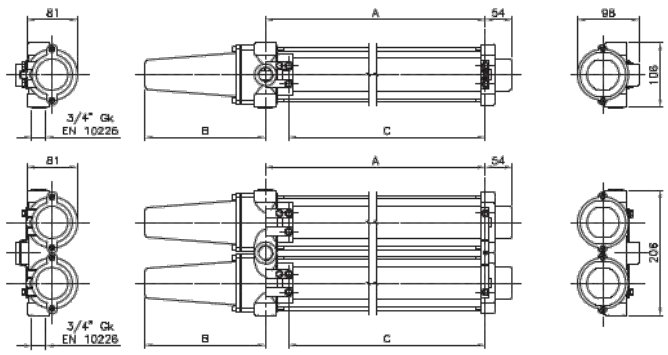
External screws are made of Stainless Steel.

EU-Type Examination Certificate

ITEM REFERENCES			
Designation:	Power:	Luminous flux:	Item No.:
EVFC..18RUNLT	1x7.6 W	800 lm	1A4601
EVFC 2..18RUNLT	2x7.6 W	1600 lm	1A4602
EVFC..36RUNLT	1x15 W	1800 lm	1A4603
EVFC 2..36RUNLT	2x15 W	3600 lm	1A4604

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex d IIC T6-T4 Gb II 2D Ex tb IIIC T80°C-T130°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Aluminium light alloy (RAL 9006)
Cover:	Tubular thermo-insulating borosilicate glass
Lamp:	Ø26 mm LED lamp with bipin plugs at 230 V (included)
Operating temperature:	-20°C to +40°C
Ingress protection:	IP66/67
Cable entries:	2x3/4" NPT (cable glands not included)

ACCESSORIES	
Designation:	Item No.:
External reflector for EVF 118	EVF 12/8
External reflector for EVF 218	EVF 22/8
External reflector for EVF 136	EVF 14/8
External reflector for EVF 236	EVF 24/8



DIMENSIONS			
CODE	A	B	C
EVFC..18RUNLT	610	205	573
EVFC 2..18RUNLT	610	205	573
EEVFC..36RUNLT	1210	205	1173
EVFC 2..36RUNLT	1210	205	1173

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LED LIGHT FITTINGS

ZONES 1, 2 (gas) & 21, 22 (dust)

EU-Type Examination Certificate

Supplied without mounting brackets

Explosion-protected LED steep roof light fitting for use in ATEX Zones 1,21.

Powder-coated sheet steel housing, frameless hinged tempered safety glass pane. Central locking system with opposite internal hinges, silicone gasket.

Sheet steel reflector, white powder coated, hingeable and detachable, with encapsulated LED modules and frosted covers for glare limitation.

Encapsulated ECG with overvoltage, overload and short circuit protection.

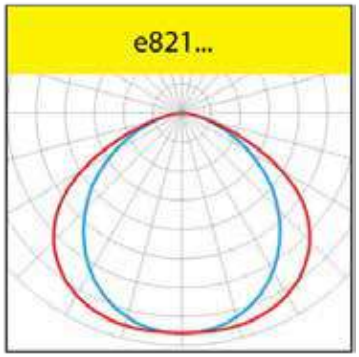
Central locking system operated by a 5mm allen key, hinges on the opposite side.

Looping the cable on one side:

All light fittings of series e821... have 2 cable entries on one small side of the housing for cable looping instead of the through wiring system. (3-pole looping standard, 5-pole looping at additional cost)

ITEM REFERENCES						
Designation:	Power:	Luminous flux:	Luminous efficacy:	T. max.:	Weight:	Item No.:
e821 06L42	28 W | (2x36W)	4110 lm	147 lm/W	55 °C	7,9 kg	1A4401
e821 06L60	40 W | (2x58W)	5600 lm	140 lm/W	55 °C	7,9 kg	1A4402
e821 12L42	28 W | (2v36W)	4260 lm	152 lm/W	55 °C	13,6 kg	1A4403
e821 12L60	40 W | (2x58W)	5900 lm	148 lm/W	55 °C	14,0 kg	1A4404
e821 12L85	54 W | (>2x58W)	8350 lm	155 lm/W	55 °C	14,0 kg	1A4405
e821 12L120	79 W | (>3x58W)	11470 lm	145 lm/W	55 °C	14,0 kg	1A4406

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb mb q IIC T4 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Sheet steel, powder coated in light grey (RAL 7035), silicone foam gasket
Cover:	Impact resistant safety glass pane, frameless / hinged.
LED:	Line modules approx. 6500K. CRI > 80, $L_{70}B_{10}$ > 100.000h | $L_{80}B_{50}$ > 100.000h | $L_{90}B_{50}$ > 50.000h (each at max. ambient temperature)
Operating temperature:	-30°C to +55°C (The values given are for versions with through wiring)
Operating frequency:	0 or 50/60 Hz
Rated voltage:	220/240V AC/DC
Ingress protection:	IP65
Connection:	3 poles up to 4 mm^2
Cable entries:	3xM25 x 1,5 (2 plastic cable glands - one of them is plugged)

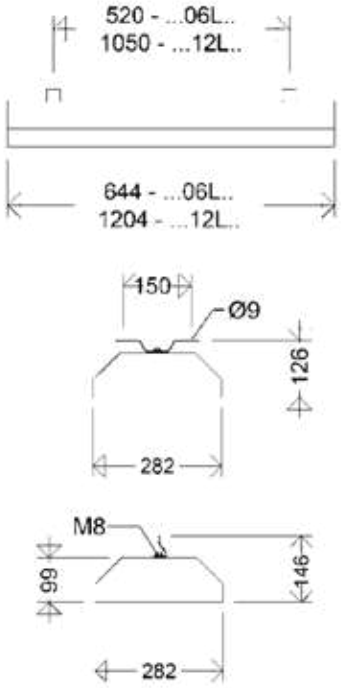


Note: This light fitting is not suitable for application in areas with permanent high humidity in combination with only short periods of operation, such as sewage or stormwater retention tanks or water treatment plants.

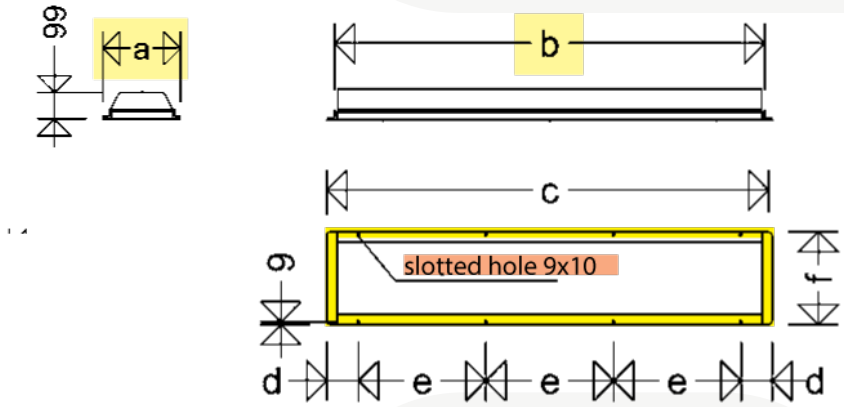
ACCESSORIES	
Designation:	**Item No.:**
2 suspension eyes, stainless steel	H8V P
2 ceiling brackets, hot galvanized steel	15A P
2 ceiling brackets, stainless steel	15AV P
2 wall/ceiling angle, steel	WD 45 P

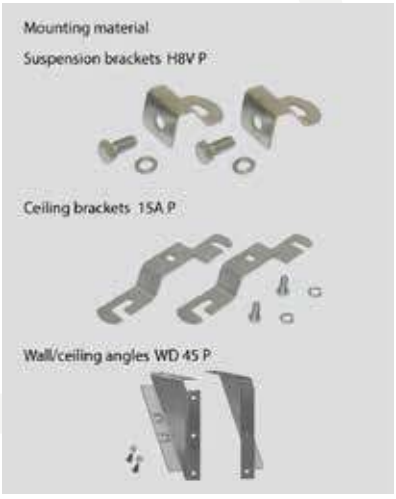
Light fittings of series e821... can be equipped with a frame even at a later stage. Mounting by means of M5 bolts to the long sides of the housing (see drawing).

Attention: When planning the opening for recess installation please allow additional clearance for the cable glands.



FRAME FOR RECESSED INSTALLATION							
Designation:	**a**	**b**	**c**	**d**	**e**	**f**	**Item No.:**
Frame for narrow housing, e821 06L, nD822 06L	302	660	710	55	300	348	EB 82. 06L
Frame for narrow housing, e821 12L, nD822 12L	302	1224	1270	125	340	348	EB 82. 12L





CEILING LIGHTS

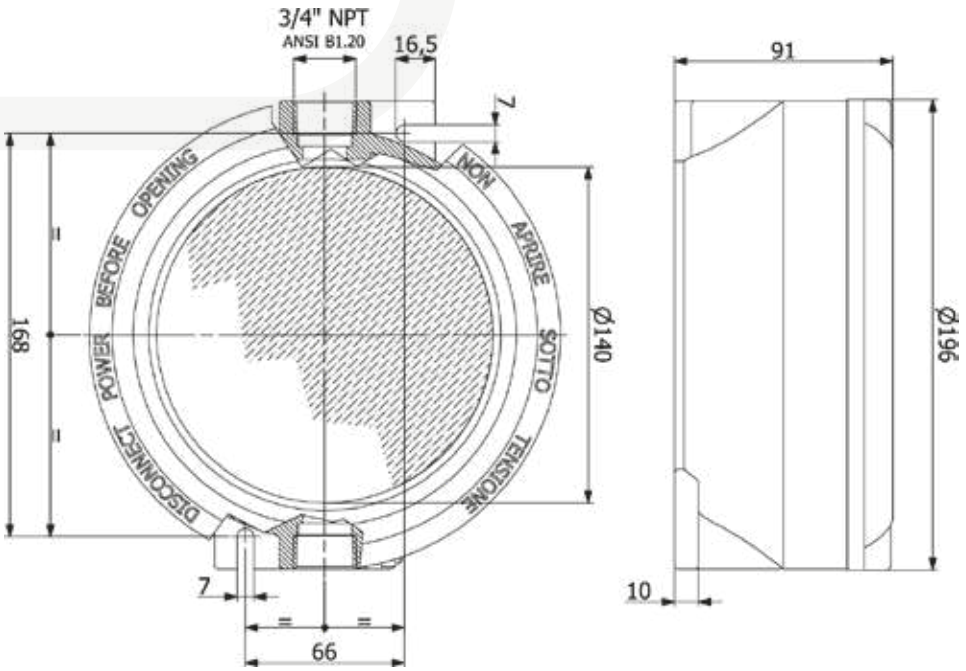
ZONES 1, 2 (gas) & 21, 22 (dust)

EU-Type Examination Certificate

Explosion-proof compact unit for use in tunnels, boiler rooms, rooms with low ceilings, narrow deposits and in all places where space does not permit the use of traditional light fittings.

ITEM REFERENCES					
Designation:	Power:	Voltage:	Luminous flux:	Color:	Item No.:
EVL 12 24 D	12 W	24 V DC	1150 lm	White / 6000 K	1J0301
EVL 12 230 A	12 W	100-230 V AC/DC	1150 lm	White / 6000 K	1J0302

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex d IIC T6-T4 Gb II 2D Ex tb IIIC T85°C-T135°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Aluminium light alloy
Cover:	Tempered safety glass
Weight:	2,7 kg
Operating temperature:	-20°C to +40°C
Ingress protection:	IP66/67
Cable entries:	2x3/4" NPT (cable glands not included)



LED CEILING/WALL MOUNTING LIGHT FITTING SERIES E9312

Zones 1, 2, 21, 22

CEILING LIGHTS

ZONES 1, 2 (gas) & 21, 22 (dust)

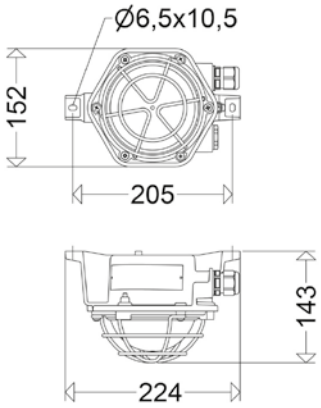
Small, explosion-protected light fitting for the illumination of hard-to-reach areas, areas with confined space conditions or with minimal requirements for illuminance. This LED ceiling or wall-mounted ATEX light fitting is a robust, compact, left natural device.

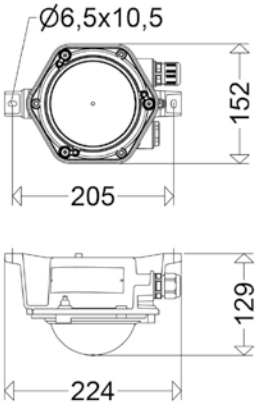
His outer fixing points allow easy installation. Furthermore, the frosted impact-resistant PC cover ensures glare-free and homogeneous illumination and, in combination with the sturdy wire guard, protects the light fitting against accidental damage.

EU-Type Examination Certificate

ITEM REFERENCES						
Designation:	Power:	Voltage:	Luminous flux:	Luminous efficacy:	Weight:	Item No.:
e9312F SK (wire guard)	11 W	220-240V AC/DC	600 lm	55 lm/W	1,3 kg	1J0401
e9312F					1,2 kg	1J0402

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb mb IIC T4 Gb II 2D Ex tb IIIC T80 °C Db
Certificate:	EU-Type Examination Certificate
Housing:	Diecast aluminium, unpainted
Cover:	Polycarbonate, frosted
Wire guard:	Galvanised steel
Mounting:	2 cast on brackets for wall or ceiling mounting
LED:	6,500K, CRI typically 80 | lifetime L_{70} > 100.000h at max. ambient temperature
Operating temperature:	-25°C to +40°C
Rated voltage:	220-240V AC/DC, 0 or 50/60Hz
Ingress protection:	IP66
Connection:	3 poles up to 2,5 mm²
Cable entries:	1xM25 x 1,5 plastic cable glands (7-17 mm) | 1xM25 x 1,5 plastic plug





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PORT SAID EX 504 LED V2 CEILING LIGHT

Zones 1, 2

CEILING LIGHTS | ZONES 1, 2 (gas)

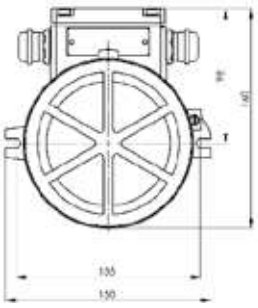
Particularly robust and equipped with a protective grid, the PORT SAID ceiling light is designed for thetoughest conditions.

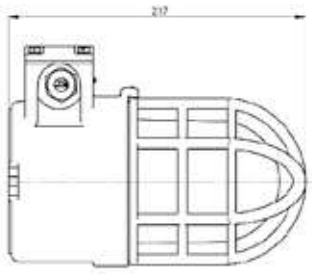
Shockproof and resistant to temperature changes according to DIN 49993.

EU-Type Examination Certificate

ITEM REFERENCES				
Designation:	Light colour:	Colour T. / Wavelength:	Voltage:	Item No.:
PORT SAID Ex 504 LED V2 115–230V AC CW	Cold white	5.700 K / 6.000 K	115 V AC – 230 V AC 50/60 Hz	2A2801
PORT SAID Ex 504 LED V2 24V DC CW			24 V DC	2A2802
PORT SAID Ex 504 LED V2 115–230V AC WW	Warm white	3.000 K	115 V AC – 230 V AC 50/60 Hz	2A2803
PORT SAID Ex 504 LED V2 24V DC WW			24 V DC	2A2804
PORT SAID Ex 504 LED V2 115–230V AC R	Red	620 nm / 625 nm	115 V AC – 230 V AC 50/60 Hz	2A2805
PORT SAID Ex 504 LED V2 24V DC R			24 V DC	2A2806
PORT SAID Ex 504 LED V2 115–230V AC B	Blue	465-480 nm	115 V AC – 230 V AC 50/60 Hz	2A2807
PORT SAID Ex 504 LED V2 24V DC B			24 V DC	2A2808
PORT SAID Ex 504 LED V2 115–230V AC G	Green	520-530 nm	115 V AC – 230 V AC 50/60 Hz	2A2809
PORT SAID Ex 504 LED V2 24V DC G			24 V DC	2A2810
PORT SAID Ex 504 LED V2 115–230V AC A	Amber	585-590 nm	115 V AC – 230 V AC 50/60 Hz	2A2811
PORT SAID Ex 504 LED V2 24V DC A			24 V DC	2A2812

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIB+H2 T6 Gb
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +45°C
Housing:	Housing and protective cage made of red brass; Hardened, shock and temperature resistant glass with satin finish for glare protection
Housing colour:	All surfaces are red brass uncoated
Ingress protection:	IP56
Power input:	Max. 10 W
Cable cross section:	Max. 2.5 mm²
Ground cross section:	1.5 mm² to 4 mm²
Weight:	4.12 kg (±5%)
Cable entries:	1x M20x1,5cable gland for non-armoured cable Ø6-12 mm 1x M20x1,5 plug





PORT SAID EX 504B LED V2 CEILING LIGHT

Zones 1, 2

CEILING LIGHTS

ZONES 1, 2 (gas)

Particularly robust and equipped with a protective grid, the PORT SAID ceiling light is designed for thetoughest conditions. Shockproof and resistant to temperature changes according to DIN 49993.

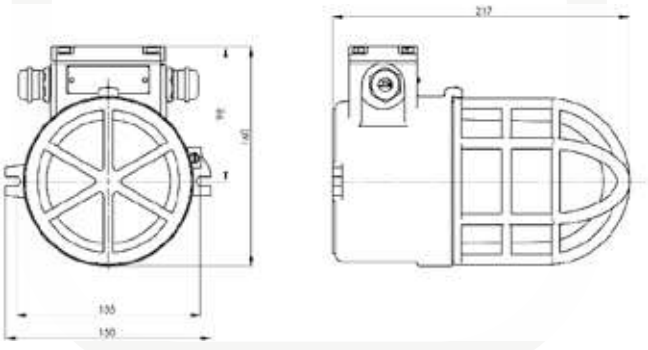
Explosion group IIC due to special coating.

- Pressure proof and increased safety Ex db eb
- Temperature class T6
- Hardened, shock and temperature resistant glass with a special satin finish for glare protection
- Casing made of red brass casting
- Different light colors, such as green, red, blue, amber, warm white and cold white
- Glasses colour-matched to the respective light colour

EU-Type Examination Certificate

ITEM REFERENCES				
Designation:	Light colour:	Colour T. / Wavelength:	Voltage:	Item No.:
PORT SAID Ex 504B LED V2 115–230V AC CW	Cold white	5.700 K / 6.000 K	115 V AC – 230 V AC 50/60 Hz	2A2820
PORT SAID Ex 504B LED V2 24V DC CW			24 V DC	2A2821
PORT SAID Ex 504B LED V2 115–230V AC WW	Warm white	3.000 K	115 V AC – 230 V AC 50/60 Hz	2A2822
PORT SAID Ex 504B LED V2 24V DC WW			24 V DC	2A2823
PORT SAID Ex 504B LED V2 115–230V AC R	Red	620 nm / 625 nm	115 V AC – 230 V AC 50/60 Hz	2A2824
PORT SAID Ex 504B LED V2 24V DC R			24 V DC	2A2825
PORT SAID Ex 504B LED V2 115–230V AC B	Blue	465-480 nm	115 V AC – 230 V AC 50/60 Hz	2A2826
PORT SAID Ex 504B LED V2 24V DC B			24 V DC	2A2827
PORT SAID Ex 504B LED V2 115–230V AC G	Green	520-530 nm	115 V AC – 230 V AC 50/60 Hz	2A2828
PORT SAID Ex 504B LED V2 24V DC G			24 V DC	2A2829
PORT SAID Ex 504B LED V2 115–230V AC A	Amber	585-590 nm	115 V AC – 230 V AC 50/60 Hz	2A2830
PORT SAID Ex 504B LED V2 24V DC A			24 V DC	2A2831

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIC T6 Gb
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +45°C
Housing:	Housing and protective cage made of red brass; Hardened, shock and temperature resistant glass with satin finish for glare protection
Housing colour:	All surfaces powder-coated with a special coating in RAL 9016 (white)
Ingress protection:	IP56
Power input:	Max. 10 W
Cable cross section:	Max. 2.5 mm^2
Ground cross section:	1.5 mm^2 to 4 mm^2
Weight:	4.12 kg (±5%)
Cable entries:	1x M20x1,5cable gland for non-armoured cable Ø6-12 mm 1x M20x1,5 plug



PORT SAID EX 504B LED V2 NAVY CEILING LIGHT

Zones 1, 2

CEILING LIGHTS | ZONES 1, 2 (gas)

Particularly robust and equipped with a protective grid, the PORT SAID ceiling light is specially adapted to the high requirements of ships and boats of the navy. Shockproof and resistant to temperature changes according to DIN 49993.

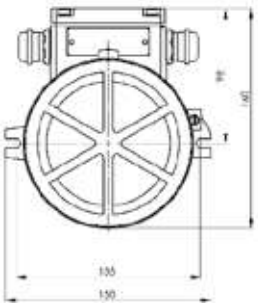
Explosion group IIC due to special coating.

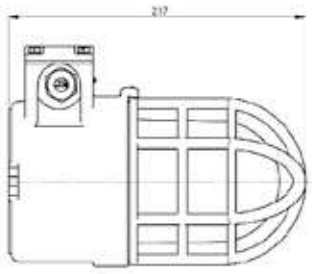
- Pressure proof and increased safety Ex db eb
- Temperature class T6
- Hardened, shock and temperature resistant glass with a special satin finish for glare protection
- Casing made of red brass casting
- Different light colors, such as green, red, blue, amber, warm white and cold white
- Glasses colour-matched to the respective light colour

EU-Type Examination Certificate

ITEM REFERENCES				
Designation:	Light colour:	Colour T. / Wavelength:	Voltage:	Item No.:
PORT SAID Ex 504B LED V2 115–230V AC Navy CW	Cold white	5.700 K / 6.000 K	115 V AC – 230 V AC 50/60 Hz	2A2840
PORT SAID Ex 504B LED V2 24V DC Navy CW			24 V DC	2A2841
PORT SAID Ex 504B LED V2 115–230V AC Navy WW	Warm white	3.000 K	115 V AC – 230 V AC 50/60 Hz	2A2842
PORT SAID Ex 504B LED V2 24V DC Navy WW			24 V DC	2A2843
PORT SAID Ex 504B LED V2 115–230V AC Navy R	Red	620 nm / 625 nm	115 V AC – 230 V AC 50/60 Hz	2A2844
PORT SAID Ex 504B LED V2 24V DC Navy R			24 V DC	2A2845
PORT SAID Ex 504B LED V2 115–230V AC Navy B	Blue	465-480 nm	115 V AC – 230 V AC 50/60 Hz	2A2846
PORT SAID Ex 504B LED V2 24V DC Navy B			24 V DC	2A2847
PORT SAID Ex 504B LED V2 115–230V AC Navy G	Green	520-530 nm	115 V AC – 230 V AC 50/60 Hz	2A2848
PORT SAID Ex 504B LED V2 24V DC Navy G			24 V DC	2A2849
PORT SAID Ex 504B LED V2 115–230V AC Navy A	Amber	585-590 nm	115 V AC – 230 V AC 50/60 Hz	2A2850
PORT SAID Ex 504B LED V2 24V DC Navy A			24 V DC	2A2851

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIC T6 Gb
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +45°C
Housing:	Housing and protective cage made of red brass; Hardened, shock and temperature resistant glass with satin finish for glare protection
Housing colour:	All surfaces powder-coated with a special coating in RAL 7001 (grey)
Ingress protection:	IP56
Power input:	Max. 10 W
Cable cross section:	Max. 2.5 mm^2
Ground cross section:	1.5 mm^2 to 4 mm^2
Weight:	4.12 kg (±5%)
Cable entries:	1x M20x1,5cable gland for non-armoured cable Ø7-12 mm 1x M20x1,5 plug





KE-LED-EX 4003 TUBE LUMINAIRE

Zones 1, 2, 21, 22

LED LIGHT FITTINGS

ZONES 1, 2 (gas) & 21, 22 (dust)

The extremely compact, explosion-proof LED tube and machine lights are defined as a first-class solution for effective lighting in demanding environments. Their small space requirement makes them particularly suitable for illuminating confined areas, containers and machines where long-lasting lighting is essential.

- 3x POWER LEDs | 6500K
- Polycarbonate protective tube
- Color variants available
- Electronic ballast with special protection
- Aluminium end caps
- 2x plastic brackets included

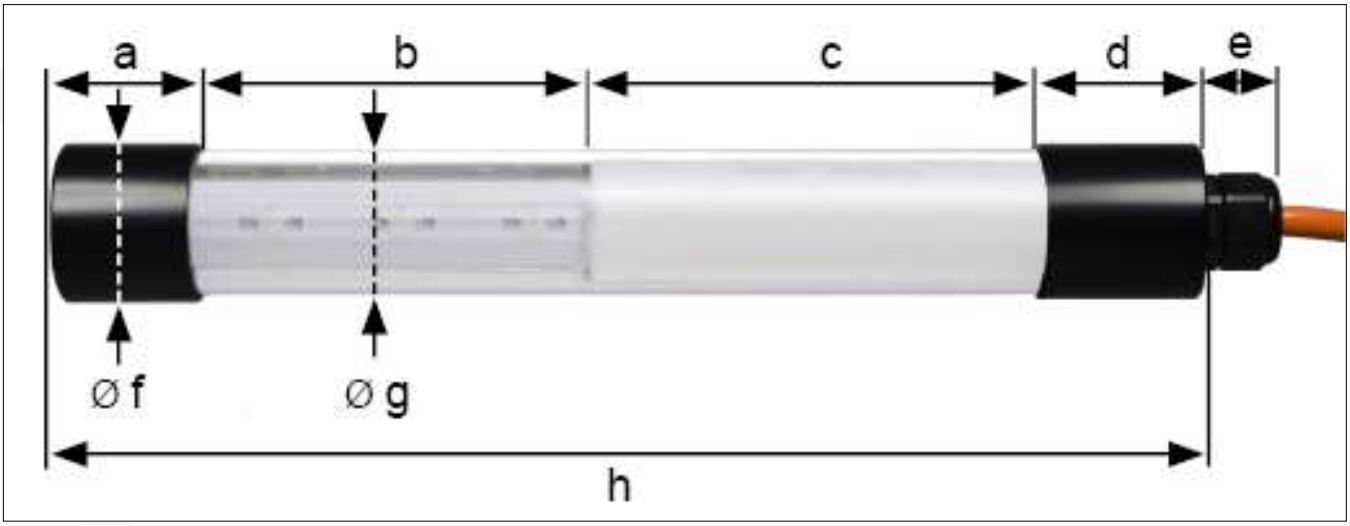
EU-Type Examination Certificate

ITEM REFERENCES						
Designation:	Power:	Rated voltage:	Current:	Luminous flux:	Protection class:	Item No.:
EX 4003 12V Tube Luminaire	2,8 W	12V AC/DC	0,20 A	235 lm	III	1D0610
EX 4003 24V Tube Luminaire	3,0 W	24V AC/DC	0,10 A	255 lm	III	1D0611
EX 4003 42V Tube Luminaire	3,8 W	42V AC/DC	0,075 A	180 lm	II	1D0612
EX 4003 110V Tube Luminaire	3,0 W	110V AC/DC	0,025 A	185 lm	II	1D0613
EX 4003 230V Tube Luminaire	3,3 W	220-240V AC	0,03 A	200 lm	II	1D0614

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb mb op is IIC T4 Gb II 2D Ex tb op is IIIC T105° Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +50°C
LED:	3x POWER LED 6500K | CRI >70 | Lifetime >50.000h
Ingress protection:	IP68 - 50m/5h
Protective tube:	Polycarbonate
End caps:	Aluminium
Impact resistance:	IK10
Mounting brackets:	Included
Energy efficiency class:	G
Weight:	1,65 kg
Cable:	10m H07BQ-F 2x1,5 mm^2 (plug not included)

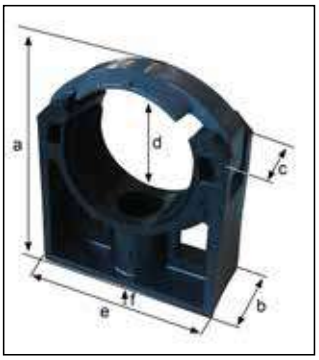
KE-LED-EX 4003 TUBE LUMINAIRE

Zones 1, 2, 21, 22



DIMENSIONS (mm)							
a	b	c	d	e	f	g	h
35	100	125	45	43	40	20	300

ACCESSORIES		
Designation:		Item No.:
	Mounting bracket with lock	BFK D40 EX
	Permanent magnet with mounting bracket	KM 40 EX-KL
	Antistatic protective film to protect the polycarbonate tube	SFO-EX 4003



DIMENSIONS BFK D40 EX (mm)					
a	b	c	d	e	f
67	25	20	40,4	57	1x

KE-LED-EX 4006-O TUBE LUMINAIRE

Zones 1, 2, 21, 22

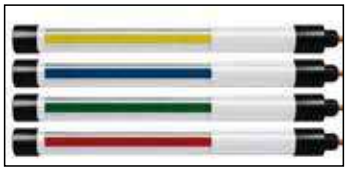
LED LIGHT FITTINGS

ZONES 1, 2 (gas) & 21, 22 (dust)

The ex-proof LED light KE-LED-EX 4006, known as a tube light and machine light, presents itself as an ideal lighting solution for safe use in machines, vehicles and systems of all kinds where the highest standards in terms of explosion protection are required. With its special design, it not only meets strict safety requirements, but also offers optimal and bright illumination of work areas, making it an indispensable tool in demanding environments.

- 6x POWER LEDs | 6500K
- Polycarbonate protective tube
- Color variants available
- Electronic ballast with special protection
- Aluminium end caps
- 2x plastic brackets included

EU-Type Examination Certificate

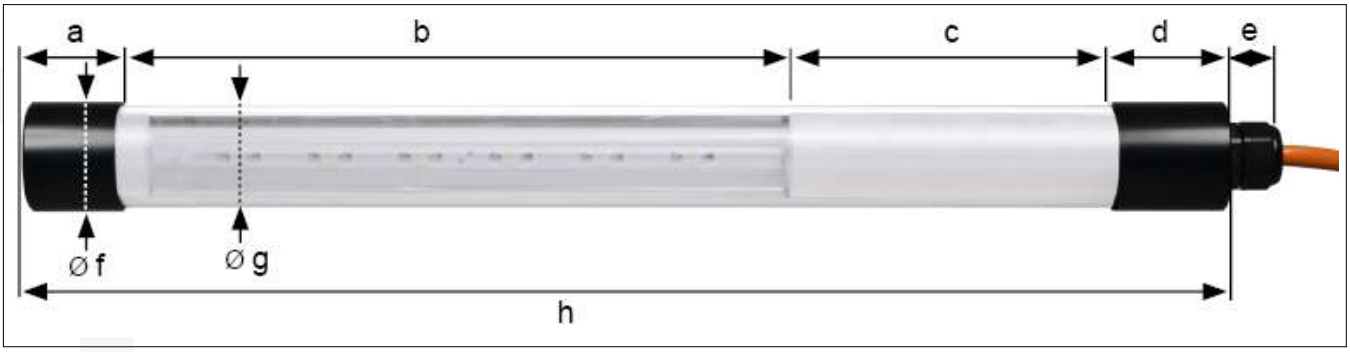


ITEM REFERENCES						
Designation:	Power:	Rated voltage:	Current:	Luminous flux:	Protection class:	Item No.:
EX 4006-O 12V Tube Luminaire	4,2 W	12V AC/DC	0,29 A	370 lm	III	1D0620
EX 4006-O 24V Tube Luminaire	5,3 W	24V AC/DC	0,18 A	520 lm	III	1D0621
EX 4006-O 42V Tube Luminaire	5,5 W	42V AC/DC	0,11 A	400 lm	II	1D0622
EX 4006-O 110V Tube Luminaire	6,4 W	110V AC/DC	0,05 A	460 lm	II	1D0623
EX 4006-O 230V Tube Luminaire	7,0 W	220-240V AC	0,05 A	520 lm	II	1D0624

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb mb op is IIC T4 Gb II 2D Ex tb op is IIIC T105° Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +50°C
LED:	6x POWER LED 6500K | CRI >70 | Lifetime >50.000h
Ingress protection:	IP68 - 50m/5h
Protective tube:	Polycarbonate
End caps:	Aluminium
Impact resistance:	IK10
Mounting brackets:	Included
Energy efficiency class:	F (24V) / G (12V, 42V, 110V, 220V)
Weight:	1,65 kg
Cable:	10m H07BQ-F 2x1,5 mm^2 (plug not included)

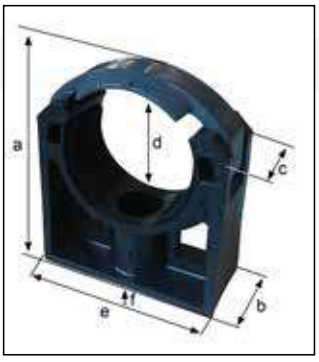
KE-LED-EX 4006-O TUBE LUMINAIRE

Zones 1, 2, 21, 22

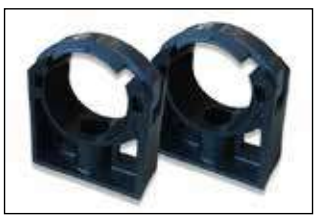


DIMENSIONS (mm)							
a	b	c	d	e	f	g	h
35	265	125	45	25	43	40	470

ACCESSORIES		
Designation:		Item No.:
	Mounting bracket with lock	BFK D40 EX
	Permanent magnet with mounting bracket	KM 40 EX-KL
	Antistatic protective film to protect the polycarbonate tube	SFO-EX 4006



DIMENSIONS BFK D40 EX (mm)					
a	b	c	d	e	f
67	25	20	40,4	57	1x



KE-LED-EX 5018 TUBE LUMINAIRE 360º

Zones 1, 2, 21, 22

LED LIGHT FITTINGS

ZONES 1, 2 (gas) & 21, 22 (dust)

The ATEX LED 360° tube luminaire is ideal for iluminating work in explosion-proof areas, such as cleaning work in tanks or silos.

The integrated diffuser foil ensures a glare-free and homogeneous light. Thanks to the optionally available accessories, the light is suitable for permanent or temporary installation.

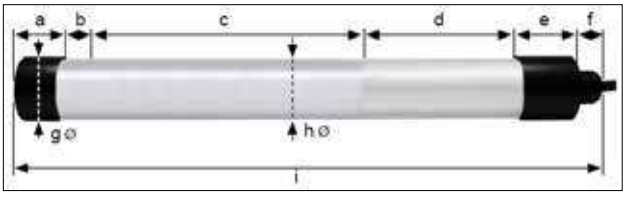
- Circular LED light source of 360°
- 18x POWER LEDs | 6500K
- Polycarbonate protective tube
- Integrated diffuser foil
- Electronic ballast with special protection
- Aluminium end caps

EU-Type Examination Certificate

Silo suspension optional

ITEM REFERENCES				
Designation:	Rated voltage:	Current:	Protection class:	Item No.:
EX 5018 24V Tube Luminaire	24V AC/DC	0,33 A	III	1D0602
EX 5018 230V Tube Luminaire	220-240V AC	0,06 A	II	1D0602B

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb mb op is IIC T4 Gb II 2D Ex tb op is IIIC T105° Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Power:	10 W
LED 360°:	18x POWER LED 6500K | CRI >70 | Lifetime >50.000h
Luminous flux:	1000 lm
Ingress protection:	IP68 - 50m/5h
Protective tube:	Polycarbonate
Impact resistance:	IK10
Integrated diffuser film:	Yes
Energy efficiency class:	F
Weight:	1,65 kg
Cable:	10m H07BQ-F 2x1 mm² (plug not included)



DIMENSIONS (mm)								
a	b	c	d	e	f	g	h	i
35	45	225	175	45	20	53	50	525

ACCESSORIES		
Designation:		Item No.:
	Silo suspension	AS-EX 5018
	Mounting bracket with lock	BFK D50 EX
	Permanent magnet with mounting bracket	KM 50 EX-KL
	Antistatic protective film to protect the polycarbonate tube	SFO-EX 5018

KE-LED-EX 5024 TUBE LUMINAIRE

Zones 1, 2, 21, 22

LED LIGHT FITTINGS | ZONES 1, 2 (gas) & 21, 22 (dust)

The powerful ATEX LED tube light KE-LED-EX 5024 is an indispensable tool that supports you when working in explosion-proof environments with extremely bright and glare-free light. This highly developed luminaire is ideal for the permanent lighting of systems or buildings that have special and extreme requirements.

- 24x POWER LEDs | 6500K
- Polycarbonate protective tube
- Integrated diffuser foil
- Electronic ballast with special protection
- Aluminium end caps

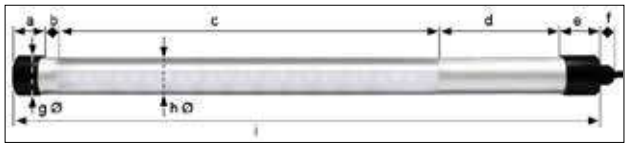
EU-Type Examination Certificate

ITEM REFERENCES

Designation:	Power:	Rated voltage:	Current:	Luminous flux:	Protection class:	Item No.:
EX 5024 24V Tube Luminaire	15,5 W	24V AC/DC	0,550 A	1650 lm	III	1D0630
EX 5024 110V Tube Luminaire	14,5 W	110V AC/DC	0,135 A	1600 lm	II	1D0631
EX 5024 230V Tube Luminaire	14,5 W	220-240V AC	0,075 A	1550 lm	II	1D0632

TECHNICAL SPECIFICATIONS

Marking:	II 2G Ex eb mb op is IIC T4 Gb II 2D Ex tb op is IIIC T105° Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
LED:	24x POWER LED 6500K | CRI >70 | Lifetime >50.000h
Ingress protection:	IP68 - 50m/5h
Protective tube:	Polycarbonate
End caps:	Aluminium
Impact resistance:	IK10
Mounting brackets:	Included
Energy efficiency class:	F
Weight:	2,2 kg
Cable:	10m H07BQ-F 2x1,5 mm² (plug not included)



DIMENSIONS (mm)

a	b	c	d	e	f	g	h	i
35	25	500	165	45	20	53	50	770

ACCESSORIES

	Designation:	Item No.:
	Mounting bracket with lock	BFK D50 EX
	Permanent magnet with mounting bracket	KM 50 EX-KL
	Antistatic protective film to protect the polycarbonate tube	SFO-EX 5024

LED LIGHT FITTINGS

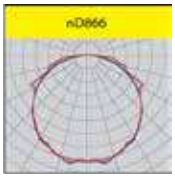
ZONES 2 (gas) & 22 (dust)

The product series nD866 is the perfect solution for the illumination of hazardous areas zone 2 and 22. Suitable in high ambient temperatures up to +65°C, it excels with its innovative sandwich design of diffusor and reflector to protect the LED modules from mechanical or electrostatic damage, as well as homogeneous illumination and excellent glare limitation with the frosted diffuser.

High-quality LED modules and electronic control gears guarantee high efficiency and an extremely long service life.

Supplied without mounting brackets.

EU-Type Examination Certificate



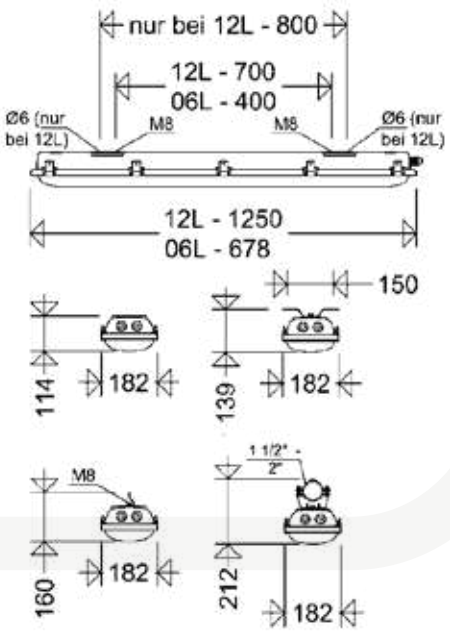
Looping the cable on one side: All light fittings of series nD866... have got 2 cable entries on one small side of the housing for cable looping instead of the through wiring system.

** This light fitting is not suitable for applications in areas with permanent high humidity in combination withonly short periods of operation, such as sewage orstormwater retention tanks or water treatment plants.*

ITEM REFERENCES

Designation:	Cover:	Power:	Luminous flux:	Luminous efficacy:	T. Max:	Weight:	Item No.:
Standard versions:							
nD866F 06L22	Frosted	15 W | (2x18W)	2170 lm	145 lm/W	40 °C	3,3 kg	1A340A
nD866F 06L42	Frosted	28 W | (2x36W)	4120 lm	147 lm/W	40 °C	3,4 kg	1A340B
nD866F 06L60	Frosted	40 W | (2x58W)	5700 lm	143 lm/W	40 °C	3,4 kg	1A340C
nD866F 12L42	Frosted	28 W | (2x36W)	4360 lm	156 lm/W	40 °C	5,4 kg	1A3401
nD866F 12L60	Frosted	40 W | (2x58W)	6020 lm	151 lm/W	40 °C	5,4 kg	1A3402
nD866F 12L85	Frosted	54 W | (>2x58W)	8620 lm	160 lm/W	40 °C	5,5 kg	1A3405
Dimmable via DALI interface:							
nD866F 06L42 DIMD	Frosted	28 W | (2x36W)	4120 lm	147 lm/W	40 °C	3,4 kg	1A3411
nD866F 06L60 DIMD	Frosted	40 W | (2x58W)	5700 lm	143 lm/W	40 °C	3,4 kg	1A3412
nD866F 12L42 DIMD	Frosted	28 W | (2x36W)	4360 lm	156 lm/W	40 °C	5,4 kg	1A3413
nD866F 12L60 DIMD	Frosted	40 W | (2x58W)	6020 lm	151 lm/W	40 °C	5,4 kg	1A3414
nD866F 12L85 DIMD	Frosted	54 W | (>2x58W)	8620 lm	160 lm/W	40 °C	5,5 kg	1A3415
For high temperature (through-wiring or looping the cable is not allowed):							
nD866F 12L42 H65	Frosted	28 W | (2x36W)	4360 lm	156 lm/W	65 °C	5,4 kg	1A3407
nD866F 12L60 H60	Frosted	40 W | (2x58W)	6020 lm	151 lm/W	60 °C	5,4 kg	1A3408
Recommended version for outdoor lighting (4000K, Ra 70, FHS < 5%)							
nD866F 12L42 740 | FHS 2,8%	Frosted	28 W | (2x36W)	4360 lm	156 lm/W	40 °C	5,4 kg	1A3416
nD866F 12L85 740	Frosted	54 W | (>2x58W)	8620 lm	160 lm/W	40 °C	5,4 kg	1A3418

TECHNICAL SPECIFICATIONS	
Marking:	Ex II 3G Ex ec IIC T4 Gc Ex II 3D Ex tc IIIC T80°C Dc
Certificate:	EU-Type Examination Certificate
Housing:	Glass fibre reinforced polyester resin. Stainless steel clips (KE), two of them as safety clip (KES), to be opened with screwdriver only.
Cover:	Injected polycarbonate, frosted, silicone gasket.
Reflector:	Sheet Steel, painted, carrying the LED-modules and all electrical components, clipped into the cover, suspendable.
Impact protection:	IK 10 (at the temperature of +25°C)
LED:	Line modules 5,000K. CRI > 80 | lifetime L_{80} > 100.000h at max. ambient temperature L_{90} > 80.000h (06L..), L_{90} > 90.000h (12L..) at 25°C ambient temperature
Operating temperature:	-30°C up to .. see Item table
Operating frequency:	0 or 50/60 Hz
Rated voltage:	220-240V AC/DC. Overvoltage, overload and short circuit protection.
Ingress protection:	IP66
Connection:	3 poles up to 2,5 mm²
Mechanical installation:	Standard: Facing downwards or forwards. Direct ceiling mounting is possible. Rubber washers are included. Further mounting options see accessories
Cable entries:	3xM25x1,5 (2 plastic cable glands (one of them plugged) + 1 plastic plug)



ACCESSORIES	
Designation:	**Item No.:**
2 suspensions eyes with bolts, stainless steel	H8V P
2 ceiling brackets, hot galvanized steel	DS 15A P
2 ceiling brackets, stainless steel	DS 15AV P
2 pipe clamps 1 ½", stainless steel, with support	RO84 112 A P
2 pipe clamps 2", stainless steel, with support	RO84 2 A P
2 retaining clips for variable mounting distances	HK 865 P
2 wall mounting angles, hot galvanized steel	WW 26 P
2 wall mounting angles 30°, hot galvanized steel	WW 26 30 P
2 wall mounting angles 45°, hot galvanized steel	WW 26 45 P

LED LIGHT FITTINGS

ZONES 2 (gas) & 22 (dust)

Declaration of Conformity

Supplied without mounting brackets

Explosion-protected LED steep roof light fitting for use in ATEX Zones 2,22.

Powder-coated sheet steel housing, frameless hinged tempered safety glass pane. Central locking system with opposite internal hinges, silicone gasket.

Sheet steel reflector, white powder coated, hingeable and detachable, with encapsulated LED modules and frosted covers for glare limitation.

Encapsulated ECG with overvoltage, overload and short circuit protection.

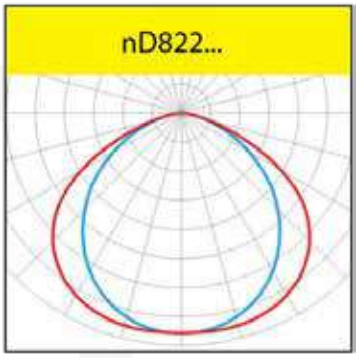
Central locking system operated by a 5mm allen key, hinges on the opposite side.

Looping the cable on one side:

All light fittings of series nD822... have 2 cable entries on one small side of the housing for cable looping instead of the through wiring system. (3-pole looping standard, 5-pole looping at additionel cost)

ITEM REFERENCES						
Designation:	Power:	Luminous flux:	Luminous efficacy:	T. max.:	Weight:	Item No.:
nD822 06L42	28 W | (2x36W)	4110 lm	147 lm/W	40 °C	7,9 kg	1A4501
nD822 06L60	40 W | (2x58W)	5600 lm	140 lm/W	40 °C	7,9 kg	1A4502
nD822 12L42	28 W | (2v36W)	4260 lm	152 lm/W	40 °C	13,6 kg	1A4503
nD822 12L60	40 W | (2x58W)	5900 lm	148 lm/W	40 °C	14,0 kg	1A4504
nD822 12L85	54 W | (>2x58W)	8350 lm	155 lm/W	40 °C	14,0 kg	1A4505
nD822 12L120	79 W | (>3x58W)	11470 lm	145 lm/W	40 °C	14,0 kg	1A4506

TECHNICAL SPECIFICATIONS	
Marking:	Ex II 3G Ex ec IIC T4 Gc Ex II 3D Ex tc IIIC T80°C Dc
Certificate:	Declaration of conformity
Housing:	Sheet steel, powder coated in light grey (RAL 7035), silicone foam gasket
Cover:	Impact resistant safety glass pane, frameless / hinged.
LED:	Line modules approx. 5000K. CRI > 80, $L_{70}B_{10}$ > 100.000h | $L_{80}B_{50}$ > 100.000h | $L_{90}B_{50}$ > 50.000h (each at max. ambient temperature)
Operating temperature:	-30°C to +40°C
Operating frequency:	0 or 50/60 Hz
Rated voltage:	220/240V AC/DC
Ingress protection:	IP65
Connection:	3 poles up to 4 mm^2
Cable entries:	3xM25 x 1,5 (2 plastic cable glands - one of them is plugged)

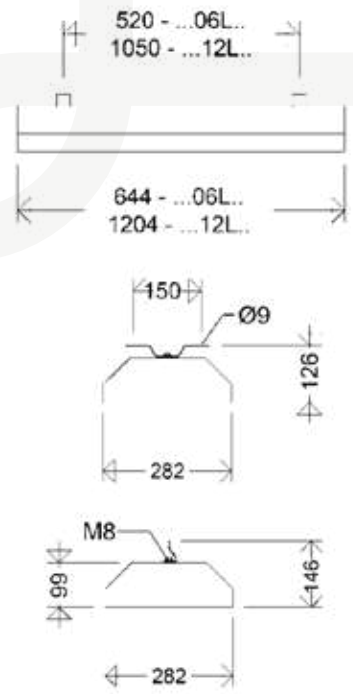


Note: This light fitting is not suitable for application in areas with permanent high humidity in combination with only short periods of operation, such as sewage or stormwater retention tanks or water treatment plants.

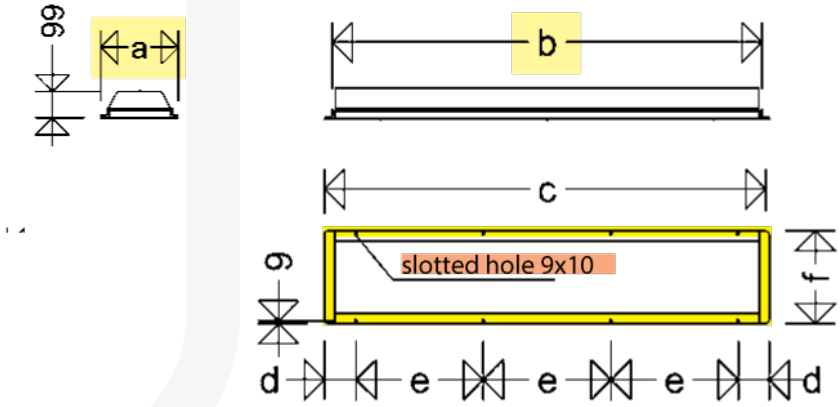
ACCESSORIES	
Designation:	**Item No.:**
2 suspension eyes, stainless steel	H8V P
2 ceiling brackets, hot galvanized steel	15A P
2 ceiling brackets, stainless steel	15AV P
2 wall/ceiling angle, steel	WD 45 P

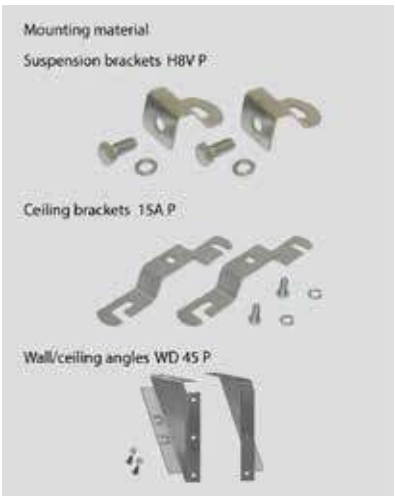
Light fittings of series nD822... can be equipped with a frame even at a later stage. Mounting by means of M5 bolts to the long sides of the housing (see drawing).

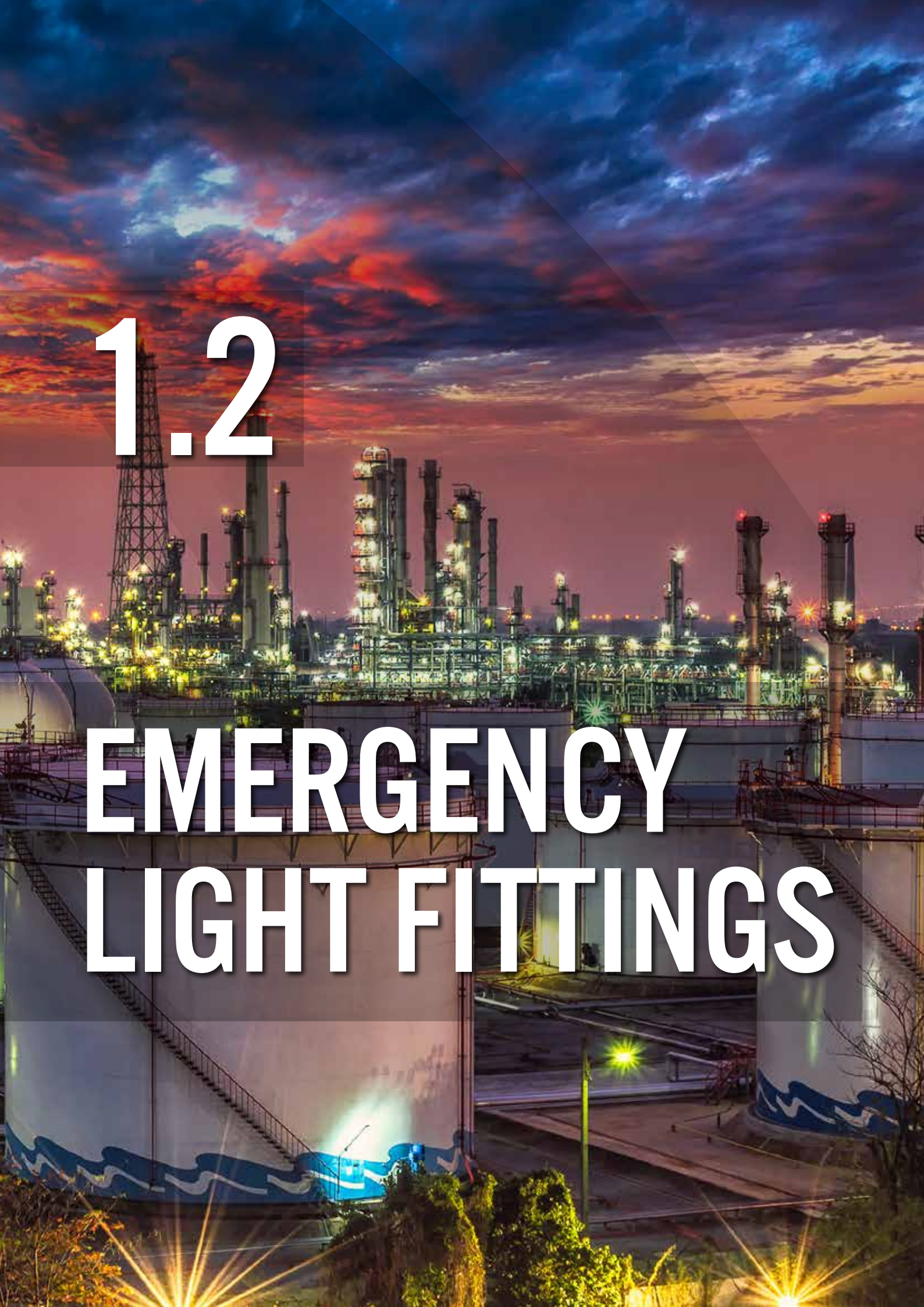
Attention: When planning the opening for recess installation please allow additional clearance for the cable glands.



FRAME FOR RECESSED INSTALLATION							
Designation:	**a**	**b**	**c**	**d**	**e**	**f**	**Item No.:**
Frame for narrow housing, e821 06L, nD822 06L	302	660	710	55	300	348	EB 82. 06L
Frame for narrow housing, e821 12L, nD822 12L	302	1224	1270	125	340	348	EB 82. 12L







1.2

EMERGENCY LIGHT FITTINGS

ATEX EMERGENCY LIGHT FITTINGS | ZONES 1, 2 (gas) & 21, 22 (dust)

Version without battery box. Mounting accessories: see accessories

EU-Type Examination Certificate

Options: dimmable via DALI-interface (DIMD)

Small LED Emergency light fitting for hazardous areas in Zones 1, 2 and 21, 22 as safety illumination and as information or escape route lighting.

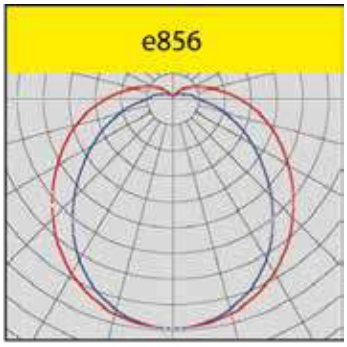
Glass fibre reinforced polyester housing.

Clear polycarbonate, frosted, detachable cover.

Automatic weekly function test and automatic annual duration test. Manual actuation of duration test is possible.

Easy battery replacement due to connector.

White, detachable reflector, carrying the encapsulated LED-modules and glare limitation modules. Central locking system operated by a hexagonal box spanner 13mm.



ITEM REFERENCES (STANDARD VERSION)								
Designation:	Cover:	Power:	Luminous flux:	Luminous flux (Emergency):	Luminous efficacy:	T. Max:	Weight:	Item No.:
1h operation time								
e856F L05/1/1,6	Frosted	6 W (1x8 W)	510 lm	510 lm	85 lm/W	55 °C	5,4 kg	1A0610
e856F L10/1/1,6	Frosted	11 W (2x8 W)	1060 lm	560 lm	96 lm/W	40 °C	5,4 kg	1A0611
e856F L20/1/1,6	Frosted	19 W (2x18 W)	2050 lm	560 lm	108 lm/W	40 °C	5,5 kg	1A0612
3h operation time								
e856F L05/3/2,5	Frosted	6 W (1x8 W)	510 lm	260 lm	85 lm/W	55 °C	5,4 kg	1A0613
e856F L10/3/2,5	Frosted	11 W (2x8 W)	1060 lm	260 lm	96 lm/W	40 °C	5,4 kg	1A0614
e856F L20/3/2,5	Frosted	19 W (2x18 W)	2050 lm	260 lm	108 lm/W	40 °C	5,6 kg	1A0615

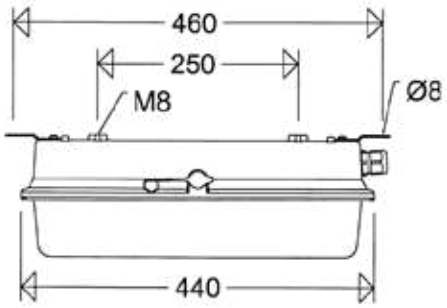
ITEM REFERENCES (BATTERY BOX VERSION)								
Designation:	Cover:	Power:	Luminous flux:	Luminous flux (Emergency):	Luminous efficacy:	T. Max:	Weight:	Item No.:
1h operation time								
e856F L10/1/1,6 H	Frosted	11 W (2x8 W)	1060 lm	560 lm	96 lm/W	55 °C	6,3 kg	1A0616
e856F L20/1/1,6 H	Frosted	19 W (2x18 W)	2050 lm	560 lm	108 lm/W	55 °C	6,4 kg	1A0617
3h operation time								
e856F L10/3/2,5 H	Frosted	11 W (2x8 W)	1060 lm	260 lm	96 lm/W	55 °C	6,4 kg	1A0618
e856F L20/3/2,5 H	Frosted	19 W (2x18 W)	2050 lm	260 lm	108 lm/W	55 °C	6,5 kg	1A0619

LED EMERGENCY LIGHT FITTINGS SERIES E856

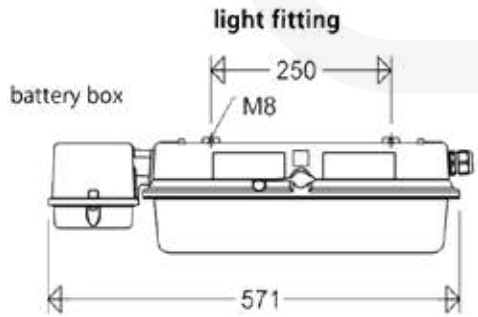
Zones 1, 2, 21, 22

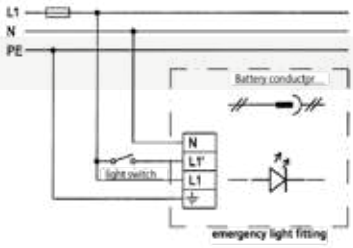
TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb [ib] mb op is q IIC T4 Gb II 2D Ex op is tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Glass fibre reinforced polyester
Cover:	Polycarbonate
LED:	Line modules ca. 6,500K, CRI > 80 | $L_{70}B_{10}$ > 80.000h, $L_{80}B_{50}$ > 80.000h each at max. ambient temperature
Battery:	NiCd, electronic charger, short circuit protected battery andreverse battery protection
Re-charging time:	24 h, acc. to EN 60598-2-22
Operating temperature:	-30°C to +55°C. Norminal range acc. to EN 60598-2-22 0°C up to 40° or 50°C (H-Versions). Reduced emergency light duration if operated below 0°C
Operating frequency:	50/60 Hz
Rated voltage:	220/240V AC
Ingress protection:	IP66
Automatic monitoring:	of the emergency light fitting according to EN 62034, indication of the test results by 2-coloured LED (luminescence diode) at the luminaire
Connection:	Prepared for looping the mains cable at one end 4 x 2.5mm²
Cable entries:	1xM25X1,5 plastic cable gland 1xM25X1,5 plastic plug

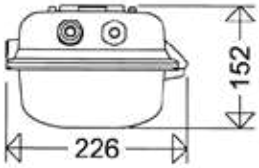
e856F ... (without battery box)



e856F ... H (with battery box)







ACCESSORIES	
Designation:	Item No.:
2 ceiling brackets, hot galvanized steel	15A P
2 ceiling brackets, stainless steel	15AV P
2 pipe clamps 1 ½", stainless steel, with support	RO84 112 A P
2 pipe clamps 2", stainless steel, with support	RO84 2 A P
2 wall mounting angles	W26/L P
2 wall mounting angles 30°	W26/30 P
2 wall mounting angles 45°	W26/45 P

Self-adhesive pictograms:	Item No.:
Emergency exit to the left	121/33 W
Emergency exit to the right	121/34 W
Emergency exit below	121/35 W

Self-adhesive pictograms for identification of escape routes acc. to DIN EN ISO 7010 and ASR A1.3. Viewing distance: 25 m

ATEX EMERGENCY LIGHT FITTINGS | ZONES 1, 2 (gas) & 21, 22 (dust)

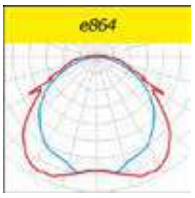
For escape routes and work areas with special risks, reliability of illumination is essential in the event of a failure of the general lighting system to allow safe exit of the affected area. In hazardous areas zone 1 and 21, the explosion-protected LED emergency light fittings with single battery of product series ExeLed 1 N provide this with great reliability and noticeably high efficiency.

Maintained operation: switching over to battery operation in case of mains failure, line modules will be operated with reduced luminous flux as emergency lighting.

Stand-by operation: switching on in case of mains failure.

Supplied without mounting brackets.

EU-Type Examination Certificate



Options:
Dimmable via DALI-interface (DIMD)
4.500K, light colour 845

- **safety in case of an emergency, instant light with maximum light output**
- **multifunctional LED with coded indication of the functions, states and potential faults of the electronic device and the battery**
- **automatic weekly function test**
- **automatic annual duration test**
- **easy battery replacement due to connector**
- **innovative encapsulation with high transmission rate**
- **LED-Modules protected from mechanical or electrostatic damages by sandwich design of reflector and cover**
- **homogeneous illumination by using frosted diffusers (versions e864F..) no individual light points visible, comfortable perception of light, brilliant glare limitation**
- **FastFix mounting, system for variable mounting distances and easy installation (retaining clips HK865 P) without opening the fitting**

** This light fitting is not suitable for applications in areas with permanent high humidity in combination withonly short periods of operation, such as sewage orstormwater retention tanks or water treatment plants.*

ITEM REFERENCES

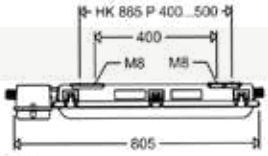
Designation:	Cover:	Power:	Luminous flux:	Luminous flux (Emergency):	Luminous efficacy:	T. Max:	Weight:	Item No.:
1h operation time								
e864F 06L22/1/1,6	Frosted	18 W | (2x18W)	2170 lm	700 lm	121 lm/W	55 °C	6,2 kg	1A400A
e864F 06L42/1/1,6	Frosted	29 W | (2x36W)	4100 lm	700 lm	141 lm/W	50 °C	6,4 kg	1A400B
e864F 12L42/1/1,6	Frosted	29 W | (2x36W)	4360 lm	750 lm	150 lm/W	55 °C	7,6 kg	1A4001
e864F 12L60/1/1,6	Frosted	41 W | (2x58W)	6020 lm	750 lm	147 lm/W	55 °C	7,6 kg	1A4002
e864 12L42/1/1,6	Clear	29 W | (2x36W)	4590 lm	800 lm	158 lm/W	55 °C	7,6 kg	1A4003
e864 12L60/1/1,6	Clear	41 W | (2x58W)	6320lm	800 lm	155 lm/W	55 °C	7,6 kg	1A4004
3h operation time								
e864F 06L22/3/4	Frosted	18 W | (2x18W)	2170 lm	700 lm	121 lm/W	55 °C	6,4 kg	1A400C
e864F 06L42/3/4	Frosted	29 W | (2x36W)	4100 lm	700 lm	141 lm/W	50 °C	6,8 kg	1A400D
e864F 12L42/3/4	Frosted	29 W | (2x36W)	4360 lm	750 lm	150 lm/W	55 °C	8 kg	1A4005
e864F 12L60/3/4	Frosted	41 W | (2x58W)	6020 lm	750 lm	147 lm/W	55 °C	8 kg	1A4006
e864 12L42/3/4	Clear	29 W | (2x36W)	4590 lm	800 lm	158 lm/W	55 °C	8 kg	1A4007
e864 12L60/3/4	Clear	41 W | (2x58W)	6320lm	800 lm	155 lm/W	55 °C	8 kg	1A4008

EMERGENCY LIGHT FITTINGS SERIES EXELED 1 N E864

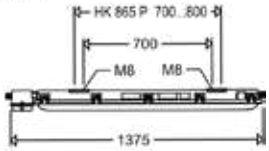
Zones 1, 2, 21, 22

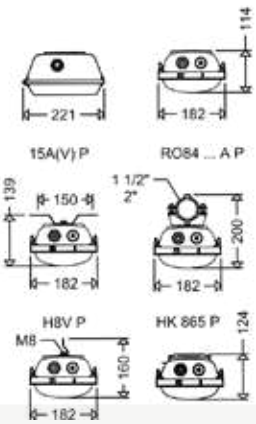
TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb [ib] mb op is q IIC T4 Gb II 2D Ex op is tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Glass fibre reinforced polyester. Stainless steel clips (KE), 2 of them as safety clip (KES), to be opened with screwdriver only
Cover:	Injected polycarbonate, frosted (F) or clear Silicone gasket
Reflector:	Sheet Steel, painted, carrying the encapsulated LED-modules, clipped into the cover, suspendable
LED:	Line modules | Clear cover: 6500K, Frosted cover: 6000K | CRI > 80 L_{80} > 100.000h at max. ambient temperature L_{90} > 95.000h (06L..), L_{90} > 85.000h (12L..) each at 25°C ambient T.
Battery:	NiCd, electronic charger, short circuit protected battery andreverse battery protection
Re-charging time:	24 h, acc. to EN 60598-2-22
Operating temperature:	-30°C to +55°C. Nominal range acc. to EN 60598-2-22 0°C up to 45°C, reduced emergency light duration if operated below 0°C
Operating frequency:	50/60 Hz
Rated voltage:	220/240V AC
Ingress protection:	IP66
Automatic monitoring:	Of the emergency light fitting according to EN 62034, indication of the test results by 2-coloured LED (luminescence diode) at the luminaire
Connection:	4 poles up to 4 mm²
Cable entries:	2xM25x1,5 (2 plastic cable glands - 1 of them is plugged)

e864 06L... H



e864 12L...





ACCESSORIES	
Designation:	Item No.:
2 suspension brackets, stainless steel	H8V P
2 ceiling brackets, hot galvanized steel	15A P
2 ceiling brackets, stainless steel	15AV P
2 pipe clamps 1 ½", stainless steel, with support	RO84 112 A P
2 pipe clamps 2", stainless steel, with support	RO84 2 A P
2 retaining clips for variable mounting distances	HK 865 P
2 wall mounting angles	W26 P
2 wall mounting angles 30°	W26/30 P
2 wall mounting angles 45°	W26/45 P

ATEX EMERGENCY LIGHT FITTINGS — ZONES 2 (gas) & 22 (dust)

Emergencies are extraordinary situations. When the lighting fails, panic can quickly ensue. Emergency lighting that is fail-safe and reliable can be a matter of life and death. Here the product series ExeLed 2 N, with its automatic self-monitoring and regular function and duration tests, is an excellent choice. Dependable, extremely long-lasting and extraordinarily efficient, it offers the necessary reliability in an emergency.

Maintained operation: switching over to battery operation in case of mains failure, line modules will be operated with reduced luminous flux as emergency lighting. Stand-by operation: switching on in case of mains failure.

Supplied without mounting brackets.

EU-Type Examination Certificate

Options: dimmable via DALI-interface (DIMD)

** This light fitting is not suitable for applications in areas with permanent high humidity in combination withonly short periods of operation, such as sewage orstormwater retention tanks or water treatment plants.*

Standard version with integrated battery or separate battery box version for high temperatures.

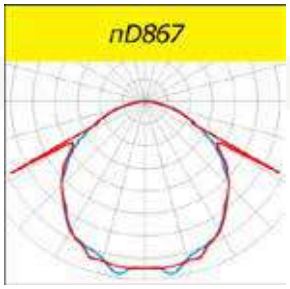
ITEM REFERENCES (STANDARD VERSION)								
Designation:	**Cover:**	**Power:**	**Luminous flux:**	**Luminous flux (Emergency):**	**Luminous efficacy:**	**T. Max:**	**Weight:**	**Item No.:**
1h operation time								
nD867F 06L22/1/4	Frosted	16 W | (2x18W)	2170 lm	650 lm	136 lm/W	40 °C	4,2 kg	1A390A
nD867F 06L42/1/4	Frosted	29 W | (2x36W)	4360 lm	750 lm	150 lm/W	40 °C	4,4 kg	1A390B
nD867F 12L42/1/4	Frosted	29 W | (2x36W)	4360 lm	750 lm	150 lm/W	40 °C	6,3 kg	1A3901
nD867F 12L60/1/4	Frosted	41 W | (2x58W)	6020 lm	750 lm	147 lm/W	40 °C	6,3 kg	1A3902
nD867 12L42/1/4	Clear	29 W | (2x36W)	4590 lm	800 lm	158 lm/W	40 °C	6,3 kg	1A3903
nD867 12L60/1/4	Clear	41 W | (2x58W)	6320 lm	800 lm	155 lm/W	40 °C	6,3 kg	1A3904
3h operation time								
nD867F 06L22/3/4	Frosted	16 W | (2x18W)	2170 lm	650 lm	136 lm/W	40 °C	4,2 kg	1A390C
nD867F 06L42/3/4	Frosted	29 W | (2x36W)	4360 lm	750 lm	150 lm/W	40 °C	4,4 kg	1A390D
nD867F 12L42/3/4	Frosted	29 W | (2x36W)	4360 lm	750 lm	150 lm/W	40 °C	6,3 kg	1A3905
nD867F 12L60/3/4	Frosted	41 W | (2x58W)	6020 lm	750 lm	147 lm/W	40 °C	6,3 kg	1A3906
nD867 12L42/3/4	Clear	29 W | (2x36W)	4590 lm	800 lm	158 lm/W	40 °C	6,3 kg	1A3907
nD867 12L60/3/4	Clear	41 W | (2x58W)	6320 lm	800 lm	155 lm/W	40 °C	6,3 kg	1A3908

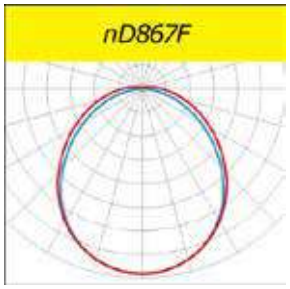
ITEM REFERENCES (BATTERY BOX VERSION)								
Designation:	**Cover:**	**Power:**	**Luminous flux:**	**Luminous flux Emergencia:**	**Luminous efficacy:**	**T. Max:**	**Weight:**	**Item No.:**
1h operation time								
nD867F 06L22/1/4 H	Frosted	16 W | (2x18W)	2170 lm	650 lm	136 lm/W	55 °C	5,2 kg	1A390E
nD867F 06L42/1/4 H	Frosted	29 W | (2x36W)	4360 lm	750 lm	150 lm/W	55 °C	5,4 kg	1A390F
nD867F 12L42/1/4 H	Frosted	29 W | (2x36W)	4360 lm	750 lm	150 lm/W	55 °C	7,3 kg	1A3909
nD867F 12L60/1/4 H	Frosted	41 W | (2x58W)	6020 lm	750 lm	147 lm/W	55 °C	7,3 kg	1A3910
nD867 12L42/1/4 H	Clear	29 W | (2x36W)	4590 lm	800 lm	158 lm/W	55 °C	7,3 kg	1A3911
nD867 12L60/1/4 H	Clear	41 W | (2x58W)	6320 lm	800 lm	155 lm/W	55 °C	7,3 kg	1A3912
3h operation time								
nD867F 06L22/3/4 H	Frosted	16 W | (2x18W)	2170 lm	650 lm	136 lm/W	55 °C	5,2 kg	1A390G
nD867F 06L42/3/4 H	Frosted	29 W | (2x36W)	4360 lm	750 lm	150 lm/W	55 °C	5,4 kg	1A390H
nD867F 12L42/3/4 H	Frosted	29 W | (2x36W)	4360 lm	750 lm	150 lm/W	55 °C	7,3 kg	1A3913
nD867F 12L60/3/4 H	Frosted	41 W | (2x58W)	6020 lm	750 lm	147 lm/W	55 °C	7,3 kg	1A3914
nD867 12L42/3/4 H	Clear	29 W | (2x36W)	4590 lm	800 lm	158 lm/W	55 °C	7,3 kg	1A3915
nD867 12L60/3/4 H	Clear	41 W | (2x58W)	6320 lm	800 lm	155 lm/W	55 °C	7,3 kg	1A3916

EMERGENCY LIGHT FITTINGS SERIES EXELED 2 N ND867

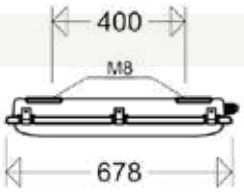
Zones 2, 22

TECHNICAL SPECIFICATIONS	
Marking:	Ex II 3G Ex ec IIC T4 Gc Ex II 3D Ex tc IIIC T80°C Dc
Certificate:	EU-Type Examination Certificate
Housing:	Glass fibre reinforced polyester resin. Version H with separate battery box at one small side of the housing. Stainless steel clips (KE), two of them as safety clip (KES), to be opened with screwdriver only.
Cover:	Injected polycarbonate, frosted (F) or clear, silicone gasket.
Reflector:	Sheet Steel, painted, carrying the LED-modules and all electrical components, clipped into the cover, suspendable.
LED:	Line modules 5000K, CRI > 80. L80 > 100.000h at max. ambient temperature L_{90} > 90.000h (06L..) | L_{90} > 75.000h (12L..) at 25°C ambient temperature
Battery:	NiCd, electronic charger, short circuit protected battery andreverse battery protection
Re-charging time:	24 h, acc. to EN 60598-2-22
Operating temperature:	-30°C to +55°C. Reduced emergency light duration if operated below 0°C. For nD867 H nominal range acc. to EN60598-2-22, 0°C up to 45°C.
Operating frequency:	50/60 Hz
Rated voltage:	220/240V AC, 50-60Hz
Ingress protection:	IP66
Automatic monitoring:	of the emergency light fitting according to EN 62034, indica-tion of the test results by 2-coloured LED (luminescence diode) at the luminaire
Connection:	4 poles up to 2,5 mm²
Mechanical installation:	Standard: Facing downwards or forwards Direct ceiling mounting is possible. Rubber washers are included. Further mounting options, see accessories
Cable entries:	3xM25x1,5 (2 plastic cable glands - one of them is plugged). Versions H with 2 x M25 x 1,5 at the front end of the light fitting

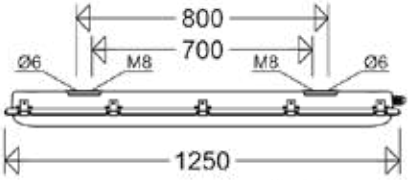




nD867... 06L.. (without battery box)

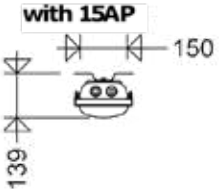


nD867... 12L.. (without battery box)

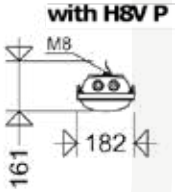


with HK865 P

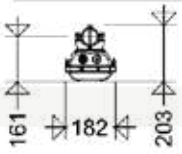
with 15AP



with H8V P



with RO84 ... P



ACCESSORIES	
Designation:	Item No.:
2 suspension brackets, stainless steel	H8V P
2 ceiling brackets, hot galvanized steel	15A P
2 ceiling brackets, stainless steel	15AV P
2 pipe clamps 1 ½", stainless steel, with support	RO84 112 A P
2 pipe clamps 2", stainless steel, with support	RO84 2 A P
2 retaining clips for variable mounting distances	HK 865 P
2 wall mounting angles	W26 P
2 wall mounting angles 30°	W26/30 P
2 wall mounting angles 45°	W26/45 P

ATEX EMERGENCY LIGHT FITTINGS

ZONES 2 (gas) & 22 (dust)

Compact LED Emergency and Escape Sign Light Fitting for illumination of escape routes and for identification of escape routes in hazardous locations.

2 Modes of operation:

- Stand-by operation: Emergency light switches on in case of mains failure
- Maintained operation: Switching over to battery operation in case of mains failure

Automatic monitoring the emergency light fitting acc. to EN 62034. Indication of the test results by 2-colour LED on the light fitting.

Outstanding visibility of the indication sign due to a superb and even illumination of the pictogram.

Stable luminous flux in emergency operation.

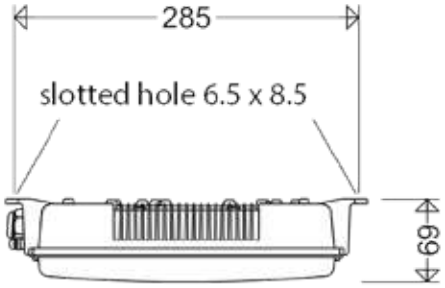
Declaration of Conformity

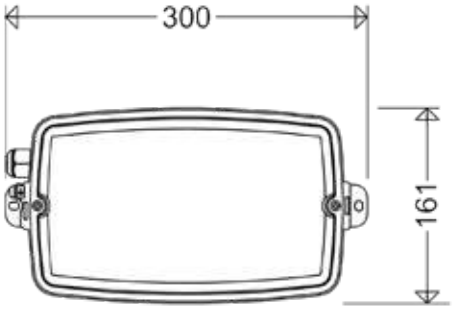
ITEM REFERENCES

Designation:	Power consumption:	Emergency operation:	Luminous flux:	Luminous flux (emergency):	Luminous efficacy:	Weight:	Item No.:
nD8611 L02/1W	5W	1h NiMH	150 lm	150 lm	30 lm/W	1 kg	1A2303
nD8611 L02/3W	5W	3h NiMh	150 lm	150 lm	30 lm/W	1,2 kg	1A2304

TECHNICAL SPECIFICATIONS

Marking:	II 3G Ex nR IIC T4 Gc II 3D Ex tc IIIC T80°C Dc
Certificate:	Declaration of Conformity
Operating temperature:	-5°C to +30°C (maintained operation) 0°C to +40°C (standby operation)
Operating conditions:	Indoor / Outdoor
Housing:	Diecast aluminium, natural finish
Cover:	Polycarbonate opalescent white (Pictograms, if required, to be ordered separately)
Impact protection:	4 J (at the temperature of -5°C no IK rating given; the 4 J are defined in the ex-proof regulation)
LED:	Linear module 6.500K, CRI > 80, L_{80} > 50.000h at max. ambient temperature
Battery:	Built-in NiMH. A constant trickle charge to the battery ensures readiness of operation at all times.
Recharging time:	24 h
Operating frequency:	50/60 Hz
Rated voltage:	220-240 V AC
Ingress protection:	IP65
Connection terminals:	3 or 4 poles, clamping range max. 2,5mm²
Cable entries:	1xM20x1,5 plastic cable gland





	Self-adhesive pictogram:	Item No.:
Self-adhesive pictogram for marking escape routes acc.to DIN EN ISO 7010 and ASR A1.3. Viewing = 22m.	Emergency exit to the left	220/110/33
	Emergency exit to the right	220/110/34
	Emergency exit below	220/110/35

7 SERIES LED EMERGENCY LUMINAIRE

Zones 1, 2, 21, 22

LED LIGHT FITTINGS

ZONES 1, 2 (gas) & 21, 22 (dust)

High efficiency Zone 1 and Zone 21 LED Luminaire for use in hazardous areas. Manufactured from impact resistant polycarbonate and high specification marine grade aluminium, the fitting is supplied anodised and painted.

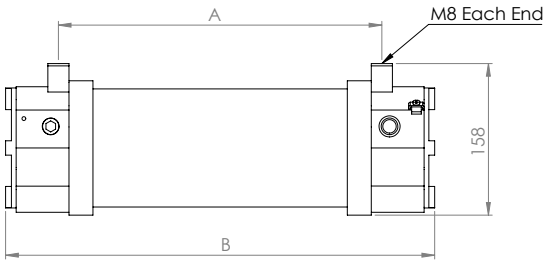
These emergency models are fitted with integral batteries (3 hour duration) and charging units for ease of fitting and maintenance.

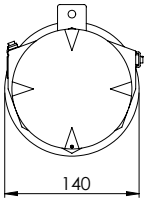
EU-Type Examination Certificate

ITEM REFERENCES - EMERGENCY				
Designation:	Power:	Size:	Luminous flux:	Item No.:
15W Ex d Emergency	15 W	1 - 448 mm	1335 lm	1A4711
30W Ex d Emergency	30 W	2 - 752 mm	2670 lm	1A4712

ITEM REFERENCES - SELF-TEST EMERGENCY				
Designation:	Power:	Size:	Luminous flux:	Item No.:
15W Ex d Self-Test Emergency	15 W	1 - 448 mm	1335 lm	1A4721
30W Ex d Self-Test Emergency	30 W	2 - 752 mm	2670 lm	1A4722
3-hour self-test emergency with auto-commissioning. Runs monthly and yearly checks automatically				

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db op is IIC T6 Gb II 2D Ex tb op is IIIC T85°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +55°C
Housing:	Marine grade aluminium body with high impact polycarbonate tube
Ingress protection:	IP66
Light output:	High efficiency LED with various outputs
Supply voltage:	230V 50/60Hz.
Control gear:	Electronic drive
Electrical connections:	3 wire and earth cable size 4mm² max. Through wiring as standard
Installation / Mounting:	2 x M8 tapped holes. Size 1: 335 mm, size 2: 632 mm
Cable entries:	4 x M20 (3 plugged)





DIMENSIONS			
SIZE	A:	B:	Weight:
1	335 mm	448 mm	3 kg
2	632 mm	752 mm	5 kg

CONTACT – (+34) 943 530 095 | inpratex@inpratex.com

1.3

FLOODLIGHTS & HIGH BAYS

LED FLOODLIGHT SERIES E8820 EXSTREAM

Zones 1, 2, 21, 22

ATEX FLOODLIGHTS

ZONES 1, 2 (gas) & 21, 22 (dust)

Robust, highly efficient and extremely durable, these are the outstanding properties of the ex-proof LED floodlight series ExSTREAM. A cooling rib structure that completely encloses each housing segment characterises the design of the Ex light fitting.

The result is excellent heat dissipation, supported by good convection and thus additional cooling of each luminaire segment.

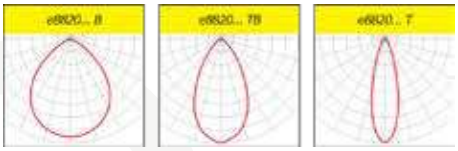
Options:

- for ambient temperatures down to -40°C

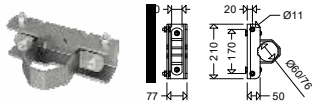
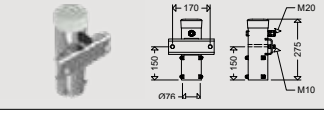
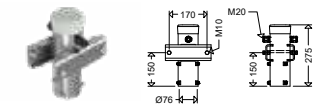
- seawater-resistant version

EU-Type Examination Certificate

** Due to the inrush current of the electronic ballasts, the maximum permissible number of light fittings per circuit breaker is limited.*



ITEM REFERENCES						
Designation:	Power:	Lumin. flux:	Efficacy lm/W:	T. max.	Weight:	Item No.:
wide beam (available in 2 versions: with 3 or 6 LED modules)						
e8820/3 L120B H55	87W	11.850 lm	136	55°C	11,2 kg	1B1301
e8820/3 L150B	125W	15.800 lm	126	40°C	11,2 kg	1B1302
e8820/6 L240B H55	174W	23.700 lm	136	55°C	17,2 kg	1B1303
e8820/6 L300B	250W	31.600 lm	126	40°C	17,2 kg	1B1304
narrow wide beam (available in 2 versions: with 3 or 6 LED modules)						
e8820/3 L120TB H55	87W	11.100 lm	128	55°C	11,2 kg	1B1305
e8820/3 L150TB	125W	14.650 lm	117	40°C	11,2 kg	1B1306
e8820/6 L240TB H55	174W	22.200 lm	128	55°C	17,2 kg	1B1307
e8820/6 L300TB	250W	29.300 lm	117	40°C	17,2 kg	1B1308
narrow beam (available in 2 versions: with 3 or 6 LED modules)						
e8820/3 L120T H55	87W	10.300 lm	118	55°C	11,2 kg	1B1309
e8820/3 L150T	125W	13.500 lm	108	40°C	11,2 kg	1B1310
e8820/6 L240T H55	174W	20.600 lm	118	55°C	17,2 kg	1B1311
e8820/6 L300T	250W	27.000 lm	108	40°C	17,2 kg	1B1312

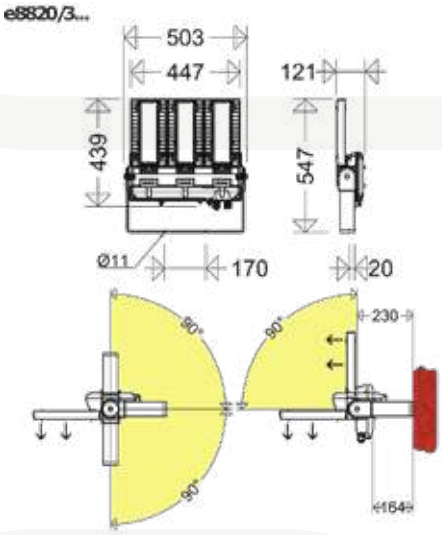
ACCESSORIES		
Designation:		Type:
ROB 60/76 G2		Pipe clamp fastening for direct pole mounting; galvanised steel
MAU 1 76/170 M10		Pole top for single mounting, ø 76 mm, galvanized steel
MAU 2 76/170 M10		Pole top for double mounting, ø 76 mm, galvanized steel

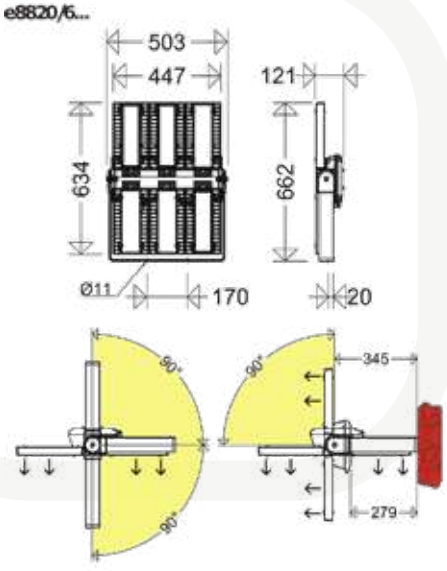
LED FLOODLIGHT SERIES E8820 EXSTREAM

Zones 1, 2, 21, 22

ITEM REFERENCES DIMD						
Designation:	**Power:**	**Lumin. flux:**	**Efficacy lm/W:**	**T. max.**	**Weight:**	**Item No.:**
wide beam (available in 2 versions: with 3 or 6 LED modules)						
e8820/3 L120B H55 DIMD	87W	11.850 lm	136	55°C	11,2 kg	1B1301B
e8820/3 L150B DIMD	125W	15.800 lm	126	40°C	11,2 kg	1B1302B
e8820/6 L240B H55 DIMD	174W	23.700 lm	136	55°C	17,2 kg	1B1303B
e8820/6 L300B DIMD	250W	31.600 lm	126	40°C	17,2 kg	1B1304B
narrow wide beam (available in 2 versions: with 3 or 6 LED modules)						
e8820/3 L120TB H55 DIMD	87W	11.100 lm	128	55°C	11,2 kg	1B1305B
e8820/3 L150TB DIMD	125W	14.650 lm	117	40°C	11,2 kg	1B1306B
e8820/6 L240TB H55 DIMD	174W	22.200 lm	128	55°C	17,2 kg	1B1307B
e8820/6 L300TB DIMD	250W	29.300 lm	117	40°C	17,2 kg	1B1308B
narrow beam (available in 2 versions: with 3 or 6 LED modules)						
e8820/3 L120T H55 DIMD	87W	10.300 lm	118	55°C	11,2 kg	1B1309B
e8820/3 L150T DIMD	125W	13.500 lm	108	40°C	11,2 kg	1B1310B
e8820/6 L240T H55 DIMD	174W	20.600 lm	118	55°C	17,2 kg	1B1311B
e8820/6 L300T DIMD	250W	27.000 lm	108	40°C	17,2 kg	1B1312B

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb mb q IIC T4 Gb II 2D Ex tb IIIC T100 °C Db
Certificate:	EU-Type Examination Certificate
Housing:	Die-cast aluminum, multi-part, thermally separated, powder-coated DB702 (mica-iron paint, grey)
LED housing:	With LED modules, optics and safety glass
Device housing:	With built-in control gear, wired ready for connection
Front cover:	Thermally resistant safety glass Impact resistance IK08
LED:	LED-module approx. 5,500K (TB- and B-optics) or approx. 6,500K (T- optics) , CRI > 80, life cycle L_{80} > 100.000h at max. ambient T, L_{90} > 90.000h at 25°C ambient T.
Operating temperature:	-30°C up to +40°C/+55°C (see item tables)
Operating frequency:	0 or 50-60Hz
Rated voltage:	220 - 240V AC/DC overvoltage, overload and short circuit protection
Ingress protection:	IP66
Mounting:	Stainless steel bracket, adjustable in 5° steps around the longitudinal axis of the floodlight
Standard mounting:	Light beam downwards or horizontally
Connection:	5 poles, max. clampingrange 4mm²
Cable entries:	2xM25X1,5 (2 glands - one of them is plugged)





BAT86 SERIES LED FLOODLIGHTS

Zones 1, 2, 21, 22

ATEX FLOODLIGHTS

ZONES 1, 2 (gas) & 21, 22 (dust)

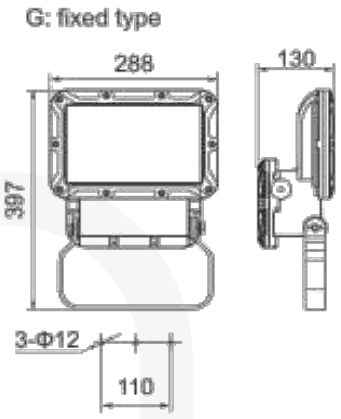
Explosion-proof LED floodlight for hazardous locations of Zones 1,2 (gas atmosphere) and 21,22 (dust atmosphere).Copper-free aluminium housing, powder coated surface (yellow RAL 1021).

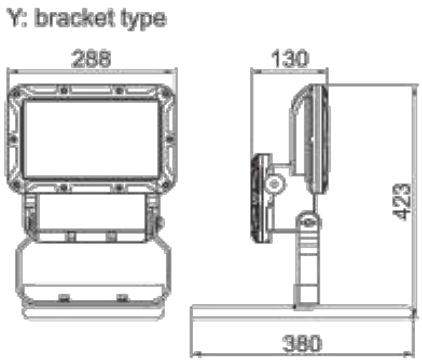
Low-maintenance due to long service life is up to 100,000 operating hours.

Power factor ≥ 0,95

EU-Type Examination Certificate

BAT86 - 90 | FIXED TYPE OR BRACKET TYPE



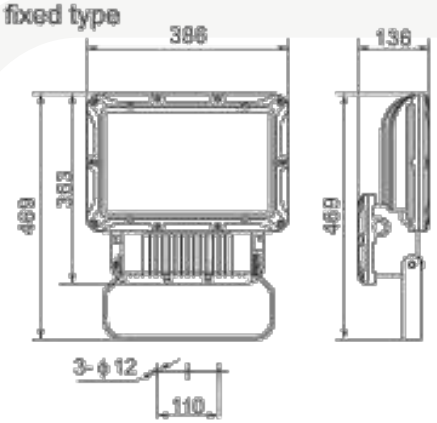


ITEM REFERENCES BAT86-90-...						
Designation:	Power:	Luminous flux:	Temperature class:		Weight:	Item No.:
			-60°C ≤ Ta ≤ +40°C	-60°C ≤ Ta ≤ +60°C		
BAT86-90-60G	60W	6500 lm	T6/T80°C	T4/T130°C	6,7 kg	1B0811
BAT86-90-90G	90W	9550 lm	T6/T80°C	T4/T130°C	6,7 kg	1B0812
BAT86-90-60Y	60W	6500 lm	T6/T80°C	T4/T130°C	8,5 kg	1B0813
BAT86-90-90Y	90W	9550 lm	T6/T80°C	T4/T130°C	8,5 kg	1B0814

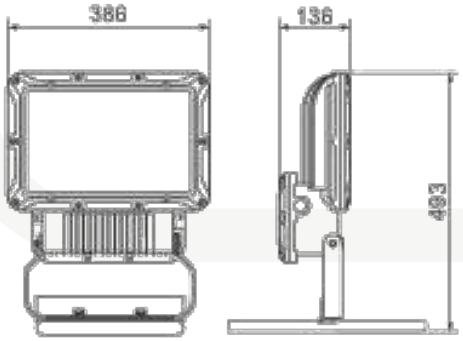
TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db IIB+H2 T6...T4 Gb II 2D Ex tb IIIC T80°C...T130°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-60°C to +40°C - T6/T80°C | -60°C to +60°C - T4/T130°C
Operating conditions:	Indoor / Outdoor
Housing:	Copper-free aluminium alloy, powder coated surface (yellow RAL1021). Exposed fastener in stainless steel
Cover:	Toughened glass, stands 4J impact
Operating frequency:	50/60 Hz
Rated voltage:	100~277V AC
LED:	LED module, multiple LED, R_a ≥ 70, 5700K
Terminals:	3x1,5~4 mm² (L+N+PE)
Ingress protection:	IP66
Cable entries:	2xM25x1,5 (plugs included)

BAT86 - 160 | FIXED TYPE OR BRACKET TYPE

G: fixed type



Y: bracket type

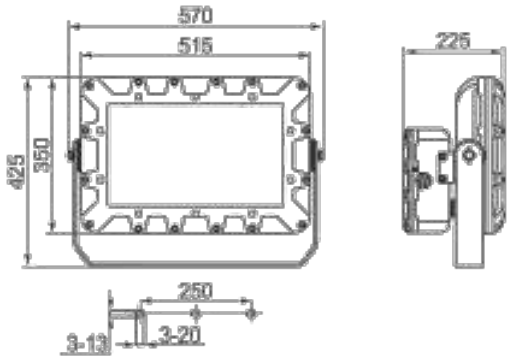


ITEM REFERENCES BAT86-160-...						
Designation:	Power:	Luminous flux:	Temperature class:		Weight:	Item No.:
			-60°C ≤ Ta ≤ +40°C	-60°C ≤ Ta ≤ +60°C		
BAT86-160-120G	120W	14400 lm	T6/T80°C	T5/T95°C	13 kg	1B0801
BAT86-160-160G	160W	19800 lm	T6/T80°C	T5/T95°C	13 kg	1B0802
BAT86-160-120Y	120W	14400 lm	T6/T80°C	T5/T95°C	14,8 kg	1B0803
BAT86-160-160Y	160W	19800 lm	T6/T80°C	T5/T95°C	14,8 kg	1B0804

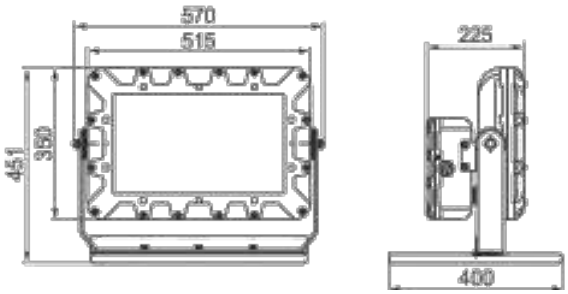
TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db IIB T6...T5 Gb II 2D Ex tb IIIC T80°...95° Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-60°C to +40°C - T6/T80°C | -60°C to +60°C - T5/T95°C
Operating conditions:	Indoor / Outdoor
Housing:	Copper-free aluminium alloy, powder coated surface (yellow RAL1021). Exposed fastener in stainless steel
Cover:	Toughened glass, stands 4J impact
Operating frequency:	50/60 Hz
Rated voltage:	100~277 V AC
LED:	LED module, multiple LED, $R_a \geq 70$, 5700K
Terminals:	3x1,5~4 mm^2 (L+N+PE)
Ingress protection:	IP66
Cable entries:	2xM25x1,5 (plugs included)

BAT86 - 240 | FIXED TYPE OR BRACKET TYPE

G: fixed type



Y: bracket type



ITEM REFERENCES BAT86-240-...						
Designation:	Power:	Luminous flux:	Temperature class:		Weight:	Item No.:
			-60°C ≤ Ta ≤ +40°C	-60°C ≤ Ta ≤ +60°C		
BAT86-240-200G	200W	23600 lm	T6/T80°C	T4/T130°C	28 kg	1B0806
BAT86-240-240G	240W	28400 lm	T6/T80°C	T4/T130°C	28 kg	1B0807
BAT86-240-200Y	200W	23600 lm	T6/T80°C	T4/T130°C	29,5 kg	1B0809
BAT86-240-240Y	240W	28400 lm	T6/T80°C	T4/T130°C	29,5 kg	1B0810

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db IIB+H2 T6...T4 Gb II 2D Ex tb IIIC T80°C...T130°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-60°C to +40°C - T6/T80°C | -60°C to +60°C - T4/T130°C
Operating conditions:	Indoor / Outdoor
Housing:	Copper-free aluminium alloy, powder coated surface (yellow RAL1021). Exposed fastener in stainless steel
Cover:	Toughened glass, stands 4J impact
Operating frequency:	50/60 Hz
Rated voltage:	100~277V AC
LED:	LED module, multiple LED, $R_a \geq 70$, 5700K
Terminals:	3x1,5~4 mm² (L+N+PE)
Ingress protection:	IP66
Cable entries:	2xM25x1,5 (plugs included)

EX FLOODLIGHT RFID - 110-220V

Zones 1, 2, 21, 22

ATEX FLOODLIGHTS

ZONES 1, 2 (gas) & 21, 22 (dust)

Ex Floodlight RFID is an explosion-proof LED lighting solution designed for use in environments with explosive gas and dust atmospheres, offering a high level of protection. This innovative product introduces, for the first time in the market, an RFID tag integrated within the housing, storing all the product's data. This groundbreaking feature simplifies maintenance and inspection.

In addition to the RFID technology, the housing is equipped with Gorilla Glass, only 3-4mm thick, making the product lighter and more impact-resistant compared to similar products.

During the development of Ex Floodlight RFID, the primary focus was on delivering high lumen output to provide maximum lighting coverage for large areas.

This explosion-proof product comes with outstanding features, fully compliant with the highest safety standards (CENELEC norm HD63751). With a luminous flux of up to 20,000 lumens and a high level of protection, it ensures top-tier performance.

Unlike other lamps that simply retrofit LED technology into armored housings, Ex Floodlight RFID is a specially designed LED light source, featuring an extremely and reliable enclosure that also acts as a heat sink for efficient LED cooling. The integrated RFID system offers a smart technology solution, setting this product apart as a state-of-the-art innovation.

EU-Type Examination Certificate

ITEM REFERENCES 60W					
Designation:	Light distribution:	Power factor:	Luminous flux:	Temperature class:	Item No.:
Ex FloodLight 230V 60W 60° IIC	60°	>0,87	~ 8600 lm	T6, T80°C / Ta:-20°C to +50°C	1B1601A
Ex FloodLight 230V 60W 90° IIC	90°				1B1601B
Ex FloodLight 230V 60W 120°IIC	120°				1B1601C
Ex FloodLight 230V 60W T2M IIC	T2M				1B1601D
Ex FloodLight 230V 60W T3M IIC	T3M				1B1601E

ITEM REFERENCES 80W					
Designation:	Light distribution:	Power factor:	Luminous flux:	Temperature class:	Item No.:
Ex FloodLight 230V 80W 60° IIC	60°	>0,92	~ 11500 lm	T6, T80°C / Ta:-20°C to +50°C	1B1602A
Ex FloodLight 230V 80W 90° IIC	90°				1B1602B
Ex FloodLight 230V 80W 120°IIC	120°				1B1602C
Ex FloodLight 230V 80W T2M IIC	T2M				1B1602D
Ex FloodLight 230V 80W T3M IIC	T3M				1B1602E

ITEM REFERENCES 100W					
Designation:	Light distribution:	Power factor:	Luminous flux:	Temperature class:	Item No.:
Ex FloodLight 230V 100W 60° IIC	60°	>0,92	~ 14300 lm	T6, T80°C / Ta:-20°C to +50°C	1B1603A
Ex FloodLight 230V 100W 90° IIC	90°				1B1603B
Ex FloodLight 230V 100W 120°IIC	120°				1B1603C

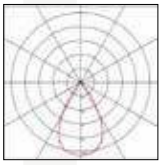
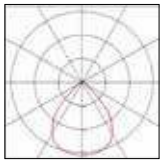
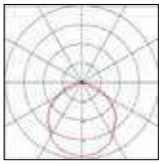
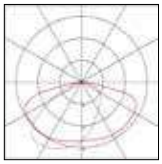
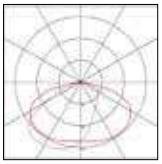
ITEM REFERENCES 120W					
Designation:	Light distribution:	Power factor:	Luminous flux:	Temperature class:	Item No.:
Ex FloodLight 230V 120W 60° IIC	60°	>0,95	~17300 lm	T5, T85°C / Ta:-20°C to +40°C T6, T80°C / Ta:-20°C to +50°C	1B1604A
Ex FloodLight 230V 120W 90° IIC	90°				1B1604B
Ex FloodLight 230V 120W 120°IIC	120°				1B1604C

CONTACT - (+34) 943 530 095 | inpratex@inpratex.com

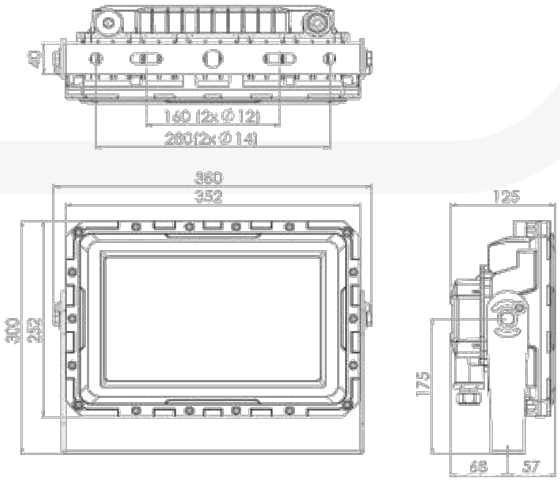
EX FLOODLIGHT RFID - 110-220V

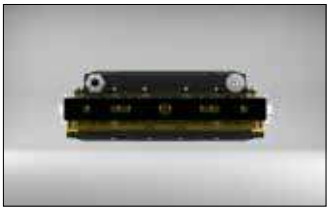
Zones 1, 2, 21, 22

ITEM REFERENCES 140W					
Designation:	Light distribution:	Power factor:	Luminous flux:	Temperature class:	Item No.:
Ex FloodLight 230V 140W 60° IIC	60°	>0,96	~ 20100 lm	T5, T85°C / Ta:-20°C to +40°C T6, T80°C / Ta:-20°C to +50°C	1B1605A
Ex FloodLight 230V 140W 90° IIC	90°				1B1605B
Ex FloodLight 230V 140W 120°IIC	120°				1B1605C

LIGHT DISTRIBUTION				
Ex FLOODLIGHT 60°	Ex FLOODLIGHT 90°	Ex FLOODLIGHT 120°	Ex FLOODLIGHT T2M	Ex FLOODLIGHT T3M
				

TECHNICAL SPECIFICATIONS	
Marking 60W, 80W, 100W:	II 2G Ex db op is IIC T6 Gb II 2D Ex tb op is IIIC T85°C Db
Marking 120W, 140W:	II 2G Ex db op is IIC T5...T6 Gb II 2D Ex op is tb IIIC T85°C...T80°C Db
Certificate:	EU-Type Examination Certificate
Operating Voltage:	110 - 230 VAC
Housing:	Die cast aluminium, powder coated, tempered glass 10mm
Gasket:	Silicone gasket
Luminary efficacy:	~ 143 lm/W at 5000 K
LED:	~ 5000 K (other light colors are optional) | CRI: >80
Ingress protection:	IP66 | IK08
Connection terminal:	L,N,PE max 3x2,5 mm², external PE Terminal M5/4 mm²
Weight:	11,1 kg
Dimensions:	380 x 300 x 100 mm
Cable entries:	2xM20x1,5 (Cable glands / plugs non included)





ACCESSORIES					
Sketch:	Description:	Sketch:	Description:	Sketch:	Description:
	Ex Gland M20 ø6,5-11,9mm or ø10-14,3mm		Antistatic Protective Peel Off Foil		Ex Plug M20

EX FLOODLIGHT RFID - 20-48V

Zones 1, 2, 21, 22

ATEX FLOODLIGHTS

ZONES 1, 2 (gas) & 21, 22 (dust)

Ex Floodlight RFID is an explosion-proof LED lighting solution designed for use in environments with explosive gas and dust atmospheres, offering a high level of protection. This innovative product introduces, for the first time in the market, an RFID tag integrated within the housing, storing all the product's data. This groundbreaking feature simplifies maintenance and inspection.

In addition to the RFID technology, the housing is equipped with Gorilla Glass, only 3-4mm thick, making the product lighter and more impact-resistant compared to similar products.

During the development of Ex Floodlight RFID, the primary focus was on delivering high lumen output to provide maximum lighting coverage for large areas.

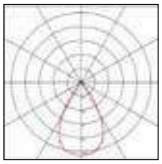
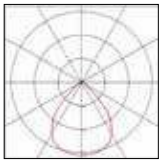
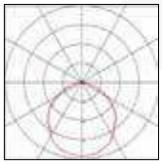
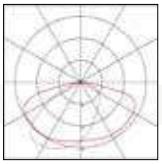
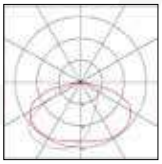
This explosion-proof product comes with outstanding features, fully compliant with the highest safety standards (CENELEC norm HD63751). With a luminous flux of up to 20,000 lumens and a high level of protection, it ensures top-tier performance.

Unlike other lamps that simply retrofit LED technology into armored housings, Ex Floodlight RFID is a specially designed LED light source, featuring an extremely and reliable enclosure that also acts as a heat sink for efficient LED cooling. The integrated RFID system offers a smart technology solution, setting this product apart as a state-of-the-art innovation.

EU-Type Examination Certificate

ITEM REFERENCES 60W						
Designation:	Light distribution:	Nominal voltage:	Operating voltage:	Luminous flux:	Luminary efficacy:	Item No.:
Ex FloodLight 24V 60W 60° IIC	60°	24 VAC	20 - 28 VAC	~ 7500 lm	~ 125 lm/W at 5000 K	1B1606A
Ex FloodLight 24V 60W 90° IIC	90°					1B1606B
Ex FloodLight 24V 60W 120°IIC	120°					1B1606C
Ex FloodLight 24V 60W T2M IIC	T2M					1B1606D
Ex FloodLight 24V 60W T3M IIC	T3M					1B1606E

ITEM REFERENCES 100W						
Designation:	Light distribution:	Nominal voltage:	Operating voltage:	Luminous flux:	Luminary efficacy:	Item No.:
Ex FloodLight 24V 80W 60° IIC	60°	42 VAC	36 - 48 VAC	~ 13500 lm	~ 135 lm/W at 5000 K	1B1607A
Ex FloodLight 24V 80W 90° IIC	90°					1B1607B
Ex FloodLight 24V 80W 120°IIC	120°					1B1607C

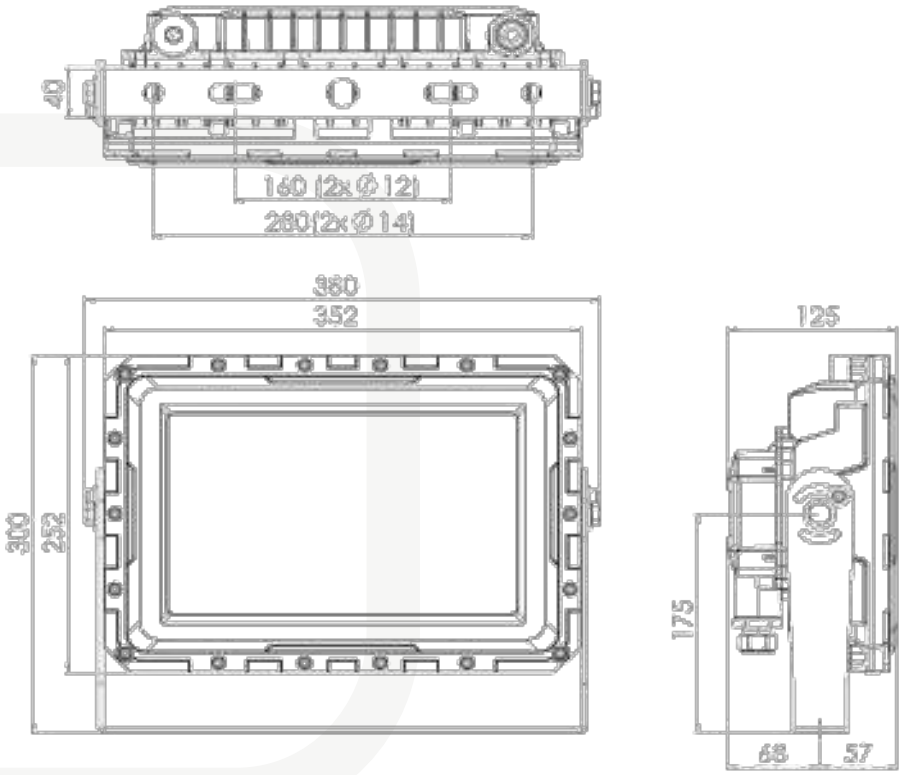
LIGHT DISTRIBUTION				
Ex FLOODLIGHT 60°	Ex FLOODLIGHT 90°	Ex FLOODLIGHT 120°	Ex FLOODLIGHT T2M	Ex FLOODLIGHT T3M
				

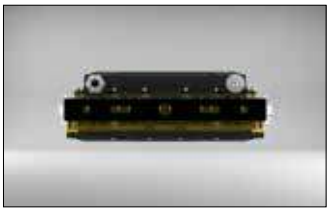
CONTACT - (+34) 943 530 095 | inpratex@inpratex.com

EX FLOODLIGHT RFID - 20-48V

Zones 1, 2, 21, 22

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db op is IIC T6 Gb II 2D Ex tb op is IIIC T85°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Die cast aluminium, powder coated, tempered glass 10mm
Gasket:	Silicone gasket
LED:	~ 5000 K (other light colors are optional) | CRI: >80
Ingress protection:	IP66 | IK08
Connection terminal:	L,N,PE max 3x2,5 mm^2, external PE Terminal M5/4 mm^2
Weight:	11,1 kg
Dimensions:	380 x 300 x 100 mm
Cable entries:	2xM20x1,5 (Cable glands / plugs non included)





ACCESSORIES					
Sketch:	Description:	Sketch:	Description:	Sketch:	Description:
	Ex Gland M20 ø6,5-11,9mm or ø10-14,3mm		Antistatic Protective Peel Off Foil		Ex Plug M20

BDD95 SERIES LED LIGHTINGS

Zones 1, 2, 21, 22

ATEX LIGHTING FIXTURES

ZONES 1, 2 (gas) & 21, 22 (dust)

Explosion-proof LED lighting certified for hazardous locations.
Can be used as a floodlight or as a suspended light fixture.

Copper-free aluminium cover, powder coated surface (yellow RAL 1021).

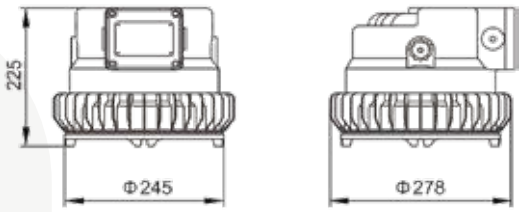
Different mounting methods (bracket type or hook type).

EU-Type Examination Certificate

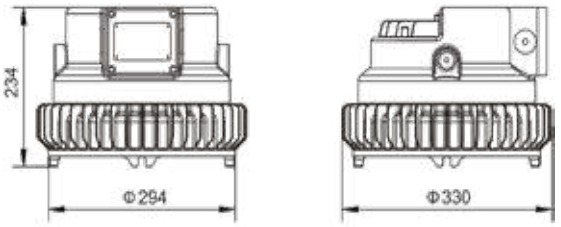
ITEM REFERENCES					
Designation:	Lamp:	Luminous flux:	Mounting methods:	Weight:	Item No.:
BDD95-90-60K	60 W	6730 lm	Bracket	8,50 kg	1A3201
BDD95-90-90K	90 W	10120 lm	Bracket	8,50 kg	1A3202
BDD95-160-120K	120 W	13420 lm	Bracket	12,20 kg	1A3203
BDD95-160-160K	160 W	17930 lm	Bracket	12,20 kg	1A3204
BDD95-90-60D	60 W	6730 lm	Hook (carbon steel)	8,10 kg	1A3205
BDD95-90-90D	90 W	10120 lm	Hook (carbon steel)	8,10 kg	1A3206
BDD95-160-120D	120 W	13420 lm	Hook (carbon steel)	11,60 kg	1A3207
BDD95-160-160D	160 W	17930 lm	Hook (carbon steel)	11,60 kg	1A3208

TECHNICAL SPECIFICATIONS	
Marking:	
Power 60W	II 2G Ex db eb op is IIC T67°C (T6) Gb; II 2D Ex op is tb IIIC T62°C Db (-40°C ≤Ta≤ +40°C) II 2G Ex db eb op is IIC T82°C (T6) Gb; II 2D Ex op is tb IIIC T77°C Db (-40°C ≤Ta≤ +55°C)
Power 90W	II 2G Ex db eb op is IIC T87°C (T5) Gb; II 2D Ex op is tb IIIC T82°C Db (-40°C ≤Ta≤ +40°C) II 2G Ex db eb op is IIC T102°C (T4) Gb; II 2D Ex op is tb IIIC T97°C Db (-40°C ≤Ta≤ +55°C)
Power 120W	II 2G Ex db eb op is IIC T72°C (T6) Gb; II 2D Ex op is tb IIIC T67°C Db (-40°C ≤Ta≤ +40°C) II 2G Ex db eb op is IIC T87°C (T5) Gb; II 2D Ex op is tb IIIC T82°C Db (-40°C ≤Ta≤ +55°C)
Power 160W	II 2G Ex db eb op is IIC T92°C (T5) Gb; II 2D Ex op is tb IIIC T87°C Db (-40°C ≤Ta≤ +40°C) II 2G Ex db eb op is IIC T107°C (T4) Gb; II 2D Ex op is tb IIIC T102°C Db (-40°C ≤Ta≤ +55°C)
Certificate:	EU-Type Examination Certificate
Operating temperature:	-40°C to +55°C
Housing:	Copper-free aluminium alloy, powder coated surface, yellow RAL1021. Exposed fastener in stainless steel
Glass cover:	Toughened glass, stands 4J impact
LED:	Integrated, multiple LED, 5700K. R_a ≥80. Power factor ≥ 0,95
Rated voltage:	100-300 VAC, 50/60 Hz
Ingress protection:	IP66
Connection:	3x1,5~4 mm^2 (L+N+PE)
Earthing protection:	M5 (internal & external earth bolts)
Mounting:	Bracket type (K) or hook type (D)
Cable entries:	2xM25x1,5 (plugs included)

DIMENSIONS



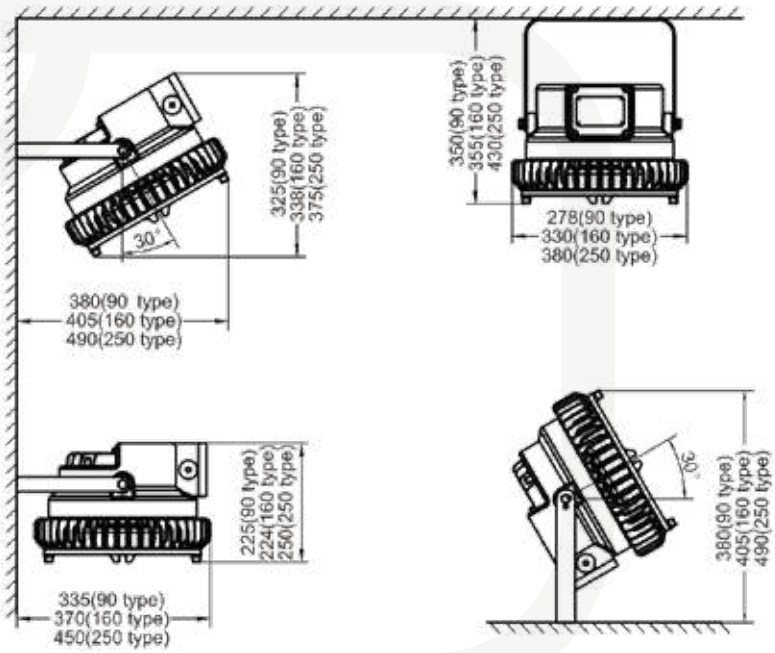
BDD95-90



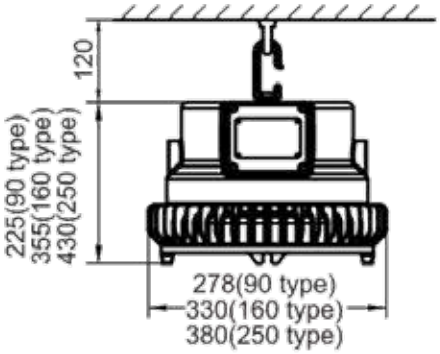
BDD95-160

MOUNTING TYPE

Bracket type:



Hook type:



BAK85 LED FLOODLIGHT

Zones 1, 2, 21, 22

ATEX FLOODLIGHTS

ZONES 1, 2 (gas) and 21, 22 (dust)

Compact and handy ATEX floodlight certified for hazardous areas.

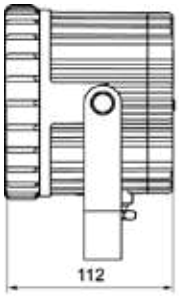
Enclosure in copper-free aluminium (yellow RAL 1021).

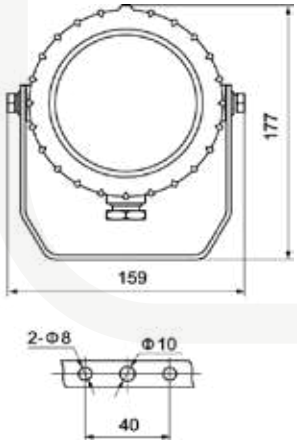
Toughened glass cover, stands 4J impact.

EU-Type Examination Certificate

ITEM REFERENCES				
Designation:	Power:	Luminous flux:	Rated voltage:	Item No.:
BAK85-9/277	9 W	912 lm	100~277V AC / 50/60 Hz	1H0301
BAK85-9/48	9 W	912 lm	24V DC	1H0302

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db op is IIC T6 Gb II 2D Ex tb op is IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Copper-free aluminium. Exposed fastener in stainless steel
Cover:	Toughened glass cover, stands 4J impact
LED:	5700 K
Operating conditions:	-40°C to +55°C
Ingress protection:	IP66/IP67
Connection:	3 terminals 1,5~2,5 mm² (L+N+PE)
Power factor:	≥ 0,95
Earthing protection:	M5 internal & external earth bolts
Weight:	2,20 kg
Cable entries:	1xM20x1,5 Supplied with seal gasket and gland nut. Applicable cable outer diameter Ø6 ~ Ø12 mm





ATEX FLOODLIGHTS

ZONES 2 (gas) & 22 (dust)

LED Floodlight / plane surface floodlight for hazardous locations of Zones 2 (gas atmosphere) and 22 (dust atmosphere), stockyards, building sites, open-air grounds, chemical and petrochemical areas, etc.

Housing and glass retaining frame made from diecast aluminium. Thermal safety glass, impact resistance IK10.

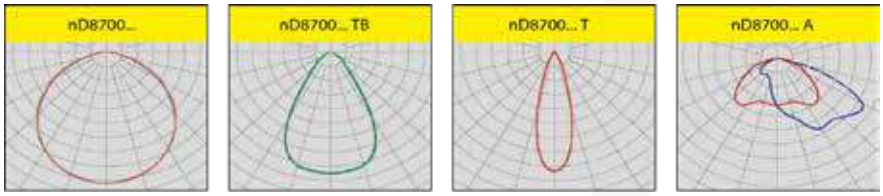
Lens optics:

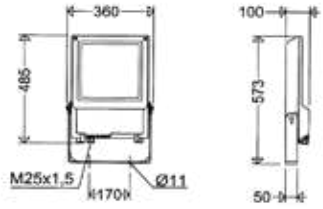
Wide, narrow-wide, narrow, or asymmetric light distribution.

Options: dimmable via DALI-interface (DIMD)

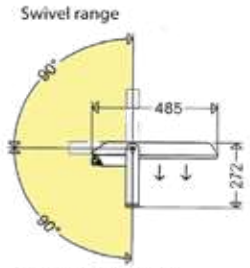
Declaration of Conformity

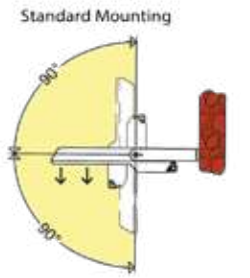
ITEM REFERENCES					
Designation:	**Power:**	**Lumin. flux (lm):**	**Efficacy lm/W:**	**Weight (kg):**	**Item No.:**
wide beam					
nD8700 4803	106W	15.200	143	9,7	1B1101
nD8700 6403	140W	20.000	143	9,7	1B1102
narrow wide beam					
nD8700 4803TB	106W	15.200	143	9,7	1B1103
nD8700 6403TB	140W	20.000	143	9,7	1B1104
narrow beam					
nD8700 4803T	106W	15.200	143	9,7	1B1105
nD8700 6403T	140W	20.000	143	9,7	1B1106
asymmetrical beam (plane surface floodlight)					
nD8700 4803A	106W	15.200	143	9,7	1B1107
nD8700 6403A	140W	20.000	143	9,7	1B1108





TECHNICAL SPECIFICATIONS	
Marking:	II 3G Ex nR IIC T4 Gc II 3D Ex tc IIIC T100°C Dc
Certificate:	Declaration of Conformity
Housing:	Diecast aluminium, DB 702 (mica-iron paint)
Cover:	Flat safety glass pane, impact resistance IK10
LED:	Zhaga compliant 4,000K, R_a>70 L_{90}> 100.000h at max. ambient temperature
Operating temperature:	-30°C to +40°C
Operating frequency:	50/60 Hz
Rated voltage:	220/240V *
Ingress protection:	IP66
Connection:	3-pole terminal max. clamping range 2,5mm²
Cable entries:	1xM20X1,5 plastic cable gland
** Due to the inrush current of the electronic ballasts, the maximum permissible number of light fittings per circuit breaker is limited. Surge voltage resistance 10kV, excess temperature protection, overload and short circuit protection, temperature monitoring of the LED modules.*	





ATEX FLOODLIGHTS

ZONES 2 (gas) & 22 (dust)

LED Floodlight / plane surface floodlight for hazardous locations of Zones 2 (gas atmosphere) and 22 (dust atmosphere), stockyards, building sites, open-air grounds, chemical and petrochemical areas, etc.

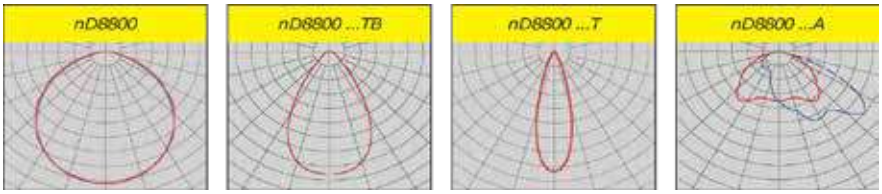
Housing and glass retaining frame made from diecast aluminium.

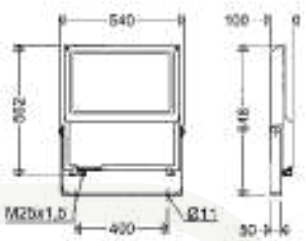
Thermal safety glass (IK09).

Options: dimmable via DALI-interface (DIMD)

Declaration of Conformity

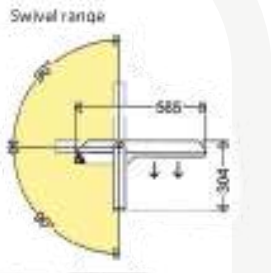
ITEM REFERENCES					
Designation:	**Power:**	**Lumin. flux (lm):**	**Efficacy lm/W:**	**Weight (kg):**	**Item No.:**
wide beam					
nD8800 6403	140W	20.500	146	15,9	1B1001
nD8800 12803	280W	39.500	141	17,1	1B1002
narrow wide beam					
nD8800 6403TB	140W	20.500	146	15,9	1B1003
nD8800 12802TB	280W	39.500	141	17,2	1B1004
narrow beam					
nD8800 6403T	140W	20.500	146	15,9	1B1005
nD8800 12802T	280W	39.500	141	17,2	1B1006
asymmetrical beam (plane surface floodlight)					
nD8800 6403A	140W	20.500	146	15,9	1B1007
nD8800 12802A	280W	39.500	141	17,2	1B1008

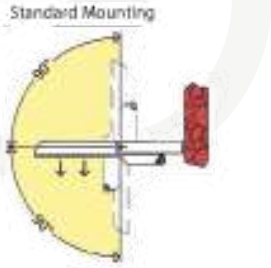




TECHNICAL SPECIFICATIONS	
Marking:	II 3G Ex nR IIC T4 Gc II 3D Ex tc IIIC T100°C Dc
Certificate:	Declaration of Conformity
Housing:	Diecast aluminium, DB 702 (mica-iron paint)
Cover:	Thermal safety glass, impact resistance IK09
LED:	Zhaga compliant 4,000K, R_a>70 L_{90}> 100.000h at max. ambient temperature
Operating temperature:	-30°C to +40°C
Operating frequency:	50/60 Hz
Rated voltage:	220/240V *
Ingress protection:	IP66
Connection:	3-pole terminal, max. clamping range 2,5mm²
Cable entries:	1xM25X1,5 plastic cable gland

** Due to the inrush current of the electronic ballasts, the maximum permissible number of light fittings per circuit breaker is limited. Surge voltage resistance 10kV, excess temperature protection, overload and short circuit protection, temperature monitoring of the LED modules.*





AR-040 SPOTLED

Zones 2, 22

ATEX FLOODLIGHTS

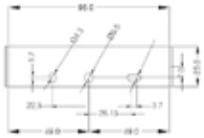
ZONES 2 (gas) & 22 (dust)

The AR-040 explosion-safe SpotLED combines high-performance and energy-efficiency with state-of-the-art LED technology, making it suitable for a wide range of applications. The robust SpotLED can successfully be applied on construction sites, transport vehicles, forklifts, lathes, or milling machines or for the illumination of facades.

The SpotLED is available with LED optics with an angle of 10° (spotlight), 38° (wide-angle light), or a combination of both (work light). The cable has a standard length of 5 meters. Due to the stainless steel bracket and the large 155° rotation angle, the SpotLED is suitable for mounting against walls or sloping surfaces.

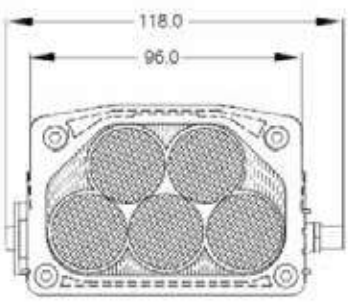
The ATEX AR-040 SpotLED is certified in accordance with European Directive 2014/34/EU for use in hazardous areas and is CE marked.

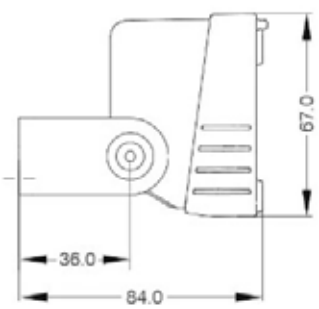
Declaration of Conformity



ITEM REFERENCES		
Designation:	**LED Optics:**	**Item No.:**
AR-040/100	5 x 38°	1H0401
AR-040/110	5 x 10°	1H0402
AR-040/120	3 x 10° / 2 x 38°	1H0403

TECHNICAL SPECIFICATIONS	
Marking:	II 3G Ex ec IIC T4 Gc II 3D Ex tc IIIC T135°C Dc
Certificate:	Declaration of Conformity
Power supply:	12 - 30 VDC
Power consumption:	500 mA @ 24 VDC, 950 mA @ 12 VDC
Light source:	Cree 3 Watt PowerLEDs (5x), 780 Lumen
Beam angles:	10° - 38° (depending on the optics used)
Light color:	Neutral white (~6700 K)
Rotation angle:	-50° to +105°
Material:	Die cast aluminum housing and stainless steel bracket, RAL 7001, silver gray Polycarbonate impact-resistant safety glass
Ingress protection level:	IP67 according to EN 60529
Electrical connection:	Fixed cable, length 5 meters (brown = +24 VDC, white = 0 V, green = ground / earth)
Ambient temperature:	-30°C to +50°C
Dimensions:	120 x 62 x 87 mm
Weight:	540 gr





LED HIGH BAY LIGHT FITTINGS SERIES E8825 EXSTREAM

Zones 1, 2, 21, 22

ATEX PENDANT LIGHT FITTINGS

ZONES 1, 2 (gas) & 21, 22 (dust)

Robust, highly efficient and extremely durable, these are the outstanding properties of the explosion-proof LED floodlight series ExSTREAM. A cooling rib structure that completely encloses each housing segment characterises the design of the Ex light fitting.

The result is an excellent heat dissipation, supported by a good convection and thus additional cooling of each luminaire segment. Along with high-quality LEDs and electronic ballasts, these are the best prerequisites for a long service life, even at high temperatures.

Thanks to the modular structure, the user can choose the required luminous flux for his project and can therefore efficiently replace conventional luminaires with high pressure sodium vapor lamps up to at least 400W.

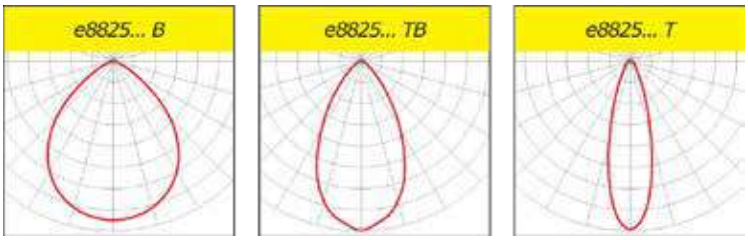
The ease of assembly and maintenance were also the focus of the development of the ExSTREAM.

The large connection space with two cable entries not only enables comfortable electrical connection, but also cost-saving in and out wiring without additional junction boxes.

It can be attached to the ceiling using Y steel cables or brackets.

Option: for ambient temperatures down to -40°C

EU-Type Examination Certificate



ITEM REFERENCES						
Designation:	**Power:**	**Lumin. flux:**	**Efficacy lm/W:**	**T. max.**	**Weight:**	**Item No.:**
wide beam (available in 2 versions: with 3 or 6 LED modules)						
e8825/3 L120B H55	87W	11.850 lm	136	55°C	8,8 kg	1B1313
e8825/3 L150B	125W	15.800 lm	126	40°C	8,8 kg	1B1314
e8825/6 L240B H55	174W	23.700 lm	136	55°C	13,5 kg	1B1315
e8825/6 L300B	250W	31.600 lm	126	40°C	13,5 kg	1B1316
narrow wide beam (available in 2 versions: with 3 or 6 LED modules)						
e8825/3 L120TB H55	87W	11.100 lm	128	55°C	8,8 kg	1B1317
e8825/3 L150TB	125W	14.650 lm	117	40°C	8,8 kg	1B1318
e8825/6 L240TB H55	174W	22.200 lm	128	55°C	13,5 kg	1B1319
e8825/6 L300TB	250W	29.300 lm	117	40°C	13,5 kg	1B1320
narrow beam (available in 2 versions: with 3 or 6 LED modules)						
e8825/3 L120T H55	87W	10.300 lm	118	55°C	8,8 kg	1B1321
e8825/3 L150T	125W	13.500 lm	108	40°C	8,8 kg	1B1322
e8825/6 L240T H55	174W	20.600 lm	118	55°C	13,5 kg	1B1323
e8825/6 L300T	250W	27.000 lm	108	40°C	13,5 kg	1B1324

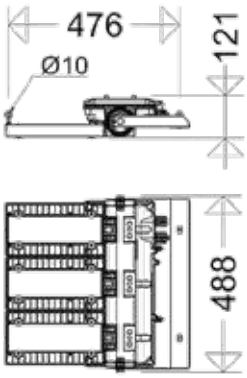
CONTACT - (+34) 943 530 095 | inpratex@inpratex.com

ITEM REFERENCES DIMD						
Designation:	**Power:**	**Lumin. flux:**	**Efficacy lm/W:**	**T. max.**	**Weight:**	**Item No.:**
wide beam (available in 2 versions: with 3 or 6 LED modules)						
e8825/3 L120B H55 DIMD	87W	11.850 lm	136	55°C	8,8 kg	1B1313B
e8825/3 L150B DIMD	125W	15.800 lm	126	40°C	8,8 kg	1B1314B
e8825/6 L240B H55 DIMD	174W	23.700 lm	136	55°C	13,5 kg	1B1315B
e8825/6 L300B DIMD	250W	31.600 lm	126	40°C	13,5 kg	1B1316B
narrow wide beam (available in 2 versions: with 3 or 6 LED modules)						
e8825/3 L120TB H55 DIMD	87W	11.100 lm	128	55°C	8,8 kg	1B1317B
e8825/3 L150TB DIMD	125W	14.650 lm	117	40°C	8,8 kg	1B1318B
e8825/6 L240TB H55 DIMD	174W	22.200 lm	128	55°C	13,5 kg	1B1319B
e8825/6 L300TB DIMD	250W	29.300 lm	117	40°C	13,5 kg	1B1320B
narrow beam (available in 2 versions: with 3 or 6 LED modules)						
e8825/3 L120T H55 DIMD	87W	10.300 lm	118	55°C	8,8 kg	1B1321B
e8825/3 L150T DIMD	125W	13.500 lm	108	40°C	8,8 kg	1B1322B
e8825/6 L240T H55 DIMD	174W	20.600 lm	118	55°C	13,5 kg	1B1323B
e8825/6 L300T DIMD	250W	27.000 lm	108	40°C	13,5 kg	1B1324B

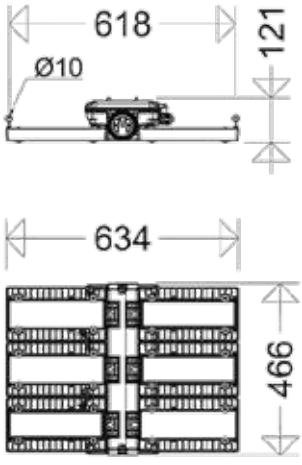
ACCESSORIES	
Designation:	**Type:**
3301/3302 Y P	1 pair of Y-ropes, (2-point-mounting) For indoor use only.
DW 8825 P	1 pair of ceiling brackets steel, powder-coated DB 702

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb mb q IIC T4 Gb II 2D Ex tb IIIC T100 °C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-30°C up to +40°C/+55°C (see item tables)
Housing:	Die-cast aluminum, multi-part, thermally separated, powder-coated DB702 (mica-iron paint, grey)
LED housing:	With LED modules, optics and safety glass
Device housing:	With built-in control gear, wired ready for connection
Front cover:	Thermally resistant safety glass Impact resistance IK08
LED:	LED-module approx. 5,500K (TB- and B-optics) or approx. 6,500K (T-optics) , CRI > 80, service life L_{80} > 100.000h at max. ambient T, L_{90} > 90.000h at 25°C ambient T.
Optics:	Lens optics with narrow, narrow-wide or wide beam light distribution, Multi-Layer technology.
Operating frequency:	0 or 50-60Hz
Rated voltage:	220 - 240V AC/DC overvoltage, overload and short circuit protection
Ingress protection:	IP66
Mounting:	See accessories (4 eyelets included)
Connection:	5 poles, max. clamping range 4mm²
Cable entries:	2xM25X1,5 (2 cable glands - one of them is plugged)
** Due to the inrush current of the electronic ballasts, the maximum permissible number of light fittings per circuit breaker is limited.*	

e8825/3...



e8825/6...



ATEX PENDANT LIGHT FITTINGS

ZONES 2 (gas) & 22 (dust)

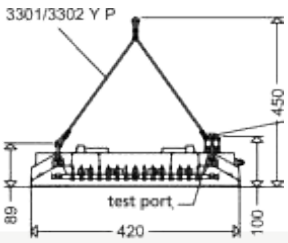
Explosion-proof LED high bay light fittings certified for hazardous locations, of Zones 2 (gas atmosphere) and 22 (dust atmosphere), for production halls and warehouses, in industrial sectors, workshops and chemical factories, etc.

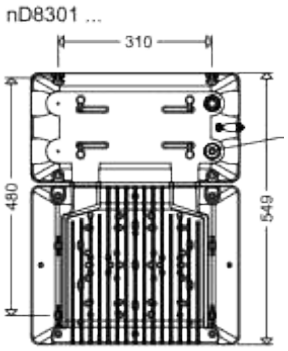
Two versions are available: 1 or 2 LED wings for substitution of 250W / 400W high pressure discharge lamps.

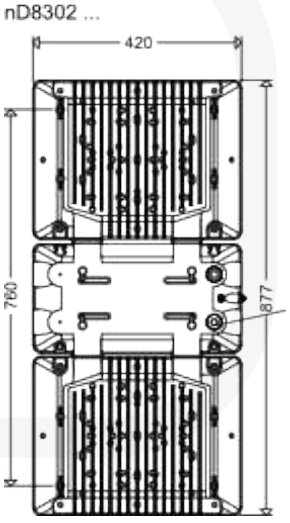
Declaration of Conformity

DALI interface (standard) for dimmed operation.

Note: Suitable for indoor use only.



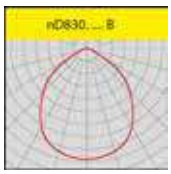


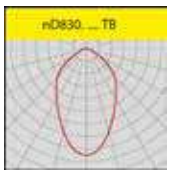


TECHNICAL SPECIFICATIONS	
Marking:	II 3G Ex nR IIC T4 Gc II 3D Ex tc IIIC T100°C Dc
Certificate:	Declaration of Conformity
Housing:	Diecast aluminum, DB 702N (mica-iron paint)
Cover:	Tempered safety glass (IK08)
LED:	LED Module 4,000K, CRI >80, L_{70} > 100.000h ambient temperature ≤ 50° L_{70}> 90.000h ambient temperature >50° L_{80} > 100,000h ambient temperature 25°C L_{80} > 60,000h at max. ambient T.
Operating temperature:	-20°C to +40°C / +50°C / +60°C
Operating frequency:	50/60 Hz
Rated voltage:	220/240V AC*
DALI:	Digital dimming with DALI interface (DIDM) compatible with LIMAS Line BASIC/PRO Light Management Systems
Ingress protection:	IP65
Connection:	3 poles up to 2,5 mm^2
Cable entries:	1xM25X1,5 plastic cable gland

** Due to the inrush current of the electronic ballasts, the maximum permissible number of light fittings per circuit breaker is limited. urge voltage resistance 4kV, excess temperature protection, overload and short circuit protection.*

ACCCESSORIES	
Type:	Designation:
3301/3302 Y P	1 pair of Y-ropes, (2-point-mounting)
3301/3302 DBF	1 pair of angle brackets for direct ceiling mounting

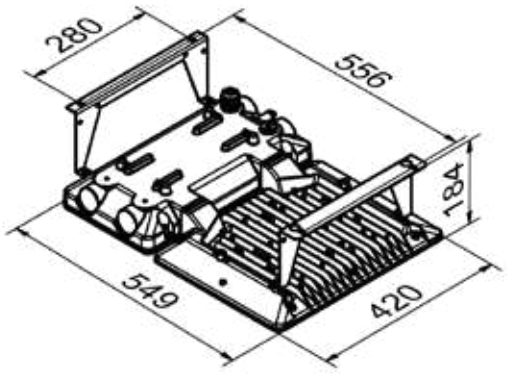


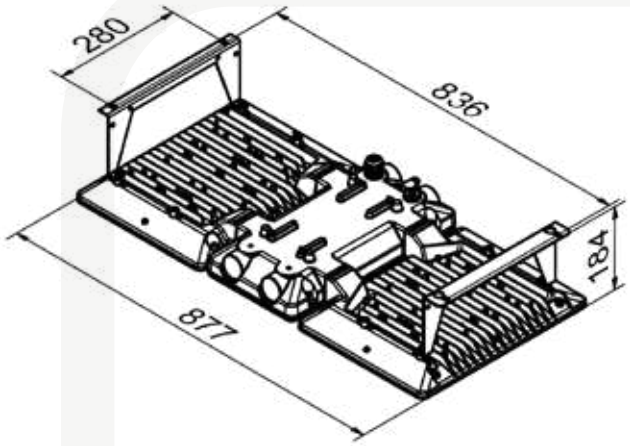


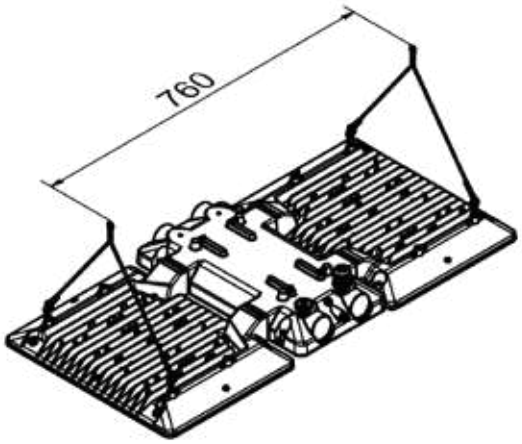
ITEM REFERENCES							
Designation:	**Power:**	**Substitute for:***	**Luminous flux:**	**Luminous efficacy:**	**T. Max:**	**Weight:**	**Item No.:**
1 LED wing							
nD8301 L110	67 W	HME 250	10800 lm	161 lm/W	40 °C	8,9 kg	1B0911
nD8301 L160	96 W	HIT 250 / HME 400	15000 lm	156 lm/W	40 °C	8,9 kg	1B0912
nD8301 L210	135 W	HIE 400	20200 lm	150 lm/W	40 °C	8,9 kg	1B0913
nD8301 L110B	67 W	HME 250	10800 lm	161 lm/W	40 °C	9,2 kg	1B0914
nD8301 L160B	96 W	HIT 250 / HME 400	15000 lm	156 lm/W	40 °C	9,2 kg	1B0915
nD8301 L210B	135 W	HIE 400	20200 lm	150 lm/W	40 °C	9,2 kg	1B0916
nD8301 L110TB	67 W	HME 250	10800 lm	161 lm/W	40 °C	9,2 kg	1B0917
nD8301 L160TB	96 W	HIT 250 / HME 400	15000 lm	156 lm/W	40 °C	9,2 kg	1B0918
nD8301 L210TB	135 W	HIE 400	20200 lm	150 lm/W	40 °C	9,2 kg	1B0919
2 LED wing							
nD8302 L320	192 W	HIT 400	30000 lm	156 lm/W	40 °C	14,5 kg	1B0920
nD8302 L420	270 W	2 x HIE 400	40400 lm	150 lm/W	40 °C	14,5 kg	1B0921
nD8302 L320B	192 W	HIT 400	30000 lm	156 lm/W	40 °C	14,6 kg	1B0922
nD8302 L420B	270 W	2 x HIE 400	40400 lm	150 lm/W	40 °C	14,6 kg	1B0923
nD8302 L320TB	192 W	HIT 400	30000 lm	156 lm/W	40 °C	14,6 kg	1B0924
nD8302 L420TB	270 W	2 x HIE 400	40400 lm	150 lm/W	40 °C	14,6 kg	1B0925
For ambient temperatures up to +50°C							
1 LED wing							
nD8301 L110 H50	67 W	HME 250	10800 lm	161 lm/W	50 °C	8,9 kg	1B0926
nD8301 L160 H50	96 W	HIT 250 / HME 400	15000 lm	156 lm/W	50 °C	8,9 kg	1B0927
nD8301 L110B H50	67 W	HME 250	10800 lm	161 lm/W	50 °C	8,9 kg	1B0928
nD8301 L160B H50	96 W	HIT 250 / HME 400	15000 lm	156 lm/W	50 °C	8,9 kg	1B0929
nD8301 L110TB H50	67 W	HME 250	10800 lm	161 lm/W	50 °C	8,9 kg	1B0930
nD8301 L160TB H50	96 W	HIT 250 / HME 400	15000 lm	156 lm/W	50 °C	8,9 kg	1B0931
2 LED wing							
nD8302 L220 H50	134 W	HIE 400	21600 lm	161 lm/W	50 °C	14,5 kg	1B0932
nD8302 L320 H50	192 W	HIT 400	30000 lm	156 lm/W	50 °C	14,5 kg	1B0933
nD8302 L220B H50	134 W	HIE 400	21600 lm	161 lm/W	50 °C	14,6 kg	1B0934
nD8302 L320B H50	192 W	HIT 400	30000 lm	156 lm/W	50 °C	14,5 kg	1B0935
nD8302 L220TB H50	134 W	HIE 400	21600 lm	161 lm/W	50 °C	14,6 kg	1B0936
nD8302 L320TB H50	192 W	HIT 400	30000 lm	156 lm/W	50 °C	14,5 kg	1B0937
For ambient temperatures up to +60°C							
1 LED wing							
nD8301 L110 H60	67 W	HME 250	10800 lm	161 lm/W	60 °C	8,9 kg	1B0938
nD8301 L160 H60	96 W	HIT 250 / HME 400	15000 lm	156 lm/W	60 °C	8,9 kg	1B0939
nD8301 L110B H60	67 W	HME 250	10800 lm	161 lm/W	60 °C	9,2 kg	1B0940
nD8301 L110TB H60	67 W	HME 250	10800 lm	161 lm/W	60 °C	9,2 kg	1B0941
2 LED wing							
nD8302 L220 H60	134 W	HIE 400	21600 lm	161 lm/W	60 °C	14,5 kg	1B0942
nD8302 L320 H60	192 W	HIT 400	30000 lm	156 lm/W	60 °C	14,5 kg	1B0943
nD8302 L220B H60	134 W	HIE 400	21600 lm	161 lm/W	60 °C	14,6 kg	1B0944
nD8302 L220TB H60	134 W	HIE 400	21600 lm	161 lm/W	60 °C	14,6 kg	1B0945

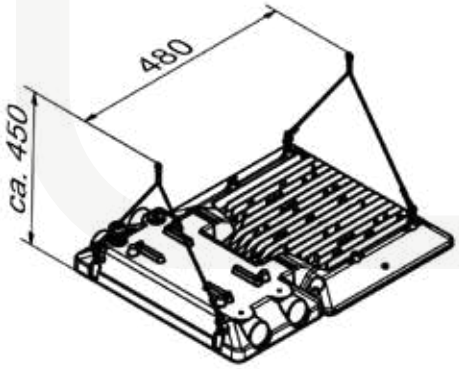
** The given information is for rough orientation only.*

INSTALLATION









ATEX LIGHTING FIXTURES

ZONES 1, 2 (gas) & 21, 22 (dust)

Explosion-proof lighting fixtures for portholes, ideal for the optimum viewing area to be monitored.

The built-in switch version allows the lamp to be switched on and off directly from the observation point and the for the observation point and the for the necessary time.

The lamp can be replaced without removing the armor.

Epoxyvinyl internal white coating for optimal luminosity.

Lampholder E27. External screws in stainless steel AISI 316.

EU-Type Examination Certificate

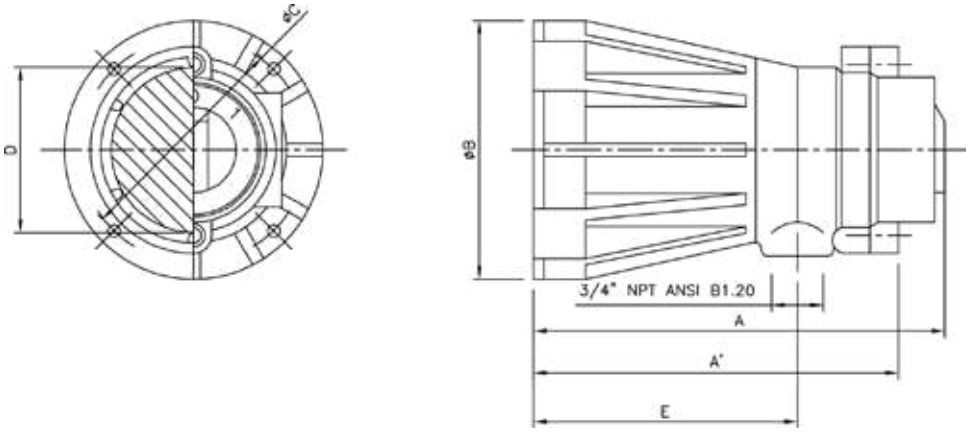
Supplied without light sources.

ITEM REFERENCES							
Designation:	A:	Ø B:	C:	D:	E:	Weight:	Item No.:
EVO 100I	240	150	135	96	165	2,10 kg	1H0202

INSTALLATION / LAMP TYPE						
Installation:	Halogen <42 W:		Halogen <70 W:		Energy saving lamp / LED	
	24 V	220 V	24 V	220 V	24 V	220 V
Vertical position	✓	✓	✓	✓	✓	✓
Horizontal position	✓	✓	X	X	✓	✓

TEMPERATURES								
Halogen <42 W:			Halogen <70 W:			Energy saving lamp / LED		
Temp. class	Max. Surf Temperature	Ambient Temperature	Temp. class	Max. Surf Temperature	Ambient Temperature	Temp. class	Max. Surf Temperature	Ambient Temperature
T4	T85°C	-50°C to +40°C	T3	T200°C	-50°C to +80°C	T6	T85°C	-50°C to +50°C
T3	T100°C	-50°C to +80°C				T5	T100°C	-50°C to +60°C
						T4	T135°C	-50°C to +80°C

TECHNICAL SPECIFICATIONS			
Marking:	II 2G Ex d IIC T6-T3 Gb II 2D Ex tb IIIC T85°C-T200°C Db	Lamp Type:	Halogen, Energy saving lamp or LED
Certificate:	EU-Type Examination Certificate	Lamp holder:	E27
Housing:	Aluminium light alloy (RAL 7000)	Max. voltage:	24 - 230 V AC / 230 V DC
Cover:	Thermal safety glass	Terminal section:	1,5 mm²
Operating temperature:	-20°C to +40°C	Maximum number of drivers:	3
Ingress protection:	IP66/67	Cable entries:	1x3/4" NPT cable gland (not included)



1.4 PORTABLE LAMPS

LED PORTABLE LAMP E9310F

Zones 1, 2, 21, 22

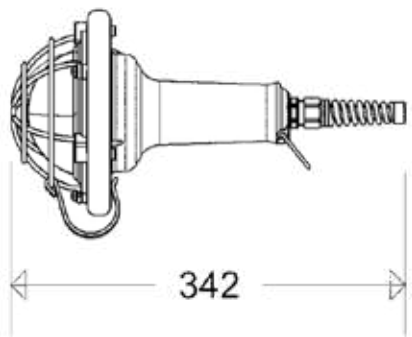
ATEX PORTABLE LAMPS | ZONES 1, 2 (gas) & 21, 22 (dust)

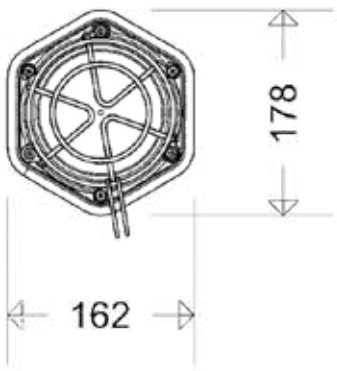
Explosion-protected LED handlamp for ATEX zones 1/2 (gas) and 21/22 (dust). Handle made of rubber (EPDM) with suspension eye, strain relief and cable entry. Electrical kit made of die-cast aluminium with LED module and integrated ECG. Frosted PC cover, wire guard made of galvanised steel with hook for hanging up the handlamp.

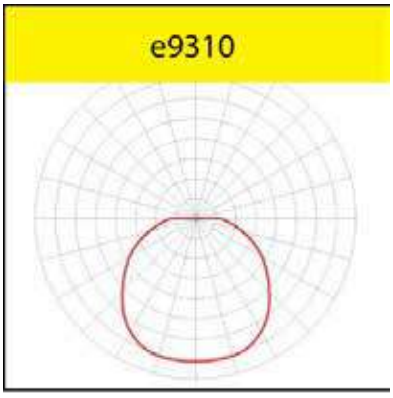
EU-Type Examination Certificate

ITEM REFERENCES					
Designation:	Power:	Luminous flux:	Luminous efficacy:	Weight:	Item No.:
e9310F	11 W	600 lm	55 lm/W	1,3 kg	1D0501

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb mb op is IIC T4 Gb II 2D Ex op is tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Handle:	Made of rubber (EPDM), with suspension eye, cable relief
Cover:	Polycarbonate, frosted
Wire guard:	Round steel, cage hook for suspension purpose
LED:	Approx. 6,500K, CRI typically 80
Operating temperature:	-25°C to +40°C
Rated voltage:	220/240V AC/DC
Ingress protection:	IP66
Cable entries:	M20 x 1,5mm² with bend protection







EVP 50 PORTABLE LAMP

Zones 1, 2, 21, 22

ATEX PORTABLE LAMPS

ZONES 1, 2 (gas) & 21, 22 (dust)

Light source and cable not supplied.

Explosion-proof certified portable lamp for use in hazardous areas.

Suitable for incandescent, halogen, energy-saving and LED lamps.

Housing in aluminium light alloy.

Cage, hook and handle covered with Nylon.

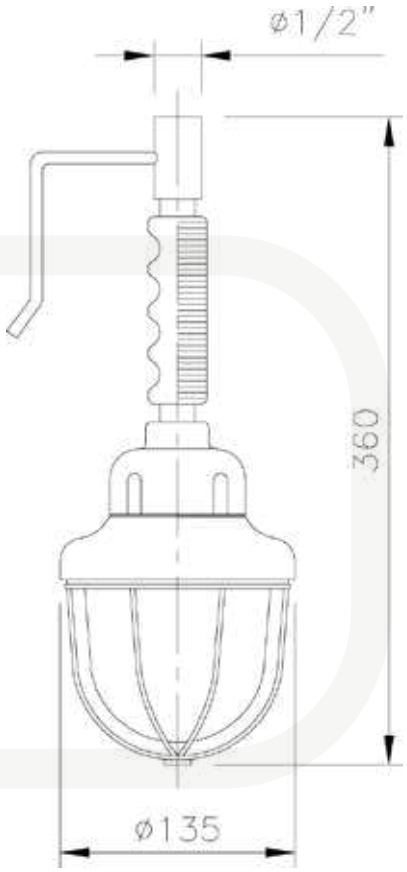
EU-Type Examination Certificate

ITEM REFERENCES

Model:	Lamp:	Lamp holder:	Temp. class:		T. Cable:	Weight:	Item No.:
			Gas	Dust			
EVP 50	Energy-saving up to 15W	E27	T4	T135°C	NC	1,8 Kg	1D0301
	LED up to 9W		T6	T85°C	NC		
	Incandescent up to 100W		T3	T200°C	160°C		
	Halogen up to 100W		T3	T200°C	160°C		

TECHNICAL SPECIFICATIONS

Marking:	II 2G Ex d IIC T6-T3 Gb II 2D Ex tb IIIC T85°C-T200°C Db
Certificate:	EU-Type Examination Certificate
Lamp:	Halogen, Incandescent, Energy-saving or LED
Rated voltage:	AC max.: 440 V AC DC max.: 48 V DC
Ingress protection:	IP65
Operating temperature:	-20°C to +40°C
Cable entries:	1/2" NPT (cable gland not included)



ACCESSORIES

Designation:	Cable length:	Item No.:
Cable H07RN-F 450/750V 3G1,5	5 m	1D0203
	10 m	1D0204
	15 m	1D0205
	20 m	1D0206
	25 m	1D0207
	30 m	1D0208

KE-LED-EX 4003 HAND LAMP

Zones 1, 2, 21, 22

ATEX PORTABLE LAMPS | ZONES 1, 2 (gas) & 21, 22 (dust)

The extremely compact, lightweight ATEX hand lamp is ideal for illuminating areas that are difficult to access and where inspection and service are necessary. Three integrated POWER LED modules ensure optimal lighting.

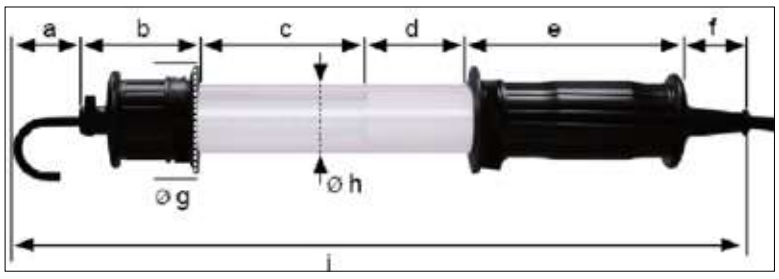
Thanks to the integrated diffuser film, a glare-free and pleasant work is guaranteed. Ideal for use as an inspection lamp.

- 3x POWER LEDs / 6500 K
- Protection tube: polycarbonate, shock-resistant, Ø 40mm
- Handle / end cap: neoprene, black
- Integrated diffuser film
- Metal hook: yes, plastified, rotatable
- Protection category: IP68 - 50 m / 5 h
- Protection class: II / III
- Cable: 10m H07RN-F 2 x 1 mm²

EU-Type Examination Certificate

ITEM REFERENCES						
Designation:	Power:	Rated voltage:	Rated current:	Luminous flux:	Protection class:	Item No.:
EX 4003 230V Hand Lamp	3,3 W	230 V AC	0,03 A	200 lm	II	1D0603
EX 4003 110V Hand Lamp	3,0 W	110 V AC/DC	0,025 A	185 lm	II	1D0604
EX 4003 42V Hand Lamp	3,8 W	42 V AC/DC	0,075 A	180 lm	II	1D0605
EX 4003 24V Hand Lamp	3,0 W	24 V AC/DC	0,10 A	255 lm	III	1D0606
EX 4003 12V Hand Lamp	2,8 W	12 V AC/DC	0,20 A	235 lm	III	1D0607

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb mb op is IIC T4 Gb II 2D Ex tb op is IIIC T105° Db IP68
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +50°C
Protective tube:	Polycarbonate
Impact resistance:	IK10
Ingress protection:	IP68 - 50m / 5h
LED:	3x POWER LED 6500K | CRI >70 | Lifetime >50.000h
Handle / end cap:	Neoprene
Integrated diffuser film:	Yes
Energy efficiency class:	G
Weight:	1,55 kg
Cable:	10m H07RN-F 2x1 mm² (plug non included)



DIMENSIONS (mm)								
a	b	c	d	e	f	g	h	i
40	65	100	70	115	40	43	40	430

KE-LED-EX 4006-O HAND LAMP

Zones 1, 2, 21, 22

ATEX PORTABLE LAMPS

ZONES 1, 2 (gas) & 21, 22 (dust)

With 6 powerful power LEDs, this EX hand lamp delivers a bright, glare-free light that ensures optimal visibility in environments with explosive atmospheres. Whether in petrochemical plants, refineries, or other demanding industrial environments - our hand lamp is the perfect solution for reliable and safe lighting.

EU-Type Examination Certificate

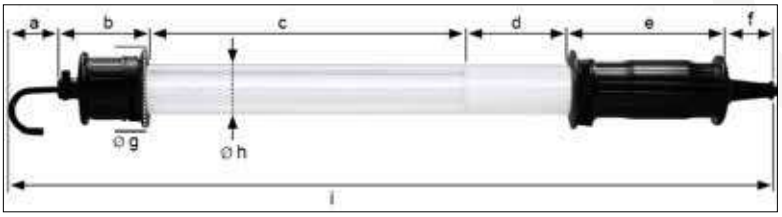
- 6x POWER LEDs / 6500 K
- Protection tube: polycarbonate, shock-resistant, Ø 40mm
- Handle / end cap: neoprene, black
- Integrated diffuser film
- Metal hook: yes, plastified
- Electronic ballast with special protection
- Protection category: IP68 - 50 m / 5 h
- Protection class: II / III
- Cable: 10m H07RN-F 2 x 1 mm²
- Available in the voltage versions: 230 V / 110 V / 42 V/ 24 V / 12 V

ITEM REFERENCES

Designation:	Power:	Rated voltage:	Rated current:	Luminous flux:	Protection class:	Item No.:
EX 4006 230V Hand Lamp	7,0 W	220-240V AC	0,05 A	520 lm	II	1D0640
EX 4006 110V Hand Lamp	6,4 W	110 V AC/DC	0,05 A	460 lm	II	1D0641
EX 4006 42V Hand Lamp	5,5 W	42 V AC/DC	0,11 A	400 lm	II	1D0642
EX 4006 24V Hand Lamp	5,3 W	24 V AC/DC	0,18 A	520 lm	III	1D0643
EX 4006 12V Hand Lamp	4,2 W	12 V AC/DC	0,29 A	370 lm	III	1D0644

TECHNICAL SPECIFICATIONS

Marking:	II 2G Ex eb mb op is IIC T4 Gb II 2D Ex tb op is IIIC T105° Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +50°C
Protective tube:	Polycarbonate
Impact resistance:	IK10
Ingress protection:	IP68 - 50m / 5h
LED:	6x POWER LED 6500K | CRI >70 | Lifetime >50.000h
Handle / end cap:	Neoprene
Integrated diffuser film:	Yes
Energy efficiency class:	F (24V) / G (12V, 42V, 110V, 230V)
Weight:	1,65 kg
Cable:	10m H07RN-F 2x1 mm² (plug non included)



DIMENSIONS (mm)

a	b	c	d	e	f	g	h	i
40	65	255	85	115	40	43	40	600

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KE-LED-EX 5018 HAND LAMP 360º

Zones 1, 2, 21, 22

ATEX PORTABLE LAMPS | ZONES 1, 2 (gas) & 21, 22 (dust)

The ATEX LED 360° hand lamp is ideal for iluminating work in explosion-proof areas, such as cleaning work in tanks or silos.

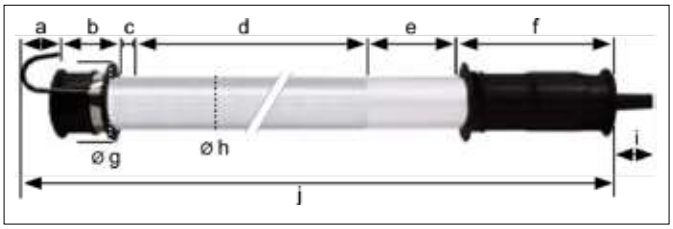
The integrated diffuser foil ensures a glare-free and homogeneous light. The slim design, the low weight (approx. 1.5 kg) and the comfortable neoprene handle allow the use of the light as a hand and inspection light.

EU-Type Examination Certificate

- Circular LED light source of 360°
- 18x POWER LEDs | 6500K
- Polycarbonate protective tube
- Integrated diffuser film
- Electronic ballast with special protection
- Neoprene handle & end cap
- Metal, plastified, rotatable hook: included

ITEM REFERENCES				
Designation:	Nominal voltage:	Current:	Protection class:	Item No.:
EX 5018 24V Hand Lamp	24V AC/DC	0,33 A	III	1D0601
EX 5018 220V Hand Lamp	220-240V AC	0,06 A	II	1D0601B

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb mb op is IIC T4 Gb II 2D Ex tb op is IIIC T105° Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Power:	10 W
LED 360°:	18x POWER LED 6500K | CRI >70 | Lifetime >50.000h
Luminous flux:	1000 lm
Ingress protection:	IP68 - 50m / 5h
Protective tube:	Polycarbonat
Impact resistance:	IK10
Handle / end cap:	Neoprene
Integrated diffuser film:	Yes
Energy efficiency class:	F
Weight:	1,65 kg
Cable:	10m H07RN-F 2x1 mm² (plug not included)



DIMENSIONS (mm)									
a	b	c	d	e	f	g	h	i	j
25	55	35	225	120	140	45	75	50	600

KE-LED-EX 5024 HAND LAMP

Zones 1, 2, 21, 22

ATEX PORTABLE LAMPS

ZONES 1, 2 (gas) & 21, 22 (dust)

With 24 powerful POWER LED modules and an integrated diffuser film, this hand lamp produces an impressively bright and glare-free light. The slim design, the low weight of only around 2.2 kg and the comfortable neoprene handle not only enable it to be used as a classic hand and inspection light, but also guarantee maximum comfort during use.

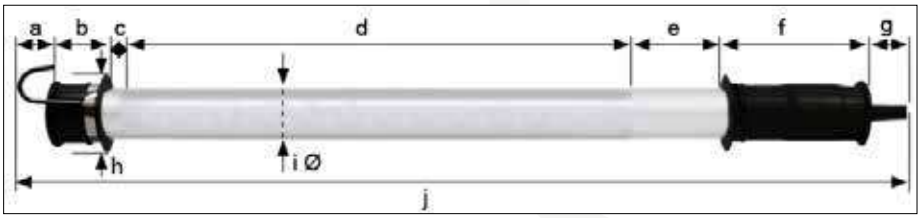
The KE-LED-EX 5024 is perfect for use in wet and damp work areas thanks to its IP68 protection rating, which makes it waterproof.

EU-Type Examination Certificate

- 24x POWER LEDs / 6500 K
- Protection tube: polycarbonate, shock-resistant, Ø 50mm
- Handle / end cap: neoprene, black
- Integrated diffuser film
- Metal hook: yes, plastified
- Electronic ballast with special protection
- Protection category: IP68 -50 m / 5 h
- Protection class: II / III
- Cable: 10m H07RN-F 2 x 1 mm²
- Available in the voltage versions: 230 V / 110 V / 24 V

ITEM REFERENCES						
Designation:	Power:	Rated voltage:	Rated current:	Luminous flux:	Protection class:	Item No.:
EX 5024 230V Hand Lamp	14,5 W	220-240V AC	0,075 A	1550 lm	II	1D0650
EX 5024 110V Hand Lamp	14,5 W	110 V AC/DC	0,135 A	1600 lm	II	1D0651
EX 5024 24V Hand Lamp	15,5 W	24 V AC/DC	0,550 A	1650 lm	III	1D0652

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb mb op is IIC T4 Gb II 2D Ex tb op is IIIC T105° Db IP68
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Protective tube:	Polycarbonate
Impact resistance:	IK10
Ingress protection:	IP68 - 50m / 5h
LED:	24x POWER LED 6500K | CRI >70 | Lifetime >50.000h
Handle / end cap:	Neoprene
Integrated diffuser film:	Yes
Energy efficiency class:	F
Weight:	2,2 kg
Cable:	10m H07RN-F 2x1 mm² (plug non included)



DIMENSIONS (mm)									
a	b	c	d	e	f	g	h	i	j
25	55	20	500	90	140	45	75	50	875

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RECHARGEABLE LED SCENE LIGHT XPR-5592GX - GCX

Zones 0, 1, 2

ATEX FLOODLIGHTS | ZONES 0,1,2 (gas)

The XPR-5592GX - GCX Rechargeable LED Scene Light is ideal for use when portability is important. ATEX certified Intrinsically Safe for use in hazardous environments, the array of 5 floodlight LEDs perfectly emit an impressive 1,000 lumens on high for 6 hours, or 500 lumens on low for 17 hours when activated using the robust three-position toggle switch. The housing is constructed from lightweight glass-filled nylon polymer, keeping it cool to the touch while being chemical, heat, and impact resistant.

A heavy-duty rare-earth magnetic base is securely mounted on the bottom to provide 360 degrees of hands-free rotation for proper light placement on any job site.

Powered by an integrated lithium-ion battery, the light includes an adjustable steel handle for carrying or hanging and both AC/DC power supplies placed inside a durable blow molded carrying case for ease of use and storage.

EU-Type Examination Certificate

Steel-reinforced carry handle also functions as convenient mounting hook where needed.	**Locking cam** allows carry handle to telescope to ideal length and position.	**Large adjustment knobs** means light can be positioned and secured for hands-free work.	**Sealed switch and charging porT cap** ensure full IP-67 waterproof & dustproof protection.

ITEM REFERENCES		
Designation:	What's included:	Item No.:
XPR-5592GX	Scene Light - AC & DC charging cords - Blow-molded case	1E1901
XPR-5592GCX	Scene Light - 6 foot tripod - AC & DC charging cords - Blow-molded case	1E1902

TECHNICAL SPECIFICATIONS	
Marking:	II 1G Ex ia op is IIC T4 Ga
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Case material:	Glass-filled nylon polymer. Serialized for personal identification
Lumens/Runtime:	High: 1200 lm, 6 hrs. runtime Low: 650 lm, 12 hrs. runtime
Ingress protection:	IP67
Drop rating:	2 m
Dimensions:	Lenght: 343mm | Width: 235mm | Depth: 89mm
Weight:	1,928 g
Battery:	Integrated rechargeable li-ion battery

ULTRA3 WORKLIGHT

Zones 1, 2, 21, 22

ATEX PORTABLE LAMPS

ZONES 1, 2 (gas) & 21, 22 (dust)

ATEX LED work light, equipped with a large handle, made of antistatic polypropylene housing, stainless st. screws and maintenance-free tempered glas. One lamp for 24V-48V, for AC and DC, for 2p and 3p systems and the weight being as little as 5 kg. Furthermore, the lamp is waterproof and will float in the water.

- Diffuser not from polycarbonate but from maintenance free hardened glass: never static electricity issues and shockproof.
- Durable appearance, no rust or colour change over time due to stainless steel bolts, nuts and other components.
- Environmental friendly and non toxic materials.
- Long productcycle and replaceable components with one cable fits all, therefore a very economic solution as well.
- Easy to transport due to a large grip, also for gloved hands.
- Rounded edges, protecting surrounding workplace.
- Stackable and maintenance free.

EU-Type Examination Certificate

ITEM REFERENCES

Designation:	Item No.:
Ultra3 10 (with 10 m. cable H07RN-F) - Plug not included	1B1501
Ultra3 30 (with 30 m. cable H07RN-F) - Plug not included	1B1502

TECHNICAL SPECIFICATIONS

Marking:	II 2G Ex ib mb IIC T4 Gb II 2D Ex ib mb IIIC T135°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +50°C
Rated voltage:	24-48VAC/DC (0Hz to 60Hz)
Power:	35W
Light sources:	81 LEDs, 5000°K | 4100 lm
Housing:	Throughout antistatic polypropylene, metal frame, stainless steel bolts
Lens:	Scratch and chemical resistant hardened glass
Design:	Easy to handle, also with gloves on. Easy stackable to save space
Dimensions:	388 x 319 x 147 mm
Weight:	5 kg
Ingress protection:	IP65 according to EN 60529

ACCESSORIES

	Description:	Item No.:		Description:	Item No.:
	Magnet set with 3 magnets for Ultra	1B150A		Protective film for Ultra	1B150D
	Scaffolding hook with locking device	1B150B		Tripod for Ultra stainless steel	1B150E
	Subframe for Ultra	1B150C			

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LUMIN LED RECHARGEABLE FLOODLIGHT

Zones 1, 2, 21, 22

ATEX PORTABLE LAMPS | ZONES 1, 2 (gas) & 21, 22 (dust)

Lightweight and fully portable, with an intense light output of up to 2000 lumens. Being fully certified for Zones 1 & 2 (Gas) and Zones 21 & 22 (Dust) it has been designed to make working in confined spaces even safer.

Featuring no trailing cables vastly reduces trip hazards, while the powerful light output easily illuminates the working environment. Ergonomically designed for easy maneuverability, it is extremely user friendly

EU-Type Examination Certificate

- Lightweight and portable
- Unique protection system to cope with paint overspray
- Compatible accessory items available
- Maintenance friendly
- Low battery voltage warning
- Specialised charging system
- Waterproof and dustproof

ITEM REFERENCES

Designation:			Item No.:
SARF300			13B0201
SARF300/KIT1		LUMIN EX LED Rechargeable Floodlight LUMIN Floodlight Protective Shield LUMIN Floodlight Magnetic Bracket LUMIN Floodlight Scaffold Bracket LUMIN Charging Unit	13B0202

TECHNICAL SPECIFICATIONS

Marking:	II 2G Ex eb ib mb IIC T4 Gb II 2D Ex tb IIIC T85°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +43°C
Ingress protection:	IP66
Battery duration:	12 Hours (Normal) | 6 Hours (Boost)
Light output:	1250 lm (Standard) | 2000 lm (Boost)
Charge time:	6 Hours
Dimensions:	430mm x 260mm x 390mm
Weight:	13.8kg

ACCESSORIES

	Description:		Description:
	LUMIN Floodlight Scaffold Bracket - SAFL/SN		LUMIN Floodlight Protective Film - SAFL/PF
	LUMIN Floodlight Magnetic Bracket - SAFL/MB		LUMIN Floodlight Tripod Stand - SAFL/TS
	LUMIN Floodlight Protective Shield - SAFL/PS		

EX GALALED PORTABLE LED LIGHTING

Zones 1, 2, 21, 22

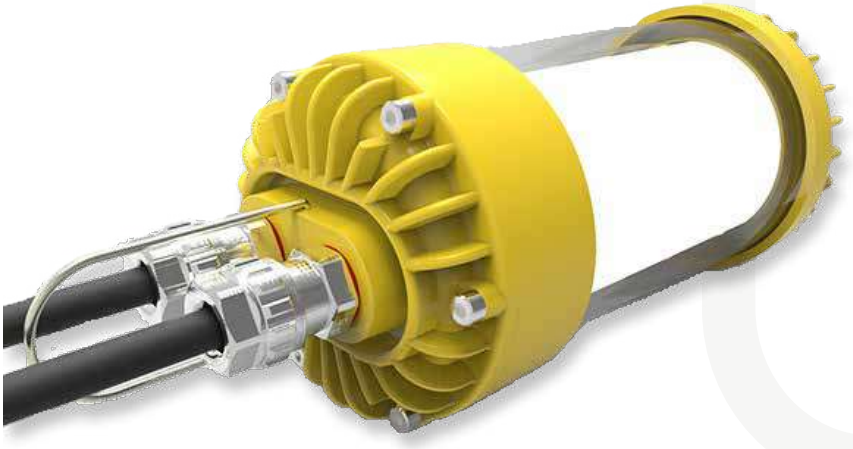
ATEX PORTABLE LAMPS

ZONES 1, 2 (gas) & 21, 22 (dust)

Portable, safety LED lighting with high level of protection intended for use in hazardous areas with explosive gas and dust atmospheres. The lamp is designed for application in shipbuilding and offshore industries, for both indoor and outdoor spaces, can be used as portable lighting and as general fixed in lighting.

- Circular LED light source of 360°
- High light intensity with no glare effect
- Low weight of 2,3kg. high level of mechanical protection (IP66 and IK8)

Ex GalaLED enables outstanding thermal management since the LED engine is attached directly to the top and bottom cover, acting as a heat sink.



EU-Type Examination Certificate

ITEM REFERENCES							
Designation:	Lumen output:	Efficacy:	Operating voltage:		Power:	Power factor:	Item No.:
Ex GalaLED 42VAC	~3000 lm	~120lm/W	38-48 VAC 38-60 VDC	50-60 Hz	~25W	≥ 0,98 at 42 VAC	1D0401
Ex GalaLED 110VAC	~3000 lm	~120lm/W	90-130 VAC 90-130 VDC	50-60 Hz	~25W	> 0,85 at 110 VAC	1D0402
Ex GalaLED 230VAC	~3500 lm	~115 lm/W	210-250 VAC	50-60 Hz	~30W	> 0,98 at 230 VAC	1D0403
Ex GalaLED 24VAC	>2300 lm	~ 115lm/W	20-30 VAC 20-30 VDC	50-60 Hz	~20W	> 0,98 at 24 VAC	1D0404

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db op is IIC T6 Gb II 2D Ex tb op is IIIC T85°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-40°C to +50°C
Housing:	Aluminum alloy powder painted with tempered borosilicate glass tube
Diffuser:	PMMA 2,5 mm
Gasket:	Silicone gasket
Ingress protection:	IP66, IP67 | IK08
LED:	360° LED module ~5000K, CRI 80-85, depending on LED type 60 000 working hours temp. 25°C (estimated lifespan)
Connection terminal:	L1,N,PE max 3x2,5 mm², External PE Terminal M5
Connection cable:	H07RN-F 3x1,5 mm² or 3x2,5 mm²
Weight:	2,3 kg
Dimensions:	D125 x H280 mm
Cable entries:	2xM20 (Cable glands / plugs non included)

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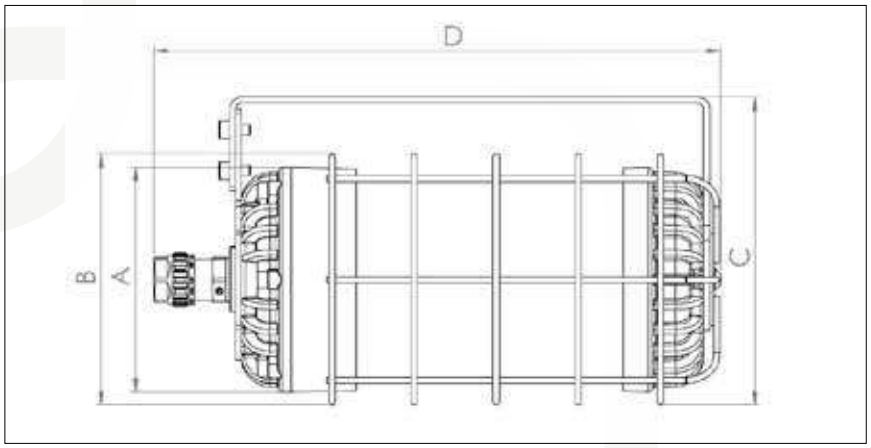
ACCESSORIES					
Sketch:	Description:	Sketch:	Description:	Sketch:	Description:
	Protective grid		Hook Eye Set		Ex Plug M20x1.5
	Vertical Cable Hanging Set		Mounting bracket		Antistatic Protective peel off Foil
	Gasket		Ex Gland M20x1.5 ø7-12mm or ø10-15mm		Horizontal Cable Hanging Set



DIMENSIONS	
A	ø110mm
B	ø125mm
C	155mm
D	280mm

2

FLASHLIGHTS & HEADLAMPS

2 - FLASHLIGHTS & HEADLAMPS

Inpratex offers a wide range of ATEX / IECEx certified flashlights and headlamps, designed to ensure safe and reliable use in potentially explosive atmospheres, both in industrial environments and mining applications.

The range includes straight and right-angle hand torches, headlamps and portable lamps, available with battery-powered or rechargeable versions, adapting to different operational needs and working conditions.

In our catalogue you will find the ATEX torch or headlamp best suited for use in manholes and underground galleries, sewers, basements, tanks and vessels, cisterns, wells, silos, chemical reactors, ship holds, tunnels, air ducts, service galleries, pits, as well as other confined spaces where there is a risk of explosion.

2.1 - FLASHLIGHTS 80

2.2 - HEADLAMPS 102

Our product ranges are constantly updated on our website: ***www.inpratex.com***

2.1 FLASHLIGHTS

EXPLOSION-PROOF MINI HAND LAMP MHL 5 EX

Zones 1, 2, 21, 22

ATEX FLASHLIGHTS | ZONES 1, 2 (gas) & 21, 22 (dust)

EU-Type Examination Certificate

This explosion-proof high power LED lamp is made of a very impact resistant and waterproof plastic casing (IP68).
The MHL 5 Ex shows its strength with bright, white light through its strong power LED.

Submersible up to 3 m.

The MHL 5 Ex is ideal for professional use as a maintenance and inspection light as well as for hazardous good transport.

ITEM REFERENCES	
Designation:	Item No.:
MHL 5 EX	1F0101

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex ib IIC T4 Gb II 2D Ex ibD 21 T135°C Db
Certificate:	EU-Type Examination Certificate
Ingress protection:	IP68
Lamp:	POWER LED
Operating time:	Approx. 4h
Luminous flux:	42 lm
Range:	Approx. 30 m
Power source:	2 x AAA, Micro (included)
Weight:	45 g
Dimensions:	145x20 mm

XPP-5410G PENLIGHT

Zones 0, 1, 2

ATEX FLASHLIGHTS | ZONES 0, 1, 2 (gas) & Mines

This penlight is ATEX and IECEx listed Intrinsically Safe . It is ultra compact and super slim with a powerful light output designed to illuminate very tight spaces.

The tail-cap switch provides momentary or constant-on functionality. Power comes from 2 AAA premium batteries (included).

Submersible up to 1 meter.

EU-Type Examination Certificate

- Momentary or constant-on flashlight
- Engineered polymer housing
- Waterproof
- Built-in pocket/belt clip
- Sharp focused beam for distance illumination
- Single tail switch
- Impact & chemical resistant
- High-efficiency deep parabolic reflector

ITEM REFERENCES	
Designation:	**Item No.:**
XPP-5410G	1E0702

TECHNICAL SPECIFICATIONS	
Marking: ATEX	I M1 Ex ia op is Ma II 1G Ex ia op is IIC T3 Ga
Marking: NEC 500	CLASS I DIV 1 GRPS A-D T3 CLASS II & III DIV 1 GRPS E-G T135C CLASS I ZONE 0 AEx ia IIC T3 Ga CLASS I ZONE 0 Ex ia IIC T3 Ga
Certificate:	EU-Type Examination Certificate
Ingress protection:	IP67
LED:	CREE LED (+50,000+ hours LED life)
Run time:	18 h
Luminous flux:	30 lm
Beam distance:	40 m
Power source:	2 x AAA (included)
Weight:	53,9 g
Dimensions:	2,3 cm (head diameter) | 1,80 cm (handle diameter) | 14,7 cm (length)
Operating temperature:	-20°C to +40°C

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XPP-5414GX DUAL-LIGHT FLASHLIGHT WITH MAGNET

Zones 0, 1, 2

ATEX FLASHLIGHTS | ZONES 0, 1, 2 (gas)

This Intrinsically Safe (cETLus, ATEX Zone 0 and IECEx) Dual-Light™ LED flashlight offers peak performance in hazardous work environments. Use the top-mounted buttons to trigger the flashlights focused distance lighting and the floodlights expansive close-up illumination.

Maximize the safety and functionality benefits by simultaneously activating both lights in Dual-Light™ Mode. Features easy-to-use top-mounted switches, durable glass-filled nylon polymer housing, an integrated magnet on base, and a reversible pocket clip.

Submersible up to 1 meter.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
XPP-5414GX	1E2301

TECHNICAL SPECIFICATIONS	
Marking: ATEX	II 1G Ex ia op is IIC T3 Ga
Marking: NEC 500	CLASS I DIV 1 GRPS A-D T3 CLASS II & III DIV 1 GRPS E-G T135°C CLASS I ZONE 0 AEx ia IIC T3 Ga CLASS I ZONE 0 Ex ia IIC T3 Ga
Certificate:	EU-Type Examination Certificate
Case material:	Engineered polymer
Ingress protection:	IP67
Candela:	3100cd
Run time:	Flashlight: 24 h | Floodlight: 24 h | Dual Light: 24 h
Luminous flux:	Flashlight: 120 lm | Floodlight: 120 lm | Dual Light: 120 lm
Beam distance:	111 m approx.
Power source:	2 x AA (not included)
Weight:	116 g
Dimensions:	33 mm (head diameter) | 22 mm (handle diameter) | 159 mm (length)
Operating temperature:	-20°C to +40°C

XPP-5418GX FLASHLIGHT

Zones 0, 1, 2

ATEX FLASHLIGHTS | **ZONES 0, 1, 2 (gas)**

This flashlight is cETLus, ATEX Zone 0, IECEx, and INMETRO certified Intrinsically Safe for use in both above and below ground hazardous locations where explosive gases and dust may be present.

This light uses an LED rated at 200 lumens that work in conjunction with a high-efficiency deep parabolic reflector to create a usable flashlight beam rated at 143 meters. The tail switch provides momentary or constant-on functionality.

Submersible up to 1 meter.

- Momentary or constant-on flashlight
- Sharp focused flashlight beam for distance illumination
- Polymer housing
- Non-slip grip
- Dustproof/Waterproof
- Impact & chemical resistant
- Tail switch
- LED technology

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
XPP-5418GX	1E2401

TECHNICAL SPECIFICATIONS	
Marking: ATEX	II 1G Ex ia op IIC T3 Ga
Marking: NEC 500	CLASS I DIV 1 GRPS A-D T3 CLASS II & III DIV 1 GRPS E-G T135C CLASS I ZONE 0 AEx ia IIC T3 Ga CLASS I ZONE 0 Ex ia IIC T3 Ga
Certificate:	EU-Type Examination Certificate
Case material:	Engineered polymer
Ingress protection:	IP67
Candela:	5129cd
Run time:	10,5 h
Luminous flux:	200 lm
Beam distance:	143 m
Power source:	3 x AA (not included)
Weight:	153 g
Dimensions:	38mm (head diameter) | 19mm x 35mm (handle diameter) | 142mm (length)
Operating temperature:	-20°C to +40°C

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EXPLOSION-PROOF HAND LAMP HL 10 EX

Zones 1, 2, 21, 22

ATEX FLASHLIGHTS | ZONES 1, 2 (gas) & 21, 22 (dust)

This explosion-proof high power LED lamp is made of a very impact-resistant and water-proof plastic casing (IP68). The innovative LED torch with a length of only 17 cm and a weight of only 167 g is the leader among comparable torches.

The user will appreciate that the bulbs will not have to be replaced any more thanks to the high lifespan of the strong, but power-saving LED lamp.

Submersible up to 5 m.

EU-Type Examination Certificate

Note: can be attached to protective helmets (helmet clamp as accessory)

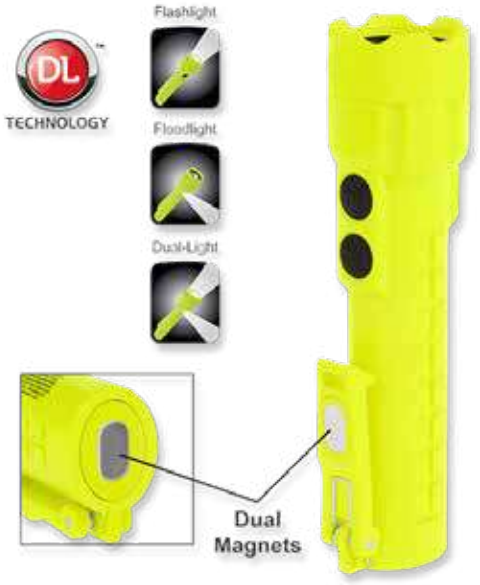
ITEM REFERENCES	
Designation:	**Item No.:**
HL 10 EX	1F0201
Helmet clamp (acccording to DIN 19490)	1F0205

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex ib IIC T4 Gb II 2D Ex ibD 21 T135°C Db
Certificate:	EU-Type Examination Certificate
Ingress protection:	IP68
Lamp:	Power LED
Run time:	Approx. 11h
Colour temperature:	Approx. 7000k
Beam distance:	Approx. 150 m
Power source:	4 x AA, Mignon (included)
Weight:	Approx. 167 g
Dimensions:	41x172 mm

XPP-5422GMA DUAL-LIGHT FLASHLIGHT WITH DUAL MAGNETS

Zones 0, 1, 2

ATEX FLASHLIGHTS | **ZONES 0, 1, 2 (gas) & Mines**



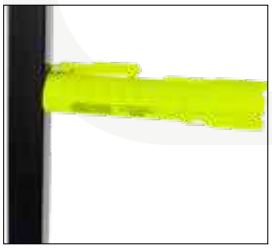
This non-rechargeable Dual-Light flashlight with dual magnets is cETLus, ATEX, INMETRO and IECEx listed Intrinsically Safe Permissible.

It uses a CREE LED rated at 120 lumens that works in conjunction with a high-efficiency deep parabolic reflector to create a usable flashlight beam rated at 170 meters. A 120 lumens unfocused floodlight is integrated into the housing which is perfect for close-up illumination. Additionally, both the flashlight and the floodlight can be turned on at the same time for maximum versatility.

Submersible up to 1 meter.

EU-Type Examination Certificate

The integrated magnets located in the base of the handle and the pocket clip, provide for almost limitless hands-free usage.



ITEM REFERENCES	
Designation:	**Item No.:**
XPP-5422GMA	1E0602

TECHNICAL SPECIFICATIONS	
Marking: ATEX	I M1 Ex ia op is I Ma II 1G Ex ia op is IIC T3 Ga
Marking: NEC 500	CLASS I DIV 1 GRPS A-D T3 CLASS II & III DIV 1 GRPS E-G T135C CLASS I ZONE 0 AEx ia IIC T3 Ga CLASS I ZONE 0 Ex ia IIC T3 Ga
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Ingress protection:	IP67
Drop rating:	2m
LED:	LED technology
Run time:	Flashlight Runtime: 17.5 h | Floodlight Runtime: 17.5 h | Dual-Light Runtime: 4.5 h
Luminous flux:	Flashlight: 120lm | Floodlight: 120lm | Dual-Light: 240lm
Beam distance:	170 m
Power source:	3 x AA (not included)
Weight:	196 g
Dimensions:	46 mm (head diameter) | 28x38 mm (handle dimensions)

CONTACT – (+34) 943 530 095 | inpratex@inpratex.com

XPP-5422GMX DUAL-LIGHT FLASHLIGHT WITH DUAL MAGNETS

Zones 0, 1, 2

ATEX FLASHLIGHTS | ZONES 0, 1, 2 (gas)

This Dual-Light Flashlight is cETLus, ATEX, IECEx and INMETRO listed Intrinsically Safe for use in both above and below ground hazardous locations where explosive gases and dusts may be present.

It uses an LED rated at 210 lumens that works in conjunction with a high-efficiency deep parabolic reflector to create a usable flashlight beam rated at 187 meters

Submersible up to 1 meter.

EU-Type Examination Certificate

The integrated magnets located in the base of the handle and the pocket clip, provide for almost limitless hands-free usage.

ITEM REFERENCES	
Designation:	**Item No.:**
XPP-5422GMX	1E1701

TECHNICAL SPECIFICATIONS	
Marking: ATEX	I M1 Ex ia I Ma II 1G Ex ia IIC T3 Ga
Marking: NEC 500	CLASS I DIV 1 GRPS A-D T3 CLASS II & III DIV 1 GRPS E-G T135C CLASS I ZONE 0 AEx ia IIC T3 Ga CLASS I ZONE 0 Ex ia IIC T3 Ga
Certificate:	EU-Type Examination Certificate
Ingress protection:	IP67
LED:	CREE LED (50,000+ hours LED life)
Run time:	Flashlight: 14 h | Floodlight: 20 h | Dual Light: 10 h
Luminous flux:	Flashlight: 210 lm | Floodlight: 130 lm | Dual Light: 285 lm
Beam distance:	187 m approx.
Power source:	3 x AA (not included)
Weight:	196 g
Dimensions:	45 mm (head diameter) | 38x28 mm (handle diameter) | 178 mm (length)
Operating temperature:	-20°C to +40°C

XPR-5522GMX RECHARGEABLE DUAL-LIGHT FLASHLIGHT W/ MAGNETS

Zones 0, 1, 2

ATEX FLASHLIGHTS | **ZONES 0, 1, 2 (gas)**

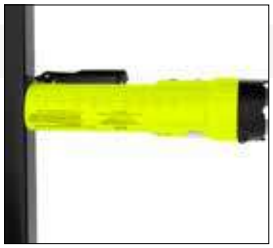
The XPR-5522GMX Rechargeable Dual-Light Flashlight w/Dual Magnets is cETLus, ATEX, IECEx, and MSHA listed Intrinsically Safe Permissible for use in both above and below ground hazardous locations where explosive gases and dusts may be present.

It uses an LED rated at 240 lumens that work in conjunction with a high-efficiency deep parabolic reflector to create a usable flashlight beam rated at 178 meters. A 175 lumens unfocused floodlight is integrated into the housing which is perfect for close-up illumination.

Powered by an integrated Lithium-ion rechargeable battery.

Wall or Vehicle Mounted Charger included.

EU-Type Examination Certificate



ITEM REFERENCES	
Designation:	**Item No.:**
XPR-5522GMX	1E1702

TECHNICAL SPECIFICATIONS	
Marking: ATEX	II 1G Ex ia op is IIC T3 Ga
Marking: NEC 500	CLASS I DIV 1 GRPS A-D T3 CLASS II DIV 1 GRPS E-G T3 & Class III T165°C CLASS I ZONE 0 AEx ia IIC T3 Ga ZONE 20 GROUP IIIC T165°C
Certificate:	EU-Type Examination Certificate
Ingress protection:	IP54
LED:	240 lm
Run time:	Flashlight: 8 h | Floodlight: 8,5 h | Dual Light: 4,75 h
Luminous flux:	Flashlight: 240 lm | Floodlight: 175 lm | Dual-Light: 400 lm
Beam distance:	178 m
Rechargeable battery:	Lithium-ion
Weight:	280 g
Dimensions:	53 mm (head diameter) | 33x43 mm (diameter) | 188 mm (length)
Operating temperature:	-10°C to +40°C

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XPR-5542GMX RECHARGEABLE DUAL-LIGHT FLASHLIGHT W/ MAGNET

Zones 0, 1, 2

ATEX FLASHLIGHTS | ZONES 0, 1, 2 (gas)

The XPR-5542GMX Rechargeable Dual-Ligh Flashlight with Magnet is cULus, ATEX, and IECEx listed Intrinsically Safe for use in both above and below ground hazardous locations where explosive gases and dusts may be present.

It uses a CREE LED rated at 400 lumens that works in conjunction with a high-efficiency deep parabolic reflector to create a usable beam rated at 215 meters.

A 225 lumens unfocused floodlight is integrated in to the housing which is perfect for close-up illumination. Additionally both the flashlight and the floodlight can be turned on at the same time for maximum safety and versatility.

Power comes from a rechargeable Lithium-ion battery. Wall or Vehicle Mounted Charger included.

TECHNOLOGY

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
XPR-5542GMX	1E1601

TECHNICAL SPECIFICATIONS	
Marking: ATEX	II 1G Ex ia IIC T4 Ga
Marking: NEC 500	CLASS I DIV 1 GRPS A-D T4 CLASS II & III DIV 1 GRPS E-G CLASS I ZONE 0 GRP IIC T4 CLASS II ZONE 20 IIIC T135°C
Certificate:	EU-Type Examination Certificate
Ingress protection:	IP67
LED:	CREE LED (50,000+ hours LED life)
Run time:	Flashlight - High: 10,5 h | Medium: 19 h | Low: 41 h Floodlight: 10,5 h Dual-Light: 10 h
Luminous flux:	Flashlight - High: 400 lm | Medium: 170 lm | Low: 80 lm Floodlight: 225 lm Dual-Light: 275 lm
Beam distance:	215 m
Rechargeable battery:	Lithium-ion
Weight:	310 g
Dimensions:	4 cm (head diameter) | 3 cm (handle diameter) | 24 cm (length)
Operating temperature:	-20°C to +40°C

XPR-5580R RECHARGEABLE DUAL-LIGHT LANTERN

Zones 0, 1, 2

ATEX FLASHLIGHTS | **ZONES 0, 1, 2 (gas)**

EU-Type Examination Certificate

The XPR-5580R Intrinsically Safe Dual-Light lantern is a flashlight, a floodlight and a Dual-Light that is cULus, ATEX, and IECEx certified intrinsically safe.

The flashlight setting offers 3 user-selectable brightness settings of 210, 100 and 30 lumens with a 635 meter beam distance. The flashlight beam is perfect for cutting through smoke and lighting up objects at great distances. The floodlight setting has 3 user-selectable brightness settings of 200, 100 and a "Survival Mode" of 30 lumens that provides just enough light in an emergency situation with a run-time of 65 hrs.

Rechargeable Lithium-ion battery pack included.
Wall or vehicle mounted charger.

ITEM REFERENCES	
Designation:	**Referencia:**
XPR-5580R	1E1202

TECHNICAL SPECIFICATIONS	
Marking: ATEX	II 1G Ex ia IIC T4 Ga
Marking: NEC 500	CLASS I DIV 1 GRPS A-D T4 CLASS II & III DIV 1 GRPS E-G CLASS I ZONE 0 GRP IIC T4 CLASS II ZONE 20 IIIC T135°
Certificate:	EU-Type Examination Certificate
Ingress protection:	IP67
LED:	CREE LED (50,000+ hours LED life)
Run time:	Flashlight: High 12 h | Medium 19 h | Survival 65 h Floodlight: High 14 h | Medium 19 h | Survival 65 h Dual-Light: 9 h 15
Luminous flux:	Flashlight: 210 lm (High) | 100 lm (Medium) | 30 lm (Survival) Floodlight: 210 lm (High) | 100 lm (Medium) | 30 lm (Survival) Dual-Light: 300 lm
Beam distance:	635 m / 257 m / 164 m
Rechargeable battery:	Lithium-ion
Recharge time:	6 h
Weight:	935 g
Dimensions:	12 cm (head diameter) | 12 cm (width) | 14 cm (depth) | 20 cm (length)
Operating temperature:	-20°C to +40°C

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XPR-5584GMX RECHARGEABLE LANTERN W/ MAGNETIC BASE

Zones 0, 1, 2

ATEX FLASHLIGHTS | ZONES 0, 1, 2 (gas)

The XPR-5584GMX Intrinsically Safe Rechargeable Lantern generates a scene-filling 600 lumens for an ultra-long 13 hours from four separate LEDs housed in a 180-degree articulating head for maximum versatility. Holding down the switch enables a battery-saving 250-lumen low mode, extending runtime to 25 hours when work demands extreme use. Designed and engineered as both a hand-held lantern and portable area light, the 5584 features a rear-mounted rubber base pad featuring a 25 lb. pull-force rare earth magnet for convenient hands-free, adjustable scene lighting on demand.

Constructed of thick-walled glass-filled nylon and weighing only 1219 g, the XPR-5584GMX is built to survive the harshest industrial environments. The over-molded rubber handle and carry strap provide the user superior grip and retention, while the two bright green rear-facing LEDs let others easily see your location for increased safety and awareness. The XPR-5584GMX is a cULus-certified Class I DIV 1, ATEX and IECEX certified with a charger that meets the requirements of NFPA-1901-14.1.10.2 (2016) mounted in any position. It's powered by an integrated rechargeable lithium-ion battery and comes with a charger base, AC and DC chargers and carry strap.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
XPR-5584GMX	1E2101

TECHNICAL SPECIFICATIONS	
Marking: ATEX	II 1G Ex ia op is IIC T4 Ga
Marking: NEC 500	CLASS I DIV 1 GRPS A-D T4 CLASS II & III DIV 1 GRPS E-G T135°C CLASS I ZONE 0 AEx ia op is IIC T4 Ga
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Case material:	Glass filled nylon polymer
Lumens/Runtime:	HIGH: 600 lm, 13 hrs. runtime | LOW: 250 lm, 25 hrs. runtime
Candela:	HIGH: 14,096 | LOW: 7,007
Beam distance:	HIGH: 237 m | LOW: 167 m
Ingress protection:	IP67
Drop rating:	2 meters
Dimensions:	LENGTH: 19.2 cm | WIDTH: 10.8 cm | DEPTH: 14.8 cm
Weight:	1219 g
Battery:	Rechargeable Li-ion integrated battery pack

EXPLOSION-PROOF ANGLE LAMP HL 10 EX W

Zones 1, 2

ATEX FLASHLIGHTS | ZONES 1, 2 (gas)

Explosion-proof angle-head hand lamp with retaining clip. Swivel diffuser for close range.

4 AA batteries included.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
HL 10 Ex W	1F0204

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex ib IIC T4 Gb
Certificate:	EU-Type Examination Certificate
Ingress protection:	IP67
Lamp:	3W Power LED
Run time:	10 h approx.
Luminous flux:	175 lm
Beam distance:	150 m approx.
Power source:	4 x LR6 AA (incluided)
Weight:	247 g (including batteries)
Operating temperature:	-20 °C to +40 °C

CONTACT - (+34) 943 530 095 | inpratex@inpratex.com

XPP-5564RX DUAL LIGHT ANGLE LIGHT 4AA

Zones 0, 1, 2, 20, 21, 22

ATEX FLASHLIGHTS | ZONES 0, 1, 2 (gas) & 20, 21, 22 (dust)

The XPP-5564RX Intrinsically Safe Angle Light is equipped as a flashlight, floodlight, and Dual-Light engineered for the brutal, challenging nature of fire and rescue. ATEX ZONE 0/20, cETLus, and IECEx certified Intrinsically Safe, the XPP-5564RX is geared for the fight in hazardous scenarios.

In spotlight mode, this angle lamp offers user-selectable brightness settings of 250 and 110 lumens with a 469-meter beam distance. With a bolstered 54,900 candela at your arsenal, the spotlight's tight beam pierces through smoke and haze with ultra-clarity at long distances. The floodlight mode has user-selectable brightness settings of 270 and 120 lumens. A battery status indicator glows green at full battery and shows red when battery is low.

EU-Type Examination Certificate

Dual-Light mode on the XPP-5564RX combines the long-range visibility of the flashlight with the wide-area illumination of the floodlight, enabling users to discern objects in the distance while maintaining orientation. The floodlight's 45° downward tilt is meticulously designed to mitigate the risk of slips and falls, ensuring that both light sources work in tandem to navigate through treacherous environments safely.

ITEM REFERENCES	
Designation:	**Item No.:**
XPP-5564RX	1E2601

TECHNICAL SPECIFICATIONS	
Marking: ATEX	II 1G Ex ia IIC T4 Ga II 1D Ex ia IIC T135C Da
Marking: NEC 500	CLASS I DIV 1 GRPS A-D T4 CLASS II & III DIV1 GRPS E-G T135°C CLASS I ZONE 0 AEx ia IIC T3 Ga
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Case material:	PC/ABS. Body Color: Red/Black
Ingress protection:	IP67
Drop rating:	2 m
Run time:	High: 6 h | Low: 18 h Floodlight: High 8,5 h | Low 28 h High Dual-Light: 5,5 h
Luminous flux:	High: 250 lm | Low: 110 lm Floodlight: High 270 lm | Low 120 lm High Dual-Light: 280 lm
Beam distance:	469 m (High) | 171 m (Low)
Candela:	High: 54900 cd | Low: 7333 cd
Weight:	3122 g
Dimensions:	159 x 70 x 64 mm | Head diameter: 70 mm
Power source:	4AA batteries (included)

XPP-5566RX DUAL-LIGHT ANGLE LIGHT - 3AA

Zones 0, 1, 2

ATEX FLASHLIGHTS

ZONES 0, 1, 2 (gas) & Mines

EU-Type Examination Certificate

The XPP-5566RX Intrinsically Safe angle light is a flashlight, a floodlight and a Dual-Light angle light that is cULus, ATEX, and IECEx certified Intrinsically Safe. This flashlight pivots 90 degrees up and down with a 45 degree downward angled floodlight.

The flashlight setting offers user-selectable brightness settings of 200, 110 and 60 Lumens with a 401 meter beam distance.

The floodlight setting has user-selectable brightness settings of 100, 40 and a “Survival Mode” of 20 lumens that provides just enough light in an emergency situation with a run-time of 33 hours.

Powered by 3 included AA batteries.

ITEM REFERENCES	
Designation:	**Item No.:**
XPP-5566RX	1E1301

TECHNICAL SPECIFICATIONS	
Marking: ATEX	I M1 Ex ia op is I Ma II 1G Ex ia op is IIC T3 Ga
Marking: NEC 500	CLASS I DIV 1 GRPS A-D T3 CLASS II & III DIV1 GRPS E-G T135°C CLASS I ZONE 0 AEx ia IIC T3 Ga
Certificate:	EU-Type Examination Certificate
Ingress protection:	IP67
LED:	CREE LED (50,000+ hours LED life)
Run time:	Flashlight: High 11 h | Medium 18 h | Low 33 h Floodlight: High 11 h | Medium 18 h | Low 33 h Dual-Light: 11 h
Luminous flux:	Flashlight: 200 lm (High) | 110 lm (Medium) | 60 lm (Low) Floodlight: 100 lm (High) | 40 lm (Medium) | 20 lm (Low) Dual-Light: 205 lm
Beam distance:	401 m (High) | 250 m (Medium) | 187 m (Low)
Weight:	315 g
Dimensions:	53 mm (head diameter) | 66 mm (width) | 168 mm (length) | 66 mm (depth)
Operating temperature:	-20°C to +40°C

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XPR-5568RX RECHARGEABLE DUAL-LIGHT ANGLE LIGHT

Zones 0, 1, 2

ATEX FLASHLIGHTS | ZONES 0, 1, 2 (gas) & Mines

The XPR-5568RX Intrinsically Safe angle light is a flashlight, a floodlight and a Dual-Light angle light that is cULus, ATEX, IECEx and MSHA certified Intrinsically Safe. The flashlight rotates 90 degrees up and down with a 45 degree downward angled floodlight.

The flashlight setting offers user-selectable brightness settings of 200, 110 and 60 Lumens with a 401 meter beam distance. The ultra-tight beam is perfect for cutting through smoke and lighting up objects at great distances. The floodlight setting has user-selectable brightness settings of 100, 40 and a “Survival Mode” of 20 lumens that provides just enough light in an emergency situation with a run-time of 27 hours.

Battery charge status indicator (only with rechargeable battery)
Rechargeable Lithium-ion Battery Pack included.
Wall or Vehicle Mounted Charger.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
XPR-5568RX	1E1302

TECHNICAL SPECIFICATIONS	
Marking: ATEX	I M1 Ex ia op is I Ma II 1G Ex ia op is IIC T3 Ga
Marking: NEC 500	CLASS I DIV 1 GRPS A-D T3 CLASS II & III DIV1 GRPS E-G T135°C CLASS I ZONE 0 AEx ia IIC T3 Ga
Certificate:	EU-Type Examination Certificate
Ingress protection:	IP67
LED:	CREE LED (50,000+ hours LED life)
Run time:	Flashlight: High 7 h | Medium 15 h | Low 27 h Floodlight: High 7 h | Medium 15 h | Low 27 h Dual-Light: 7 h
Luminous flux:	Flashlight: 200 lm (High) | 110 lm (Medium) | 60 lm (Low) Floodlight: 100 lm (High) | 40 lm (Medium) | 20 lm (Low) Dual-Light: 205 lm
Beam distance:	401 m (High) | 250 m (Medium) | 187 m (Low)
Weight:	301 g (with battery)
Dimensions:	53 mm (bezel diameter) | 66 mm (width) | 168 mm (length) | 66 mm (depth)
Rechargeable battery:	Lithium-ion
Recharge time:	4 h
Operating temperature:	-20°C to +40°C

EXPLOSION-PROOF ANGLE LAMP HL 12 EX

Zones 0, 1, 2, 20, 21, 22

ATEX FLASHLIGHTS | **ZONES 0, 1, 2 (gas) & 20, 21, 22 (dust)**

Designed for maximum brightness and exceptional lightness, these explosion-proof hand lamps are both highly efficient and user-friendly. Featuring two light intensity levels and a flashing mode, they offer versatile illumination options.

- Safety Certified: Approved for use in environments containing all types of gases and dust.

- User-Friendly Maintenance: The battery pack and retaining clip are easily replaceable by the operator.

- Vehicle-Compatible: Fully inspected to meet EMC standards, ensuring safe use in vehicles.

3 AA batteries included in the delivery.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
HL 12 Ex	1E1001

TECHNICAL SPECIFICATIONS	
Marking:	II 1G Ex ia IIC T4 Ga II 1D Ex ia IIIC T 135°C Da
Certificate:	EU-Type Examination Certificate
Operating temperature:	–20°C to +40°C
Rated voltage:	4,5 V DC
Lamp:	Power LED
Ingress protection:	IP67 according to IEC 60529
3 step switch:	2 steps for brightness + flash function
Operating time:	Approx. 4 h / 9 h
Luminous flux:	Approx. 200 lm / 55 lm
Beam distance:	Up to approx. 200 m
Power source:	3 AA batteries type LR6, 1,5V (included)
Weight:	Approx. 280g
Dimensions:	61x90x200 mm

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EXPLOSION-PROOF RECHARGEABLE ANGLE LAMP HL 12 EX

Zones 1, 2, 21, 22

Full catalogue available on our website: www.inpratex.com

ATEX FLASHLIGHTS | **ZONES 1, 2 (gas) & 21, 22 (dust)**

Combining powerful illumination with a lightweight, ergonomic design, these ex-proof rechargeable hand lamps deliver reliable performance in demanding environments. Featuring two light levels and a flashing mode, they adapt seamlessly to various lighting needs.

Rechargeable and Durable: Engineered for long-term use with replaceable battery packs and retaining clips, ensuring easy maintenance by the operator.

Certified for Safety: Fully compliant with EMC standards and approved for use in vehicles.

LED Capacity indicator.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
HL 12 Ex Rechargeable (Charging station not included)	1E1002
Charging unit 100...230V AC	1E0402
Charging unit 12...24V DC	1E0403
HL 12 Ex Set (Lamp + Charging unit 100...230V AC)	1E1003
HL 12 Ex Set (Lamp + Charging unit 12...24V DC)	1E1004

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex ib IIC T4 Gb II 2D Ex ib IIIC T 135°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	–20°C to +40°C
Rated voltage:	3,7 V DC
Lamp:	Power LED
Rechargeable battery:	Lithium-Ion-Accu (3,7 V, 2500 mAh)
Charging time:	Approx. 4 h
Charging voltage:	230 V AC 50/60Hz | 12/24V DC
Ingress protection:	IP67 according to IEC 60529
3 step switch:	2 steps for brightness + flash function
Operating time:	Approx. 4 h / 9 h
Luminous flux:	Approx. 200 lm / 55 lm
Beam distance:	Approx. 200 m
Weight:	Approx. 280g
Dimensions:	61x90x200 mm

EXPLOSION-PROOF ANGLE LAMP HL 30 EX

Zones 1, 2, 21, 22

ATEX FLASHLIGHTS | ZONES 1, 2 (gas) & 21, 22 (dust)

Explosion-proof LED flexible high power head lamp, for installation in vehicles or buildings.

- ATEX certified (Zones 1,2,21,22)
- Lithium-Ion-Accu (3,7 V / 5,0 Ah)
- Protection against total discharge
- LCD capacity indicator (hours and minutes)
- Emergency light function
- 3 step switch:

1x long distance, 2x short distance

- Impact-resistant, dust-proof + submersible up to 1 m
- Swivelling lamp head at 180° (6 locking positions at 30°)
- Clamp unit with ring loop
- Clamp unit with ring loop

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
HL 35 Ex POWER (Charging station not included)	1E2211
HL 35 Ex POWER (Lamp + Charging unit 12...24V DC)	1E2212
HL 35 Ex POWER (Lamp + Charging unit 12...24V DC + 230V)	1E2213

TECHNICAL SPECIFICATIONS	
Marcado:	II 2G Ex ib IIC T4 Gb II 2D EX ib IIIC T135°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	–20°C to +40°C
Housing:	Non flammable plastic. Yellow/Black
Ingress protection:	IP67 according to IEC 60529
Rechargeable battery:	Lithium-Ion-Accu (3,7 V / 5,0 Ah)
Charging voltage:	12V - 30V
Maximum short-circuit current at charging contacts:	35 A
Charging temperature:	0°C to +40°C
Charging time:	Approx. 9 h
Operating time:	Level 1 (long-range light): 5 h | Level 2 (close-range light): 5 h | Level 3 (pilot light): 10 h
Luminous flux:	Level 1 (long-range light): 300 lm | Level 2 (close-range light): 250 lm | Level 3 (pilot light): 135 lm
Beam distance:	Approx. 250m
Weight:	Approx. 580g
Dimensions:	237x105x77 mm

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EXPLOSION-PROOF ANGLE LAMP HL 35 EX

Zones 0, 1, 2, 20, 21, 22

ATEX FLASHLIGHTS | ZONES 0, 1, 2 (gas) & 20, 21, 22 (dust)

Explosion-proof LED flexible high power head lamp, for installation in vehicles or buildings.

- ATEX certified (all gases and dusts)
- Lithium-Ion-Accu (3,7 V / 5,0 Ah)
- Protection against total discharge
- LCD capacity indicator (hours and minutes)
- Emergency light function
- 3 step switch = 3 steps for brightness
- Impact-resistant, dust-proof + submersible up to 1 m
- Swivelling lamp head at 180°
- Equipped with a stable rubber protection ring
- Clamp unit with ring loop

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
HL 35 Ex HIGH POWER (Charging station not included)	1E2201
HL 35 Ex HIGH POWER (Lamp + Charging unit 12...24V DC)	1E2202
HL 35 Ex HIGH POWER (Lamp + Charging unit 12...24V DC + 230V)	1E2203

TECHNICAL SPECIFICATIONS	
Marking:	II 1G Ex ia IIC T4 Ga II 1D Ex ia IIIC T 135°C Da
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Housing:	Non flammable plastic. Yellow/Black
Ingress protection:	IP67 according to IEC 60529
Batteries:	Lithium-Ion-Accu (3,7 V / 5,0 Ah)
Charging voltage:	12V - 30V
Maximum short-circuit current at the charging contacts	35 A
Charging temperature range:	0°C to +40°C
Charging time:	9 h approx.
Operating time:	Level 1: 10 h | Level 2: 5 h | Level 3: 4 h (approx.)
Luminous flux:	Level 1: 160 lumens | Level 2: 420 lumens | Level 3: 450 lumens (approx.) (Lumens values may differ by +/- 10%)
Beam distance:	300 m approx.
Weight:	600g approx.
Dimensions:	237x105x77 mm

EXPLOSION-PROOF RECHARGEABLE HAND LAMP SLE 15 LED SET

Zones 1, 2, 21, 22

ATEX FLASHLIGHTS | **ZONES 1, 2 (gas) & 21, 22 (dust)**

The microprocessor controlled, rechargeable hand lamp, model EX SLE 15 LED, made of impact-resistant, high-quality plastic was certified according to the directive 2014/34/EU and relevant EMC provisions and may be used in vehicles.

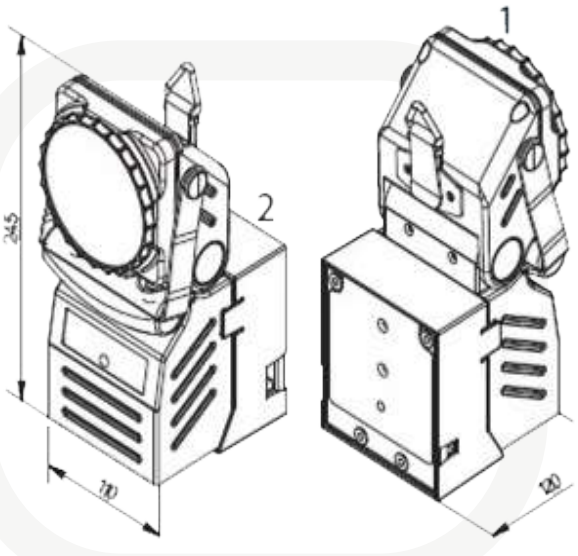
The EX SLE 15 LED can be operated in a permanent, blinking and pilot lamp function, and used as a warning light.

- 110° swivelling lamp head.
- Removable lamp handle.
- Protection against total discharge
- With emergency light function (turns on in case of power failure).
- 3 step switch: 2 steps for brightness + flash function.
- Usable as warning lamp through diff. color discs.
- Dustproof and splash-proof.
- LED Capacity display.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
EX SLE 15 LED SET	1E0302

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex ib IIC T4 Gb II 2D Ex ib IIIC T135°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Housing:	Plastic, shock-resistant
Ingress protection:	IP64
Lamp:	3W Power LED (approx. 180 lumen)
Operating time:	Approx. 5 h
Beam distance:	Approx. 170 m
Pilot lamp:	LED 5 mm
Operating time pilot lamp:	Approx. 75 h
Rechargeable battery:	Lead-gel rechargeable battery (4V, 3.5 Ah)
Charging time:	4 h
Charging voltage:	230V AC 50/60Hz, 12/24V DC
Weight:	1100 gr
Dimensions:	104x245x120 mm



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EXPLOSION-PROOF RECHARGEABLE HAND LAMP SLE 16 LED SET

Zones 1, 2, 21, 22

ATEX FLASHLIGHTS | ZONES 1, 2 (gas) & 21, 22 (dust)

The microprocessor controlled, rechargeable hand lamp, model EX SLE 16 LED, made of impact-resistant, high-quality plastic was certified according to the directive 2014/34/EU and relevant EMC provisions and may be used in vehicles.

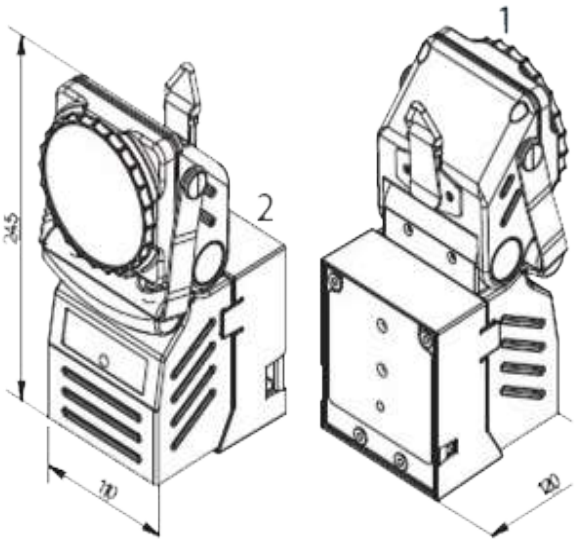
The EX SLE 16 LED can be operated in a permanent, blinking and pilot lamp function, and used as a warning light.

- 110° swivelling lamp head.
- Removable lamp handle.
- Protection against total discharge
- With emergency light function (turns on in case of power failure).
- 3 step switch: 2 steps for brightness + flash function.
- Usable as warning lamp through diff. color discs.
- Dustproof and splash-proof.
- LED Capacity display.
- Focused light beam.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	Item No.:
EX SLE 16 LED SET	1E0303

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex ib IIC T4 Gb II 2D Ex ib IIIC T135°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Housing:	Plastic, shock-resistant
Ingress protection:	IP64
Lamp:	3W Power LED (approx. 180 lumen)
Operating time:	Approx. 5 h
Beam distance:	Approx. 170 m. Focused light beam
Pilot lamp:	LED 5 mm
Operating time pilot lamp:	Approx. 75 h
Rechargeable battery:	Lead-gel rechargeable battery (4V, 3.5 Ah)
Charging time:	4 h
Charging voltage:	230V AC 50/60Hz, 12/24V DC
Weight:	1100 gr
Dimensions:	104x245x120 mm



2.2 HEADLAMPS

XPP-5452G DUAL-FUNCTION HEADLAMP

Zones 0, 1, 2

ATEX HEADLAMPS | ZONES 0, 1, 2 (gas)

This 3 AAA dual-function headlamp is cETLus, ATEX, IECEx, INMETRO and KOSHA listed Intrinsically Safe. The XPP-5452G headlamp features a multi-position tilt head design and includes an elastic head strap with a non-slip lining and a heavy-duty rubber head strap for use on a hard hat.

The top-mounted switch provides user-selectable high or low brightness spotlight operation. 3 AAA batteries (included)

ANSI IP-67 Dustproof / Waterproof with a 2 meter drop rating.

Adjustable ratchet tilt head.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
XPP-5452G	1E2501

TECHNICAL SPECIFICATIONS	
Marking: ATEX	II 1G Ex ia op is IIC T4 Ga
Marking: NEC 500	CLASS I DIV 1 GRPS A-D T4 CLASS II & III GRPS E-G T135C CLASS I ZONE 0 AEx ia IIC T4 Ga CLASS I ZONE 0 Ex ia IIC T4 Ga
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Ingress protection:	ANSI IP-67 Dustproof / Waterproof
Case material:	Engineered Polymer. Body Color: IS Green
Light Source:	LED
Switch function:	Single Body Switch. High-brightness Spotlight, Low-brightness Spotlight
Run time:	High Runtime: 6 h Low Runtime: 19 h
Luminous flux:	High Lumens: 180 | High Candela: 2180 cd Low Lumens: 90 | Low Candela: 962 cd
Beam distance:	High Beam Distance: 93 m Medium Beam Distance: 62 m
Power source:	3 x AAA (included)
Weight:	99 g
Dimensions:	61 x 48 x 46 mm
Strap/Mount:	Elastic & Rubber Straps

XPP-5454G DUAL LIGHT HEADLAMP

Zones 0, 1, 2

ATEX HEADLAMPS | **ZONES 0, 1, 2 (gas)**

This 3 AAA multi-function Dual-Light headlamp is cETLus, ATEX, INMETRO and IECEx listed Intrinsically Safe.

This headlamp features a multi-position tilt head design and includes an elastic head strap with a non-slip lining and a heavy-duty rubber head strap for use on a hard hat.

The dual top mounted switches provide user-selectable high or low-brightness spotlight, high or low-brightness floodlight operation and our exclusive Dual-Light design…the ability to turn on both the spotlight and the floodlight at the same time for maximum user safety and lighting versatility.

EU-Type Examination Certificate

Heavy-duty rubber strap for hard hat applications.

Power comes from 3 AAA batteries (included).

ITEM REFERENCES	
Designation:	**Item No.:**
XPP-5454G	1E0801

TECHNICAL SPECIFICATIONS	
Marking: ATEX	Ex II 1G Ex ia IIC T3 Ga
Marking: NEC 500	CLASS I DIV 1 GRPS A-D T3 CLASS II & III GRPS E-G T135C CLASS I ZONE 0 AEx ia IIC T3 Ga CLASS I ZONE 0 Ex ia IIC T3 Ga
Certificate:	EU-Type Examination Certificate
Ingress protection:	IP67
Light Source:	CREE LED (50,000 + hours LED life)
Run time:	Flashlight: High 5 h | Low 16,25 h Floodlight: High 5,25 h | Low 16,75 h Dual-Light: 3,5 h
Luminous flux:	Flashlight: High: 115 lm | Low: 60 lm Floodlight: High: 120 lm | Low: 60 lm Dual-Light: 160 lm
Beam distance:	82 m / 60 m
Power source:	3 x AAA (included)
Weight:	94 g
Dimensions:	66 x 45 x 53 mm
Operating temperature:	-20°C to +40°C

CONTACT – (+34) 943 530 095 | inpratex@inpratex.com

XPP-5456G MULTI-FUNCTION DUAL-LIGHT HEADLAMP

Zones 0, 1, 2

ATEX HEADLAMPS | ZONES 0, 1, 2 (gas) & Mines

This 3 AA Dual-Light multi-function headlamp is cETLus, ATEX, IECEx and MSHA listed Intrinsically Safe permissible.

The headlamp features a multi-position tilt head design, a rear-mounted battery compartment and includes both an elastic head strap with a non-slip lining and a heavy-duty rubber strap for use with hard hats.

The top mounted dual switches provide spotlight, full-power white floodlight, half-power white floodlight and red floodlight operation.

Heavy-duty rubber strap for hard hat applications.

Power comes from 3 AAA batteries (included).

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
XPP-5456G	1E0901

TECHNICAL SPECIFICATIONS	
Marking: ATEX	I M1 Ex ia I Ma II 1G Ex ia IIC T3 Ga
Marking: NEC 500	CLASS I DIV 1 GRPS A-D T3 CLASS II & III GRPS E-G T135C CLASS I ZONE 0 AEx ia IIC T3 Ga CLASS I ZONE 0 Ex ia IIC T3 Ga
Certificate:	EU-Type Examination Certificate
Ingress protection:	IP67
Light Source:	CREE LED (50,000 + hours LED life)
Run time:	Flashlight: 18 h White Floodlight: High 13,5 h | Low 75 h Red Floodlight: 37 h Dual-Light: 6,5 h
Luminous flux:	Flashlight: 100 lm White Floodlight: High: 90 lm | Low: 20 lm Dual-Light: 175 lm Red Spotlight: 18 lm
Beam distance:	140 m
Power source:	3 x AAA (included)
Weight:	269 g
Dimensions:	84 x 84 x 89 mm
Operating temperature:	-20°C to +40°C

XPP-5460GX LOW-PROFILE DUAL-LIGHT HEADLAMP

Zones 0, 1, 2

ATEX HEADLAMPS | **ZONES 0, 1, 2 (gaz)**

This X-Series Intrinsically Safe low-profile Dual-Light headlamp is cULus, ATEX and IECEx listed Intrinsically Safe and is designed specifically to work on fire helmets and hard-hats that have a flip-up face shield.

Focused high/low-brightness spotlight beam for distance illumination.
Unfocused high/low-brightness wide-beam floodlight for close-up illumination.
Dual-Light (spotlight and floodlight on at the same time) for maximum versatility.

EU-Type Examination Certificate

The XPP-5462GX includes a heavy-duty rubber head strap for use on a fire helmet or hard-hat, and is powered by 3 AAA batteries (included).

ITEM REFERENCES	
Designation:	**Item No.:**
XPP-5460GX	1E1401

TECHNICAL SPECIFICATIONS	
Marking: ATEX	II 1G Ex ia IIC T4 Ga
Marking: NEC 500	CLASS I DIV 1 GRPS A-D T4 CLASS II & III DIV 1 GRPS E-G CLASS I ZONE 0 GRP IIC T4 CLASS II ZONE 20 IIIC T135°C
Certificate:	EU-Type Examination Certificate
Ingress protection:	IP67
Lamp:	CREE LED (50,000 + hours LED life)
Run time:	Flashlight: High 3,5 h | Low 10 h Floodlight: High 3,5 h | Low 10 h Dual-Light: 3 h
Luminous flux:	Flashlight: High:180 lm | Low 100 lm Floodlight: High 180 lm | Low 100 lm Dual-Light: 200 lm
Beam distance:	106 m
Power source:	3 Alkaline AAA batteries (included)
Weight:	165 g
Dimesions:	90 x 40 x 47 mm
Operating temperature:	-20°C to +40°C

CONTACT – (+34) 943 530 095 | inpratex@inpratex.com

XPP-5462GX LOW-PROFILE DUAL-LIGHT HEADLAMP

Zones 0, 1, 2

ATEX HEADLAMPS | ZONES 0, 1, 2 (gaz)

Intrinsically Safe Low-Profile Dual-Light™ Headlamp is cULus, ATEX and IECEx listed Intrinsically Safe and is designed specifically to work on fire helmets and hard-hats that have a flip-up face shield.

EU-Type Examination Certificate

Focused high/low-brightness spotlight beam for distance illumination.
Unfocused high/low-brightness wide-beam floodlight for close-up illumination.
Dual-Light (spotlight and floodlight on at the same time) for maximum versatility.

Submersible up to 1 meter.

The XPP-5462GX includes a heavy-duty rubber head strap for use on a fire helmet or hard-hat.

ITEM REFERENCES	
Designation:	**Item No.:**
XPP-5462GX	1E1801

TECHNICAL SPECIFICATIONS	
Marking: ATEX	II 1G Ex ia IIC T4 Ga
Marking: NEC 500	CLASS I DIV 1 GRPS A-D T4 CLASS II & III DIV 1 GRPS E-G CLASS I ZONE 0 GRP IIC T4 CLASS II ZONE 20 IIIC T135°C
Certificate:	EU-Type Examination Certificate
Ingress protection:	IP67
Lamp:	LED
Run time:	Flashlight: High 6,75 h | Low 25 h Floodlight: High 7 h | Low 25 h Dual-Light: 6 h
Luminous flux:	Flashlight: High 275 lm | Low: 100 lm Floodlight: High: 250 lm | Low: 100 lm Dual-Light: 310 lm
Beam distance:	106 m
Power source:	3 x AA batteries (included)
Weight:	265 g
Dimensions:	32 x 95 x 25 mm
Operating temperature:	-20°C a +40°C

XPR-5562GX USB LOW-PROFILE DUAL-LIGHT HEADLAMP

Zones 0, 1, 2

ATEX HEADLAMPS | **ZONES 0, 1, 2 (gaz)**

The USB Intrinsically Safe Rechargeable Dual-Light Headlamp is cULus, ATEX and IECEx listed Intrinsically Safe and is designed to work on hard-hats and fire helmets that have a flip-up face shield.

The unique low-profile shape allows you to work without removing the headlamp when raising or lowering a face shield.
The XPR-5562GX is manufactured from engineered polymer and features a multi-position tilt head design. Both the spotlight and the floodlight use LED technology with advanced (TIR) Total Internal Reflection lens designed to optimize lumen output and beam pattern.

Enlarged front-mounted dual switches provide easy access to the spotlight for distance illumination, the floodlight for close-up illumination, and Dual-Light for maximum lighting, versatility, and user safety.

The XPR-5562GX includes a heavy-duty rubber head strap, a 4 foot USB magnetic coupler charge card, and is powered by a Li-Ion rechargeable battery.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
XPR-5562GX	1E2001

TECHNICAL SPECIFICATIONS	
Marking: ATEX	II 1G Ex ia op is IIC T4 Ga
Marking: NEC 500	CLASS I DIV 1 GRPS A-D T4 CLASS II & III DIV 1 GRPS E-G T135°C CLASS I ZONE 0 AEx ia op is IIC T4 Ga
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Case material:	Engineered polymer
Spotlight Lumens/Runtime:	HIGH: 275 lm, 6 hrs. runtime | LOW: 100 lm, 15 hrs. runtime
Floodlight Lumens/Runtime:	HIGH: 250 lm, 6 hrs. runtime | LOW: 100 lm, 15 hrs. runtime
Dual-light Lumens/Runtime:	300 lm, 5 hrs. runtime
Candela:	HIGH: 3,660
Beam distance:	120 m
Ingress protection:	IP67
Drop rating:	2 meters
Dimensions:	LENGTH: 31 mm | WIDTH: 95 mm | DEPTH: 25 mm
Weight:	164 g
Battery:	Integrated Li-ion

EXPLOSION-PROOF HEADLAMP STL 1 EX

Zones 0, 1, 2

ATEX HEADLAMPS | ZONES 0, 1, 2 (gas)

STL 1 EX is a high-power LED head lamp for use in hazard zones and is equipped with three AAA alkaline batteries. The lamp has two light modes, is extremely bright and has a long operating time

Setting the tilt angle possible in locking steps.

Two brightness levels:
approx. 6.5 h / 174 lm (100%)
approx. 13 h / 90 lm (50%)

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
STL 1 Ex	1G0101

TECHNICAL SPECIFICATIONS		
Marking:	II 1G Ex ia IIC T4	
Certificate:	EU-Type Examination Certificate	
Housing:	Robust casing, screw fastening due to safety reasons	
Ingress protection:	IP67	
Lamp:	LED CREE	
Luminous flux:	174 lm (100%)	90 lm (50%)
Beam distance:	Approx. 100 m	
Run time:	6,5 h (100%)	13 h (50%)
Power source:	3x AAA alkaline (included)	
Weight:	Approx. 165 g	

3 SIGNALLING DEVICES

3 - SIGNALLING DEVICES

Inpratex offers a comprehensive range of ATEX-certified optical and acoustic signalling equipment, designed for safe installation and operation in hazardous areas with a risk of explosion.

The range includes high-power, heavy-duty signalling beacons, particularly suitable for use in refineries, offshore platforms, chemical and petrochemical industries, as well as marine environments, always complying with the required level of protection for each ATEX zone.

Inpratex also supplies high sound output sirens and loudspeakers, manufactured from highly resistant materials, ensuring reliable performance even under demanding environmental conditions.

The ATEX signalling equipment range is completed with combined optical-acoustic signalling devices, integrating light and sound in a single unit to provide fast and effective warning in potentially explosive atmospheres.

3.1 - OPTICAL SIGNALLING 112

3.2 - ACOUSTIC SIGNALLING 132

3.3 - OPTICAL & ACOUSTIC SIGNALLING 146

Our product ranges are constantly updated on our website: ***www.inpratex.com***

3.1

OPTICAL SIGNALLING

BC 150 LED BEACON / LIGHT - GRP

Zones 1, 2, 21, 22

ATEX VISUAL SIGNALLING DEVICES

ZONES 1, 2 (gas) & 21, 22 (dust)

This beacon is certified for use in ATEX/Explosive Atmosphere, zone 1 & 2 for gas and zone 21 & 22 for dust. It is dedicated for Oil & Gas,chemical, petrochemical, pharmacy industries, marine and offshore applications.

It's designed for corrosive environnements and hazardous area. The BC150 can also be used as status light.

Housing is moulded Glass-Reinforced Polyester (GRP), dyed in the mass and protected by an UV resistant paint, the lens is made of borosilicate glass.

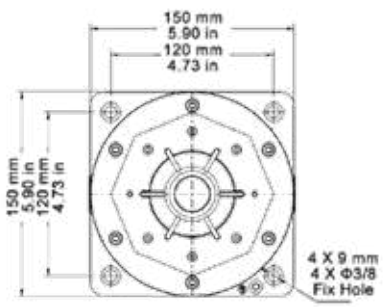
Four flashing frequencies are selectable.

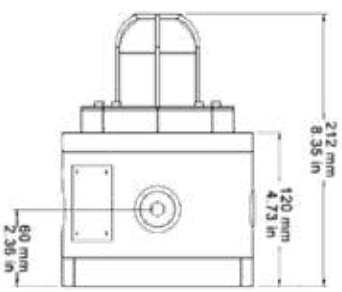
Optionally it is possible to control the beacon via a telephone line.

EU-Type Examination Certificate

ITEM REFERENCES		
Designation:	**Power consumption:**	**Item No.:**
BC 150 12-48 VDC LED 10W Red	12VDC-1100mA / 24VDC-530mA / 48VDC-240 mA	2A1801
BC 150 12-48 VDC LED 10W Amber	12VDC-1100mA / 24VDC-530mA / 48VDC-240 mA	2A1802
BC 150 12-48 VDC LED 10W Blue	12VDC-1100mA / 24VDC-530mA / 48VDC-240 mA	2A1803
BC 150 12-48 VDC LED 10W Green	12VDC-1100mA / 24VDC-530mA / 48VDC-240 mA	2A1804
BC 150 12-48 VDC LED 10W White	12VDC-1100mA / 24VDC-530mA / 48VDC-240 mA	2A1805
BC 150 100-240 VAC LED 10W Red	110VAC-160mA / 220VAC-80mA	2A1806
BC 150 100-240 VAC LED 10W Amber	110VAC-160mA / 220VAC-80mA	2A1807
BC 150 100-240 VAC LED 10W Blue	110VAC-160mA / 220VAC-80mA	2A1808
BC 150 100-240 VAC LED 10W Green	110VAC-160mA / 220VAC-80mA	2A1809
BC 150 100-240 VAC LED 10W White	110VAC-160mA / 220VAC-80mA	2A1810

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db IIC T4-T6 Gb II 2D Ex tb IIIC T135°C - T85° Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-40°C to +55°C (T6) / -40°C to +60°C (T5) / -40°C to +70°C (T4)
Operating mode:	Steady / Rotary / Fixed / Blinking
Housing:	Glass-Reinforced Polyester (GRP). Lens: Tempered borosilicate glass 3.3.
Enclosure colour:	Red (RAL 3001/3028) | On request: Black (RAL 9005) | Orange: (RAL 2010) | Yellow (RAL 1018) | Green (RAL 6032) | Blue (RAL 5005) | Grey (RAL 7038)
Power:	10W
Light intensity:	312 Cd
Weight:	3,6 kg
Ingress protection:	IP66/67
Cable entries:	4xM20x1,5 (cable glands / plugs not included)





BC 125 LED BEACON / LIGHT - STAINLESS STEEL

Zones 1, 2, 21, 22

ATEX VISUAL SIGNALLING DEVICES | ZONES 1, 2 (gas) & 21, 22 (dust)

BC 125 Ex Beacon – Status Light. This beacon is certified for use in explosive atmosphere, zones 1 & 2 for gas and zones 21 & 22 for dust. It is dedicated for Oil & Gas, chemical, petrochemical, pharmacy industries, marine and offshore applications.

It's designed for corrosive environnements and hazardous area.
The BC125 can also be used as status light.

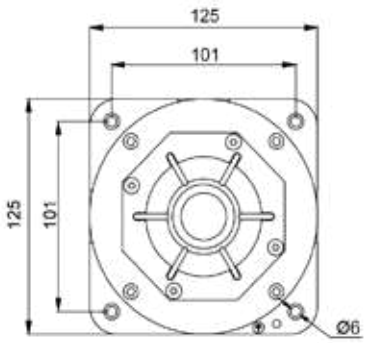
Optionally it is possible to control the beacon via a telephone line.

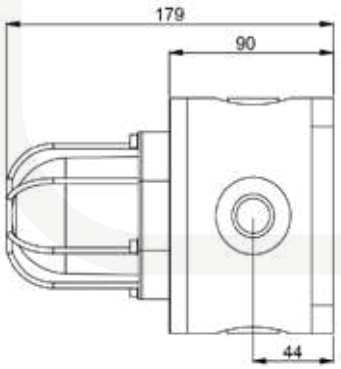
Housing in stainless steel 316L covered with UV resistant paint, the lens in borosilicate glass.

EU-Type Examination Certificate

ITEM REFERENCES		
Designation:	**Power consumption:**	**Item No.:**
BC 125 12-48 VDC LED 10W Red	12VDC-1100mA / 24VDC-530mA / 48VDC-240 mA	2A2101
BC 125 12-48 VDC LED 10W Amber	12VDC-1100mA / 24VDC-530mA / 48VDC-240 mA	2A2102
BC 125 12-48 VDC LED 10W Blue	12VDC-1100mA / 24VDC-530mA / 48VDC-240 mA	2A2103
BC 125 12-48 VDC LED 10W Green	12VDC-1100mA / 24VDC-530mA / 48VDC-240 mA	2A2104
BC 125 12-48 VDC LED 10W White	12VDC-1100mA / 24VDC-530mA / 48VDC-240 mA	2A2105
BC 125 100-240 VAC LED 10W Red	110VAC-160mA / 220VAC-80mA	2A2106
BC 125 100-240 VAC LED 10W Amber	110VAC-160mA / 220VAC-80mA	2A2107
BC 125 100-240 VAC LED 10W Blue	110VAC-160mA / 220VAC-80mA	2A2108
BC 125 100-240 VAC LED 10W Green	110VAC-160mA / 220VAC-80mA	2A2109
BC 125 100-240 VAC LED 10W White	110VAC-160mA / 220VAC-80mA	2A2110

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db IIC T4-T6 Gb II 2D Ex tb IIIC T135°C - T85° Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-40°C to +55°C (T6) / -40°C to +60°C (T5) / -40°C to +70°C (T4)
Operating mode:	Steady / Rotary / Fixed / Blinking
Housing:	Stainless Steel AISI 316L. Lens: Tempered borosilicate glass 3.3.
Enclosure colour:	Red (RAL 3001) | On request: Black (RAL 9005) | Orange: (RAL 2010) | Yellow (RAL 1018) | Green (RAL 6032) | Blue (RAL 5005) | Grey (RAL 7038)
Power:	10W
Light intensity:	312 Cd
Weight:	5,1 kg
Ingress protection:	IP66/67
Cable entries:	4xM20x1,5 (cable glands / plugs not included)





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ATEX VISUAL SIGNALLING DEVICES | ZONES 1, 2 (gas) & 21, 22 (dust)

Explosion proof optical signallers suitable for hazardous area Zone 1 & Zone 21. EVC 50/F optical signallers are normally associated to alarm and signalling systems, either fixed or mobile.

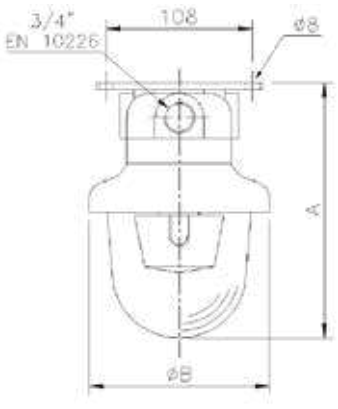
They have reduced dimensions, they are completed with blinking Xenon flash lamp.

EU-Type Examination Certificate

ITEM REFERENCES						
Designation:	Color:	Voltage/Frequency:	Current:	Power:	Blinking:	Item No.:
EVC 50/F LB 12/24	Light Blue	12/24 VAC/DC ---	90...130 mA	1...3 W	75 cycles/min	2A2501
EVC 50/F W 12/24	White					2A2502
EVC 50/F Y 12/24	Yellow					2A2503
EVC 50/F O 12/24	Orange					2A2504
EVC 50/F R 12/24	Red					2A2505
EVC 50/F G 12/24	Green					2A2506
EVC 50/F LB 110	Light Blue	110 VAC 50/60 Hz	15 mA	1,8 W	110 cycles/min	2A2507
EVC 50/F W 110	White					2A2508
EVC 50/F Y 110	Yellow					2A2509
EVC 50/F O 110	Orange					2A2510
EVC 50/F R 110	Red					2A2511
EVC 50/F G 110	Green					2A2512
EVC 50/F LB 230	Light Blue	230 V 50/60 Hz	10 mA	2,5 W	110 cycles/min	2A2513
EVC 50/F W 230	White					2A2514
EVC 50/F Y 230	Yellow					2A2515
EVC 50/F O 230	Orange					2A2516
EVC 50/F R 230	Red					2A2517
EVC 50/F G 230	Green					2A2518

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db IIC T6 Gb II 2D Ex tb IIIC T85°C Db
Certificate:	EU-Type Examination Certificate
Operating mode:	Blinking
Operating temperature:	-20°C to +40°C
Ingress protection:	IP65
Housing:	Aluminium light alloy (RAL 7000) Tempered borosilicate globe
Connection:	E27
Thermal emission:	6 J
Weight:	1,5 kg
Cable entries:	2x3/4" NPT (cable glands/plugs not included)

DIMENSIONS	
A: 200mm	ØB: 135mm



EXPLOSION-PROOF STROBE LIGHT DSLB 20

Zones 1, 2, 21, 22

ATEX VISUAL SIGNALLING DEVICES

ZONES 1, 2 (gas) & 21, 22 (dust)

Optical signalling is often required for warning or notifying purposes in potentially explosive areas. The Strobe Light dSLB20 provides suitable signalling for these purposes.

It is designed for continuous operation and available for different operating voltages.

The dSLB20 is activated by connecting the power supply. The sturdy housing of ingress protection IP 66/67 is suitable for both indoor and outdoor applications.

The Ex II strobe light has a small flameproof aluminium housing containing the electronics. The cap is made of hardened borosilicate glass.

The terminal compartment is of protection type “increased safety”.

A signalling combination can be established using the provided stainless steel mounting plate with integrated junction box.

EU-Type Examination Certificate

ITEM REFERENCES					
Designation:	Voltage:	Operating range:	Flash energy:	Current consumption:	Item No.:
dSLB 20 15 24 TRANSPARENT	24 VDC	21-53 VDC	15 J	1 A	2A0101A
dSLB 20 15 24 RED	24 VDC	21-53 VDC	15 J	1 A	2A0101B
dSLB 20 15 24 AMBER	24 VDC	21-53 VDC	15 J	1 A	2A0101C
dSLB 20 15 24 GREEN	24 VDC	21-53 VDC	15 J	1 A	2A0101D
dSLB 20 15 24 BLUE	24 VDC	21-53 VDC	15 J	1 A	2A0101E
dSLB 20 15 230 TRANSPARENT	230 VAC	207-253 VAC	15 J	200 mA	2A0103A
dSLB 20 15 230 RED	230 VAC	207-253 VAC	15 J	200 mA	2A0103B
dSLB 20 15 230 AMBER	230 VAC	207-253 VAC	15 J	200 mA	2A0103C
dSLB 20 15 230 GREEN	230 VAC	207-253 VAC	15 J	200 mA	2A0103D
dSLB 20 15 230 BLUE	230 VAC	207-253 VAC	15 J	200 mA	2A0103E
dSLB 20 5 12 TRANSPARENT	12 VDC	10-14 VDC	5 J	600 mA	2A0104A
dSLB 20 5 12 RED	12 VDC	10-14 VDC	5 J	600 mA	2A0104B
dSLB 20 5 12 AMBER	12 VDC	10-14 VDC	5 J	600 mA	2A0104C
dSLB 20 5 12 GREEN	12 VDC	10-14 VDC	5 J	600 mA	2A0104D
dSLB 20 5 12 BLUE	12 VDC	10-14 VDC	5 J	600 mA	2A0104E
dSLB 20 5 24 TRANSPARENT	24 VDC	21-53 VDC	5 J	280 mA	2A0105A
dSLB 20 5 24 RED	24 VDC	21-53 VDC	5 J	280 mA	2A0105B
dSLB 20 5 24 AMBER	24 VDC	21-53 VDC	5 J	280 mA	2A0105C
dSLB 20 5 24 GREEN	24 VDC	21-53 VDC	5 J	280 mA	2A0105D
dSLB 20 5 24 BLUE	24 VDC	21-53 VDC	5 J	280 mA	2A0105E
dSLB 20 5 230 TRANSPARENT	230 VAC	207-253 VAC	5 J	130 mA	2A0108A
dSLB 20 5 230 RED	230 VAC	207-253 VAC	5 J	130 mA	2A0108B
dSLB 20 5 230 AMBER	230 VAC	207-253 VAC	5 J	130 mA	2A0108C
dSLB 20 5 230 GREEN	230 VAC	207-253 VAC	5 J	130 mA	2A0108D
dSLB 20 5 230 BLUE	230 VAC	207-253 VAC	5 J	130 mA	2A0108E

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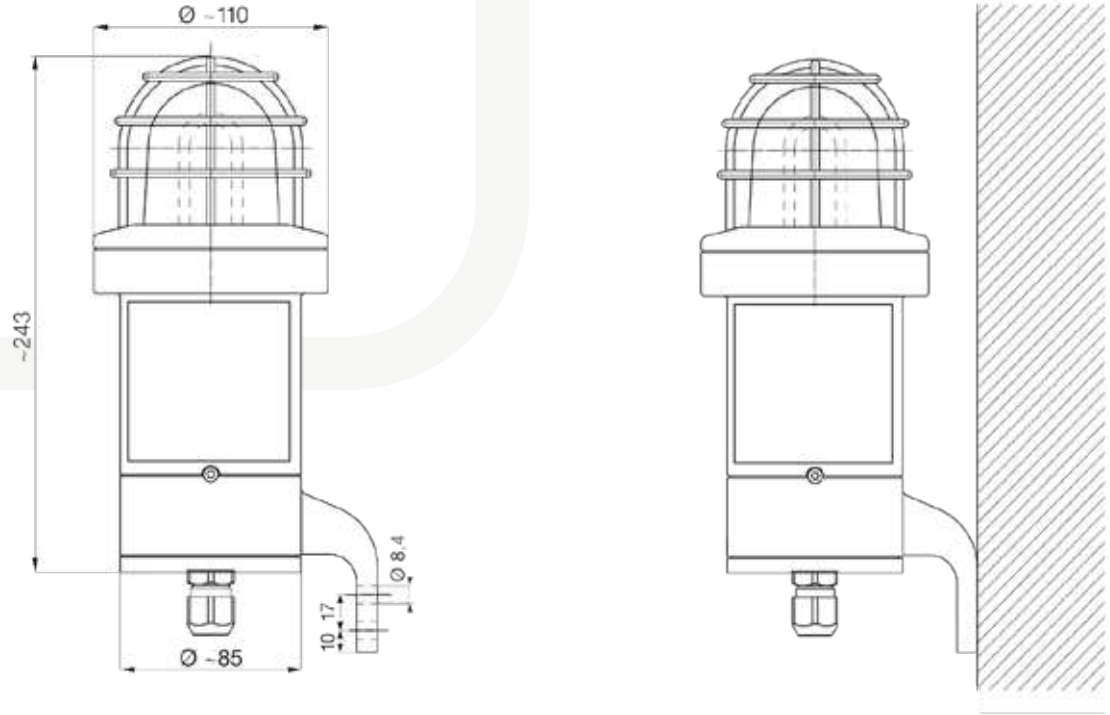
EXPLOSION-PROOF STROBE LIGHT DSLB 20

Zones 1, 2, 21, 22

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex d e IIC T5, T6 Gb II 2D Ex tb IIIC T95°C, T80°C Db
Certificate:	EU-Type Examination Certificate
Operating conditions:	Indoor / Outdoor
Operating mode:	Continuous operation
Operating position:	Any
Housing:	Aluminium, surface varnished or powder-coated. Colour: Yellow / Blue
Cap:	Borosilicate glass dome with stainless steel protection cage
Cap colour:	Red, amber, green and blue
Lamp:	Xenon
Flash energy:	5 J / 15 J
Flash frequency:	Approx. 60/min (1 Hz)
Average life cycle	Approx. $5x10^6$ flashes
Weight:	Approx. 2 kg
Operating temperature:	-55°C to +40°C (T6) | -55°C to +55°C (T5)
Ingress protection:	IP66/67
Connection terminals:	Terminal capacity: 2,5 mm^2 single-wire | 1,5 mm^2 fine-wire Protective earth – Screw connection with wire protection clamp in connection enclosure max. 2.5 mm^2 Equipotential – Screw connection with wire bonding con-ductor protection clamp outside, cross section max. 4 mm
Cable entries:	1xM20x1,5 plastic cable gland | 1xM20x1,5 plug



ATEX VISUAL SIGNALLING DEVICES

ZONES 1, 2 (gas) & 21, 22 (dust)

Optical signalling is often required for warning or notifying purposes in potentially explosive areas. The Strobe Light dSLB 20 LED provides suitable signalling for these purposes. It is designed for continuous operation and available for different operating voltages.

The dSLB 20 LED is activated by connecting the power supply. The sturdy housing of ingress protection IP66/67 is suitable for both indoor and outdoor applications.

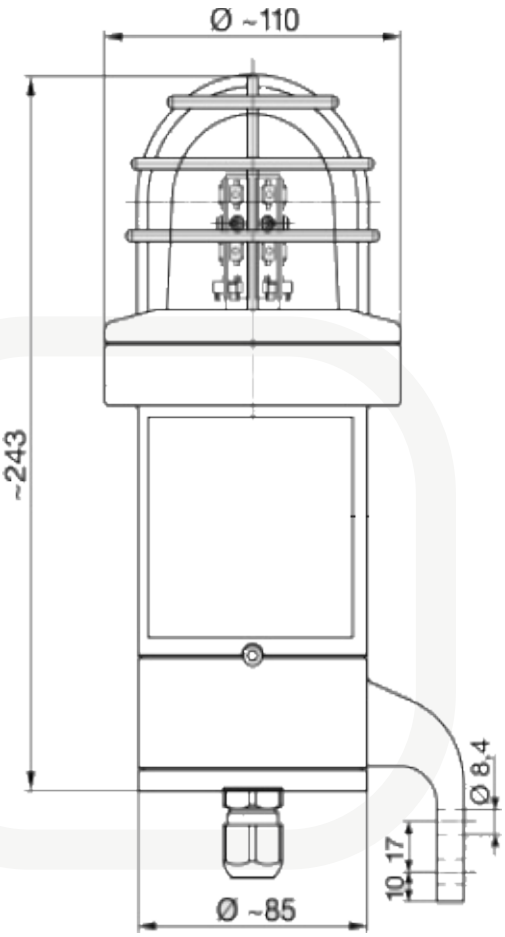
The Ex II strobe light has a small flameproof aluminium housing containing the electronics. The cap is made of hardened borosilicate glass.
The terminal compartment is of protection type “increased safety”.

A signalling combination can be established using the provided stainless steel mounting plate with integrated junction box.

EU-Type Examination Certificate

ITEM REFERENCES		
Designation:	**Operating range:**	**Item No.:**
dSLB 20 LED 24 TRANSPARENT	24 VDC	2A0202A
dSLB 20 LED 24 RED	24 VDC	2A0202B
dSLB 20 LED 24 AMBER	24 VDC	2A0202C
dSLB 20 LED 24 GREEN	24 VDC	2A0202D
dSLB 20 LED 24 BLUE	24 VDC	2A0202E
dSLB 20 LED 220 TRANSPARENT	80...265 VAC	2A0204A
dSLB 20 LED 220 RED	80...265 VAC	2A0204B
dSLB 20 LED 220 AMBER	80...265 VAC	2A0204C
dSLB 20 LED 220 GREEN	80...265 VAC	2A0204D
dSLB 20 LED 220 BLUE	80...265 VAC	2A0204E

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex de IIC T5, T6 Gb II 2D Ex tb IIIC T95°C, T80° Db
Certificate:	EU-Type Examination Certificate
Operating conditions:	Indoor / Outdoor
Housing:	Aluminium, surface varnished or powder-coated. Borosilicate glass dome
Protection cage:	Stainless steel
Cap colour:	Transparent, Red, Amber, Green, Blue
Weight:	Approx. 2 kg
Operating temperature:	-40°C to +40°C
Ingress protection:	IP66/67
Cable entries:	1xM20x1,5 plastic cable gland



ATEX VISUAL SIGNALLING DEVICES | ZONES 1, 2 (gas) & 21, 22 (dust)

SL 150 combined status lights in GRP. This signalling device is certified for use in ATEX zones 1,2 for gas and 21,22 for dust.

Suitable for Oil & Gas, chemical, petrochemical, pharmacy industries, marine and offshore applications.

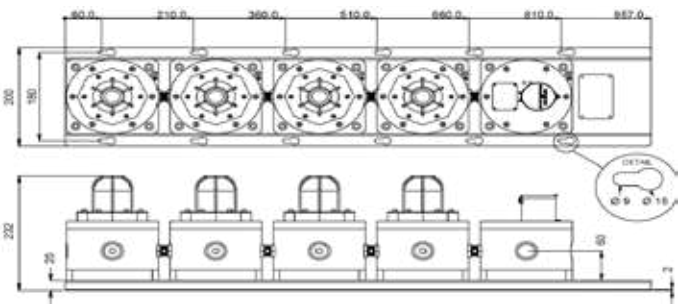
It's designed for corrosive environments and hazardous areas.

Possibility to pilot all, or separately the beacons via a telephone line.

EU-Type Examination Certificate

ITEM REFERENCES			
Designation:	**Power consumption:**	**Weight:**	**Item No.:**
SL-150-A20 24V - 2 beacons	12 - 48V DC	8,9 kg	2A1901
SL-150-A20 220V - 2 beacons	100 - 240V AC	8,9 kg	2A1902
SL-150-B3J 24V - 2 beacons + junction box	12 - 48V DC	13,1 kg	2A1903
SL-150-B3J 220V - 2 beacons + junction box	100 - 240V AC	13,1 kg	2A1904
SL-150-B30 24V - 3 beacons	12 - 48V DC	13,1 kg	2A1905
SL-150-B30 220V - 3 beacons	100 - 240V AC	13,1 kg	2A1906
SL-150-C4J 24V - 3 beacons + junction box	12 - 48V DC	17,4 kg	2A1907
SL-150-C4J 220V - 3 beacons + junction box	100 - 240V AC	17,4 kg	2A1908
SL-150-C40 24V - 4 beacons	12 - 48V DC	17,4 kg	2A1909
SL-150-C40 220V - 4 beacons	100 - 240V AC	17,4 kg	2A1910
SL-150-D5J 24V - 4 beacons + junction box	12 - 48V DC	21,6 kg	2A1911
SL-150-D5J 220V - 4 beacons + junction box	100 - 240V AC	21,6 kg	2A1912
Lens colour: Red, Amber, Blue, Green, Clear			

TECHNICAL SPECIFICATIONS	
Marking:	Ex II 2G Ex d IIC T4...T6 Gb Ex II 2D Ex tb IIIC T135°C...T85°C
Certificate:	EU-Type Examination Certificate
Operating mode:	Steady, rotary, fixed or blinking
Housing:	ENCLOSURE: Glass Reinforced Polyester. LENS: Tempered borosilicate glass 3.3. FRAME: Stainless Steel 316L
Housing colour:	Black (RAL 9004) | Red (RAL 3001) | Yellow (RAL 1018) | Blue (RAL 5005)
Power:	LED 10W
Light intensity:	312 Cd
Operating temperature:	-40°C to +70°C
Ingress protection:	IP66/67
Cable entries:	3xM20x1,5 holes



SL 125 COMBINED STATUS LIGHTS - STAINLESS STEEL

Zones 1, 2, 21, 22

ATEX VISUAL SIGNALLING DEVICES

ZONES 1, 2 (gas) & 21, 22 (dust)

SL-125 combined status lights in stainless steel. This signalling device is certified for use in ATEX zones 1,2 for gas and 21,22 for dust.

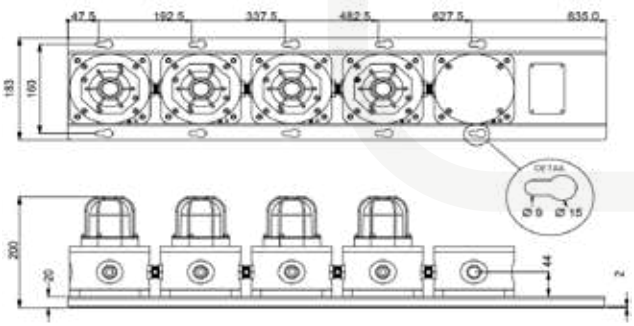
Suitable for Oil & Gas, chemical, petrochemical, pharmacy industries, marine and offshore applications.

Possibility to pilot all, or separately the beacons via a telephone line.

EU-Type Examination Certificate

ITEM REFERENCES			
Designation:	**Power consumption:**	**Weight:**	**Item No.:**
SL-125-A20 24V - 2 beacons	12 - 48V DC	10,2 kg	2A2201
SL-125-A20 220V - 2 beacons	100 - 240V AC	10,2 kg	2A2202
SL-125-B3J 24V - 2 beacons + junction box	12 - 48V DC	15 kg	2A2203
SL-125-B3J 220V - 2 beacons + junction box	100 - 240V AC	15 kg	2A2204
SL-125-B30 24V - 3 beacons	12 - 48V DC	15 kg	2A2205
SL-125-B30 220V - 3 beacons	100 - 240V AC	15 kg	2A2206
SL-125-C4J 24V - 3 beacons + junction box	12 - 48V DC	20 kg	2A2207
SL-125-C4J 220V - 3 beacons + junction box	100 - 240V AC	20 kg	2A2208
SL-125-C40 24V - 4 beacons	12 - 48V DC	20 kg	2A2209
SL-125-C40 220V - 4 beacons	100 - 240V AC	20 kg	2A2210
SL-125-D5J 24V - 4 beacons + junction box	12 - 48V DC	24,5 kg	2A2211
SL-125-D5J 220V - 4 beacons + junction box	100 - 240V AC	24,5 kg	2A2212
Lens colour: Red, Amber, Blue, Green, Clear			

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex d IIC T4...T6 Gb II 2D Ex tb IIIC T135°C...T85°C
Certificate:	EU-Type Examination Certificate
Operating mode:	Steady, rotary, fixed or blinking
Housing:	ENCLOSURE & FRAME: Stainless Steel 316. LENS: Tempered borosilicate glass 3.3
Housing colour:	Black (RAL 9004) | Red (RAL 3001) | Yellow (RAL 1018) | Blue (RAL 5005)
Power:	LED 10W
Light intensity:	312 Cd
Operating temperature:	-40°C to +70°C
Ingress protection:	IP66/67
Cable entries:	3xM20x1,5 holes



AR-047 LED SIGNAL LIGHT - ALUMINIUM

Zones 1, 2, 21, 22

ATEX VISUAL SIGNALLING DEVICES | ZONES 1, 2 (gas) & 21, 22 (dust)

The AR-047 omnidirectional explosion-safe LED signal light is designed for use under the most demanding conditions. The robust anodized aluminum housing and top plate, the 20 mm thick impact-resistant window, the O-ring seal and cast electronics ensure that the lamp is completely impervious to water and salt.

The latest generation LEDs ensure a clearly perceptible visual signal. Depending on the user's selection, the light will burn continuously or it blinks at a frequency of 1 Hertz. The signal light can be ordered with a radial cable connection or with a bottom connection. This makes the lamp highly suitable for use as a warning light on control cabinets.

EU-Type Examination Certificate

The connection cable has a standard length of 5 meters.

ITEM REFERENCES			
Designation:	Light color:	Cable position:	Item No.:
AR-047 / 0 3 1 - R	Red	Radial (default, see picture)	2A2310
AR-047 / 1 3 1 - R	Red	Axial	2A2311
AR-047 / 0 3 1 - Y	Yellow / Amber	Radial (default, see picture)	2A2312
AR-047 / 1 3 1 - Y	Yellow / Amber	Axial	2A2313
AR-047 / 0 3 1 - G	Green	Radial (default, see picture)	2A2314
AR-047 / 1 3 1 - G	Green	Axial	2A2315

TECHNICAL SPECIFICATIONS	
Marking:	Ex II 2G Ex mb IIC T4 Gb Ex II 2D Ex mb IIIC T135°C Db
Certificate:	EU-Type Examination Certificate
Light color:	Red (625 nm), Yellow / Amber (610 nm) or Green (530 nm)
Luminance:	Red: 4.250 Cd/m² | Yellow / Amber: 6.350 Cd/m² | Green: 8.300 Cd/m²
Lighting mode:	Continuous or blinking, user selectable – 4-wire connection
Material:	Anodized aluminum housing, 20 mm impact-resistant window
Ingress protection:	IP65 according to EN 60529
Supply voltage:	24-48 VDC ± 10%
Nominal current:	160 mA @ 24 VDC
Connection:	Fixed cable, 4 x 0,75 mm², length 5 m
Earth connection:	External, stainless steel, 4 mm²
Ambient temperature:	-20 °C to +60 °C
Dimensions:	Ø 95 x 60 mm (excl. cable gland)
Mounting:	Stainless steel bracket
Weight:	930 gr

AR-047 LED SIGNAL LIGHT - STAINLESS STEEL

Zones 1, 2, 21, 22

ATEX VISUAL SIGNALLING DEVICES | ZONES 1, 2 (gas) & 21, 22 (dust)

The AR-047 omnidirectional explosion-safe LED signal light is designed for use under the most demanding conditions. The robust stainless steel AISI 316 housing and top plate, the 20 mm thick impact-resistant window, the O-ring seal and cast electronics ensure that the lamp is completely impervious to water and salt.

The latest generation LEDs ensure a clearly perceptible visual signal. Depending on the user's selection, the light will burn continuously or it blinks at a frequency of 1 Hertz. The signal light can be ordered with a radial cable connection or with a bottom connection. This makes the lamp highly suitable for use as a warning light on control cabinets.

The connection cable has a standard length of 5 meters.

EU-Type Examination Certificate

ITEM REFERENCES			
Designation:	Light color:	Cable position:	Item No.:
AR-047 / 0 3 3 - R	Red	Radial (default, see picture)	2A2320
AR-047 / 1 3 3 - R	Red	Axial	2A2321
AR-047 / 0 3 3 - Y	Yellow / Amber	Radial (default, see picture)	2A2322
AR-047 / 1 3 3 - Y	Yellow / Amber	Axial	2A2323
AR-047 / 0 3 3 - G	Green	Radial (default, see picture)	2A2324
AR-047 / 1 3 3 - G	Green	Axial	2A2325

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex mb IIC T4 Gb II 2D Ex mb IIIC T135°C Db
Certificate:	EU-Type Examination Certificate
Light color:	Red (625 nm), Yellow / Amber (610 nm) or Green (530 nm)
Luminance:	Red: 4.250 Cd/m² | Yellow / Amber: 6.350 Cd/m² | Green: 8.300 Cd/m²
Lighting mode:	Continuous or blinking, user selectable – 4-wire connection
Material:	AISI 316 stainless steel, 20 mm impact-resistant window
Ingress protection:	IP65 according to EN 60529
Supply voltage:	24-48 VDC ± 10%
Nominal current:	160 mA @ 24 VDC
Connection:	Fixed cable, 4 x 0,75 mm², length 5 m
Earth connection:	External, stainless steel, 4 mm²
Ambient temperature:	-20 °C to +60 °C
Dimensions:	Ø 95 x 60 mm (excl. cable gland)
Mounting:	Stainless steel bracket
Weight:	1750 gr

AR-048 LED SIGNAL LIGHT - ALUMINIUM

Zones 1, 2, 21, 22

ATEX VISUAL SIGNALLING DEVICES ZONES 1, 2 (gas) & 21, 22 (dust)

The explosion-safe AR-048 LED warning light is designed for use under the most demanding conditions. The robust aluminium housing, the 4 mm thick impact-resistant window, the O-ring seal and molded electronics ensure that the lamp is completely impervious to water and salt.

The latest generation LEDs ensure a clearly perceptible visual signal.
Dependent on the execution, the light will burn continuously or it blinks at a frequency of 1 Hertz. The warning light can be ordered either with a radial cable connection or with a connection on the back of the lamp.
This makes the lamp highly suitable for use as a warning light on control cabinets.

EU-Type Examination Certificate

The connection cable has a standard length of 5 meters.

ITEM REFERENCES			
Designation:	Light color:	Cable position:	Item No.:
AR-048 / 0 3 1 - R	Red	Radial (default, see picture)	2A2330
AR-048 / 1 3 1 - R	Red	Axial	2A2331
AR-048 / 0 3 1 - Y	Yellow / Amber	Radial (default, see picture)	2A2332
AR-048 / 1 3 1 - Y	Yellow / Amber	Axial	2A2333
AR-048 / 0 3 1 - G	Green	Radial (default, see picture)	2A2334
AR-048 / 1 3 1 - G	Green	Axial	2A2335

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex mb IIC T4 Gb II 2D Ex mb IIIC T135°C Db
Certificate:	EU-Type Examination Certificate
Ambient temperature:	-20 °C to +60 °C
Light color:	Red (625 nm), Yellow / Amber (610 nm) or Green (530 nm)
Light intensity:	195 lm
Lighting mode:	Continuous or blinking, user selectable – 4-wire connection
Material:	Anodized aluminum housing, 4mm impact-resistant polycarbonate window
Ingress protection:	IP65 according to EN 60529
Supply voltage:	24-48 VDC ± 10%
Nominal current:	160 mA @ 24 VDC
Connection:	Fixed cable, 4 x 0,75 mm^2, length 5 m
Earth connection:	External, stainless steel, 4 mm^2
Dimensions:	Ø 95 x 41 mm (excl. cable gland)
Mounting:	Stainless steel bracket
Weight:	830 gr

AR-048 LED SIGNAL LIGHT - STAINLESS STEEL

Zones 1, 2, 21, 22

ATEX VISUAL SIGNALLING DEVICES | ZONES 1, 2 (gas) & 21, 22 (dust)

The explosion-safe AR-048 LED warning light is designed for use under the most demanding conditions. The robust stainless steel housing, the 4 mm thick impact-resistant window, the O-ring seal and molded electronics ensure that the lamp is completely impervious to water and salt.

The latest generation LEDs ensure a clearly perceptible visual signal.
Dependent on the execution, the light will burn continuously or it blinks at a frequency of 1 Hertz. The warning light can be ordered either with a radial cable connection or with a connection on the back of the lamp.
This makes the lamp highly suitable for use as a warning light on control cabinets.

EU-Type Examination Certificate

The connection cable has a standard length of 5 meters.

ITEM REFERENCES			
Designation:	Light color:	Cable position:	Item No.:
AR-048 / 0 3 3 - R	Red	Radial (default, see picture)	2A2340
AR-048 / 1 3 3 - R	Red	Axial	2A2341
AR-048 / 0 3 3 - Y	Yellow / Amber	Radial (default, see picture)	2A2342
AR-048 / 1 3 3 - Y	Yellow / Amber	Axial	2A2343
AR-048 / 0 3 3 - G	Green	Radial (default, see picture)	2A2344
AR-048 / 1 3 3 - G	Green	Axial	2A2345

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex mb IIC T4 Gb II 2D Ex mb IIIC T135°C Db
Certificate:	EU-Type Examination Certificate
Ambient temperature:	-20 °C to +60 °C
Light color:	Red (625 nm), Yellow / Amber (610 nm) or Green (530 nm)
Light intensity:	195 lm
Lighting mode:	Continuous or blinking, user selectable – 4-wire connection
Material:	AISI 316 stainless steel, 4mm impact-resistant polycarbonate window
Ingress protection:	IP65 according to EN 60529
Supply voltage:	24-48 VDC ± 10%
Nominal current:	160 mA @ 24 VDC
Connection:	Fixed cable, 4 x 0,75 mm², length 5 m
Earth connection:	External, stainless steel, 4 mm²
Dimensions:	Ø 95 x 41 mm (excl. cable gland)
Mounting:	Stainless steel bracket
Weight:	1610 gr

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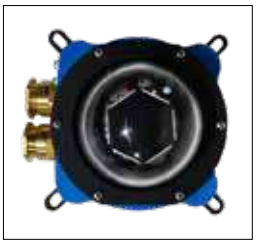
EX OBSTRUCTION LIGHT LOW INTENSITY 32 CD

Zones 1, 2

ATEX VISUAL SIGNALLING DEVICES ZONES 1, 2 (gas)

The Ex Obstruction Light Low Intensity 32 cd is a ICAO & CAP437 & CAP168 compliance 32 cd obstruction light for hazardous areas up to zone 1 for. The Ex Obstruction Light is available in several configurations such as 100-240 VAC and 24 VDC.

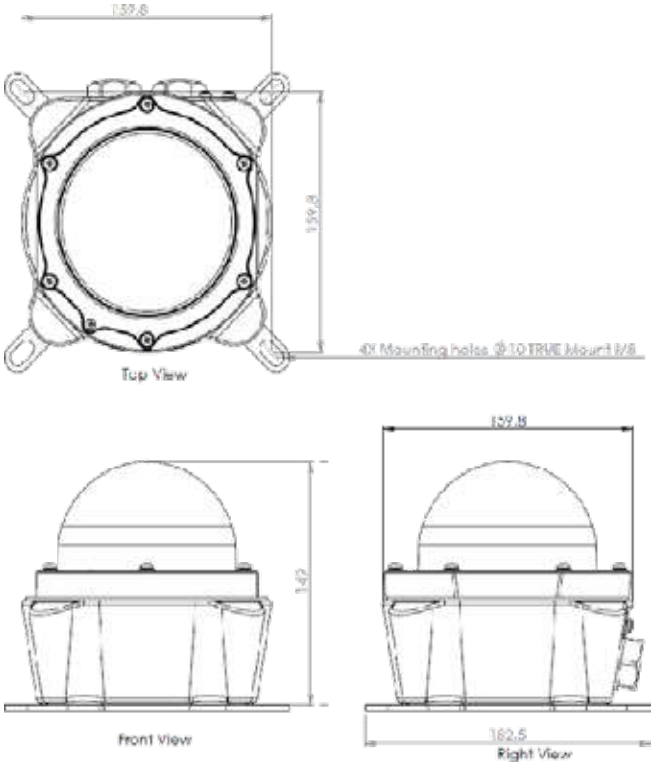
The center of the vertical beam spread must be between +4 and +20 degrees. With a minimum vertical beam spread of 10 degrees and at all radials throughout 360 degrees, there must be a minimum intensity of 32 cd.



EU-Type Examination Certificate

ITEM REFERENCES		
Designation:	**Input Voltage:**	**Item No.:**
Q81RI01 11 R1	100-240 VAC 50-60Hz	2A2701
Q81RI01 12 R1	24 VDC	2A2702

TECHNICAL SPECIFICATIONS	
Marking:	Ex II 2G Ex db op is IIC T6 Gb
Certificate:	EU-Type Examination Certificate
Operating temperature:	-25°C to + 60°C
Ingress protection:	IP67
Light Color:	Red, 630Nm
Colour chromaticity:	as per CAP437/CAP168/ICAO/FAA
Light Source:	LED, steady burning
Light Intensity:	32 cd
In Compliance With:	CAP437/CAP168/ICAO/FAA
Vertical Beam Profile:	as per CAP437/CAP168/ICAO/FAA
Life expectancy:	100.000+ hours
Enclosure:	Aluminium, Powder coated RAL5015
Lens:	Borosilicate glass
Mounting:	Rigid, 4xM8
Cable:	H07RN-F 3x2,5mm²
Consumption:	5 Watt
External earthing:	up to 4mm² / AWG 12
Weight:	2,20 kg
Dimensions:	183x183x155 mm
Cable entries:	Side: 2x M25x1,5 cable glands (12-19mm) Botttom: 1x M25x1,5 plug



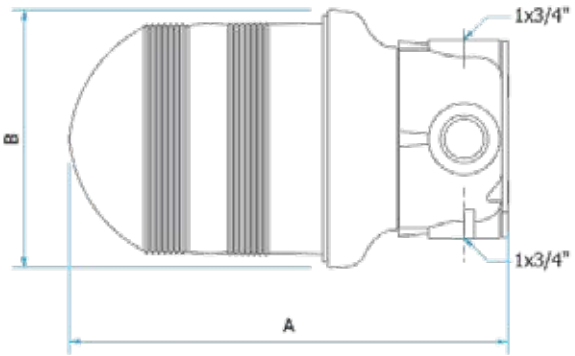
ATEX VISUAL SIGNALLING DEVICES | ZONES 1, 2 (gas)

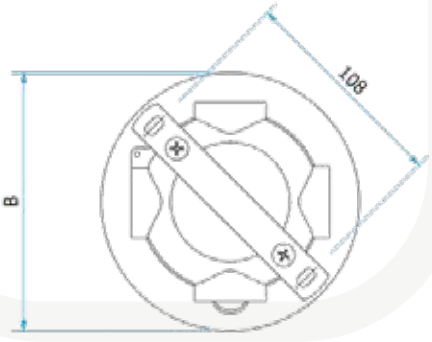
The OL-LPA serie of lighting fixtures are used to signal obstructions and are particularly suitable for use on towers or chimneys and high buildings.

EU-Type Examination Certificate

ITEM REFERENCES		
Designation:	**LED Lamp:**	**Item No.:**
OL-LPA RED	E27- ±8W - 230 VAC	2A2601

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex d IIC T5 Gb
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Ingress protection:	IP65
Operating mode:	Continuous
Body and cover:	Low cooper content Aluminium Alloy
Globe:	Shock and temperature resistant borosilicate glass
Fresnel lens:	Shock and UV resistant Polycarbonate
Gasket:	Acid/Hidrocarbon resistant Silicone
Bolt and screws:	ST.ST.A2
Housing finish:	Epoxy coating. RAL 7000 (Grey)
Power supply:	230VAC
Frequency:	50/60 Hz
Lamp holder:	E27 - Direct connection to lamp holder
Cable entries:	2x 3/4" NPT (cable glands not included)





ATEX VISUAL SIGNALLING DEVICES ZONES 2 (gas) & 22 (dust)

The explosion proof LR4 and LR6 signal towers are expandable up to five LED segments that will not come off due to vibration. The ultra bright, maintenance free LED units have a vertically and horizontally ground lens combined with a double reflection sys tem. This guarantees an even and brilliant light output, and also makes them visible from greater distances.

The polycarbonate lenses and enclosure are dust and waterproof, and can withstand harsh conditions. Also available with fully enclosed sound module and blinker option to provide an audible and visual alarm.

The LR4 and LR6 signal towers are explosion proof and certified in accordance with European Directive 2014/34/EU and are CE marked.

- Includes stainless steel bracket for wall mounting
- Available with or without buzzer sound and blinker option
- Up to 5 LED units

Declaration of Conformity

ITEM REFERENCES LR4 (Ø40 mm)		
Designation:	**Combination:**	**Item No.:**
LR4-102WJBU-R-EX	One LED unit, red, with buzzer	3C0701
LR4-102WJNU-R-EX	One LED unit, red, without buzzer	3C0702
LR4-202WJBU-RG-EX	Two LED units, red and green, with buzzer	3C0703
LR4-202WJBU-RY-EX	Two LED units, red and yellow, with buzzer	3C0704
LR4-202WJNU-RG-EX	Two LED units, red and green, without buzzer	3C0705
LR4-202WJNU-RY-EX	Two LED units, red and yellow, without buzzer	3C0706
LR4-302WJBU-RYG-EX	Three LED units, red, yellow and green, with buzzer	3C0707
LR4-302WJNU-RYG-EX	Three LED units, red, yellow and green, without buzzer	3C0708
LR4-402WJBU-RYGB-EX	Four LED units, red, yellow, green and blue, with buzzer	3C0709
LR4-402WJNU-RYGB-EX	Four LED units, red, yellow, green and blue, without buzzer	3C0710
LR4-502WJBU-RYGBC-EX	Five LED units, red, yellow, green, blue and white, with buzzer	3C0711
LR4-502WJNU-RYGBC-EX	Five LED units, red, yellow, green, blue and white, without buzzer	3C0712

ITEM REFERENCES LR6 (Ø60 mm)		
Designation:	**Combination:**	**Item No.:**
LR6-102WJBU-R-EX	One LED unit, red, with buzzer	3C0801
LR6-102WJNU-R-EX	One LED unit, red, without buzzer	3C0802
LR6-202WJBU-RG-EX	Two LED units, red and green, with buzzer	3C0803
LR6-202WJBU-RY-EX	Two LED units, red and yellow, with buzzer	3C0804
LR6-202WJNU-RG-EX	Two LED units, red and green, without buzzer	3C0805
LR6-202WJNU-RY-EX	Two LED units, red and yellow, without buzzer	3C0806
LR6-302WJBU-RYG-EX	Three LED units, red, yellow and green, with buzzer	3C0807
LR6-302WJNU-RYG-EX	Three LED units, red, yellow and green, without buzzer	3C0808
LR6-402WJBU-RYGB-EX	Four LED units, red, yellow, green and blue, with buzzer	3C0809
LR6-402WJNU-RYGB-EX	Four LED units, red, yellow, green and blue, without buzzer	3C0810
LR6-502WJBU-RYGBC-EX	Five LED units, red, yellow, green, blue and white, with buzzer	3C0811
LR6-502WJNU-RYGBC-EX	Five LED units, red, yellow, green, blue and white, without buzzer	3C0812

LR4 / LR6 SIGNAL TOWER

Zones 2, 22

TECHNICAL SPECIFICATIONS	
Marking:	II 3G Ex ec IIC T4 Gc II 3D Ex tc IIIC T80° Dc
Certificate:	Declaration of Conformity
Light color:	Red, Yellow, Green, Blue and White
Supply voltage:	24 VDC
Rated current at 24 VDC:	LR4: 135 mA without buzzer / 385 mA with buzzer | LR6: 225 mA without buzzer / 475 mA with buzzer
Enclosure:	Plastic
Dimensions enclosure:	LR4: Ø40mm | LR6: Ø60mm
Ingress protection:	IP65
Connection:	Fixed cable, 3m
Mounting bracket:	Stainless steel
Ambient temperature:	-20 °C to +50 °C
Blink rate:	±60 / min

BZ2/BD22 STROBE LIGHT

Zones 2, 22

ATEX VISUAL SIGNALLING DEVICES

ZONES 2 (gas) & 22 (dust)

In potential explosive atmospheres it is often necessary to use optical signals for warning, indicating and signalling purposes. The Ex-Strobe light BZ2/BD22 offers these signalling options.

The BZ2/BD22 Strobe Light is activated by connecting the supply voltage. It may be delivered with 5 different dome colours.

The sturdy housing made of impact-resistant polycarbonate is realized in protection class IP66 and allows for indoor and outdoor applications.
The dome consists of impact-resistant coloured polycarbonate.

A powerful Xenon flash tube transforms the electrical energy stored in the flash capacitor into light flashes with a high degree of efficiency.

- Dome cap available in 5 differents colors.
- Stainless steel wall bracket.

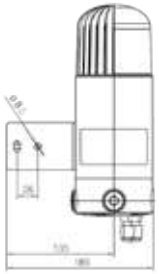
-Operating position: Any
The mounting angle can be rotated 90°.

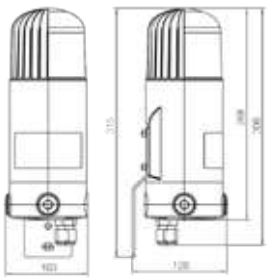
- Operating mode:
Continuous operation

Declaration of Conformity

ITEM REFERENCES				
Designation:	Operating range:	Current consumption:	Temperature class / Operating temperature:	Item No.:
BZ2/BD22 230 Red	230 VAC, 50-60 Hz +6/-10%	0,13 A	T4 / -20°C ≤ Ta ≤ +40°C	2A0601
BZ2/BD22 230 Green	230 VAC, 50-60 Hz +6/-10%	0,13 A	T4 / -20°C ≤ Ta ≤ +40°C	2A0602
BZ2/BD22 230 Blue	230 VAC, 50-60 Hz +6/-10%	0,13 A	T4 / -20°C ≤ Ta ≤ +40°C	2A0603
BZ2/BD22 230 Transparent	230 VAC, 50-60 Hz +6/-10%	0,13 A	T4 / -20°C ≤ Ta ≤ +40°C	2A0604
BZ2/BD22 230 Amber	230 VAC, 50-60 Hz +6/-10%	0,13 A	T4 / -20°C ≤ Ta ≤ +40°C	2A0605
BZ2/BD22 24 Red	24 VDC 15-32 V	0,55 A	T5 / -20°C ≤ Ta ≤ +50°C	2A0801
BZ2/BD22 24 Green	24 VDC 15-32 V	0,55 A	T5 / -20°C ≤ Ta ≤ +50°C	2A0802
BZ2/BD22 24 Blue	24 VDC 15-32 V	0,55 A	T5 / -20°C ≤ Ta ≤ +50°C	2A0803
BZ2/BD22 24 Transparent	24 VDC 15-32 V	0,55 A	T5 / -20°C ≤ Ta ≤ +50°C	2A0804
BZ2/BD22 24 Amber	24 VDC 15-32 V	0,55 A	T5 / -20°C ≤ Ta ≤ +50°C	2A0805

TECHNICAL SPECIFICATIONS	
Marking:	II 3G Ex nR IIC T5/T4 Gc II 3D Ex tc IIIC T85°C Dc
Certificate:	Declaration of Conformity
Operating conditions:	Indoor / Outdoor
Housing:	Polycarbonate (black)
Cap:	Polycarbonate (transparent, red, green, blue, amber)
Ingress protection:	IP66
Flash energy:	15 J - XENON lamp
Flash frequency:	60/min
Connection:	Terminals 2,5 mm²
Weight:	Approx. 1,4 kg
Cable entries:	3xM20x1,5 1 plastic cable gland 2 plastic plugs





GH5 MULTICOLOUR LIGHT

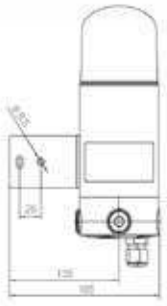
Zones 2, 22

ATEX VISUAL SIGNALLING DEVICES | ZONES 2 (gas) & 22 (dust)

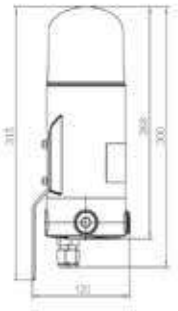
The Multicolour Light GH5 is designed as a fixed device of equipment group II category 3 for use in areas that can rarely and at short notice be endangered by an explosive atmosphere (zones 2, 22).

The light is an optical signalling device for universal use. The possible signalling colours red, yellow, green, blue and white serve many different signalling functions. The different signalling colours are generated in one single light element.

Every colour allows presetting one of the operating modes: continuous light, signalling light or flash light.



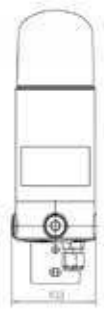
Declaration of Conformity



- The plastic enclosure and the cap consist of impact resistant polycarbonate.

- The device may be placed in any position. The mounting angle can be rotated 90°.

- 3 signal modes:
Continuous light
Blinking light
Strobe light



ITEM REFERENCES			
Designation:	Operating range:	Power:	Item No.:
GH5 - 230V	230 VAC, 50/60 Hz	< 12 W	2A1401
GH5 - 24V	24 VDC	< 4 W	2A1502

TECHNICAL SPECIFICATIONS		
Marking:	II 3G Ex nR IIC T6 Gc II 3D Ex tc IIIC T85°C Dc	
Certificate:	Declaration of Conformity	
Operating conditions:	Indoor / Outdoor	
Housing / Cap:	Polycarbonate	
Ingress protection:	IP66	
Operating temperature:	-20°C to +50°C	
Current consumption (white colour):	230V - < 50 mA	24V - < 135 mA
Connection:	Terminals 2,5 mm^2	
Connection cable:	Ø 7 to 12 mm	
Colour:	5 different signalling colours	
Weight:	Approx. 1,4 kg	
Cable entries:	1xM20x1,5 plastic cable gland	

** The measurement has been done at the side and at the top using the valuation method Blondel-Rey.*

CANDELA*	
Colour: Green	
Continuous light	1.5 cd
Flashing	0.4 cd
Blinking	0.8 cd
Colour: Blue	
Continuous light	0.5 cd
Flashing	0.1 cd
Blinking	0.3 cd
Colour: Yellow	
Continuous light	2.3 cd
Flashing	0.5 cd
Blinking	1.3 cd
Colour: Red	
Continuous light	1.2 cd
Flashing	0.3 cd
Blinking	0.6 cd
Colour: White	
Continuous light	4.0 cd
Flashing	0.5 cd
Blinking	1.2 cd

3.2 ACOUSTIC SIGNALLING

SD150 SOUNDER / HORN - GRP

Zones 1, 2, 21, 22

ACOUSTIC SIGNALLING DEVICES

ZONES 1, 2 (gas) & 21, 22 (dust)

The flameproof SD150 sounder (horn) is ATEX / IECEx certified for use in potentially explosive atmospheres and provides loud warning sounds to signal alarms in tough hazardous area applications. It quickly alerts personnel to potential dangers, or signals the need for immediate action in emergency situations.

This device can be set with up to three tones among 59 prerecorded tones (according to user control system).

Pausing of the signal can be done by an external switch.

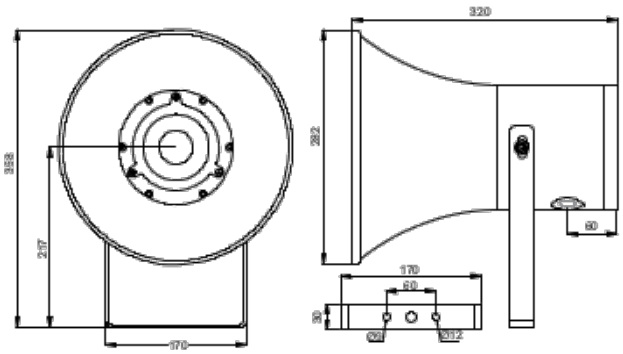
EU-Type Examination Certificate

Robust and highly reliable, the Ex sounder (horn) is designed for corrosive environments and hazardous areas.

Housing is moulded in Glass-Reinforced Polyester (GRP), protected by an UV resistant paint. The mounting bracket is 316L Stainless steel.

ITEM REFERENCES		
Designation:	Voltage:	Item No.:
SD 150 12-48 VDC	12...48V DC	3C0501
SD 150 100-240 VAC	100...240V AC (50/60hz)	3C0503

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex d IIC T4~T6 Gb II 2D Ex tb IIIC T135°C~T85°C IP66
Certificate:	EU-Type Examination Certificate
Operating temperature:	-40°C to +55°C (T6 - T85°C) / -40°C to +60°C (T5 - T100°C) / -40°C to +70°C (T4 - T135°C)
Housing:	ENCLOSURE: Glass-Reinforced Polyester (GRP). BRACKET: Stainless Steel 316L
Housing colour:	Red (RAL 3001/3028) | On request: Black (RAL 9005) | Orange: (RAL 2010) | Yellow (RAL 1018) | Green (RAL 6032) | Blue (RAL 5005) | Grey (RAL 7038)
Ambient humidity:	Until 95% (without runoff)
Rated impulse withstand voltage:	1kV following IEC 61000-4-5
Consumption:	Adjustable from 5 to 25 W (factory setting 20W)
Current consumption:	0.5 to 1 A
Signalling type:	59 tones siren. Specific customer tones can be recorded in factory
Noise level:	Until 115 dB at 1m
Terminal:	From 22 to 14 AWG - from 0.50 mm² to 2.5 mm²
Weight:	6,4 kg
Ingress protection:	IP66/67
Cable entries:	2xM20x1,5 (cable glands not included)



SD125-1 SOUNDER - STAINLESS STEEL

Zones 1, 2, 21, 22

ACOUSTIC SIGNALLING DEVICES | **ZONES 1, 2 (gas) & 21, 22 (dust)**

SD125-1 Sounder in stainless steel, certified for use in explosive atmosphere, zone 1 & 2 for gas and zone 21 & 22 for dust. It is dedicated for Oil & Gas, chemical, petrochemical, pharmacy industries, marine and offshore applications.

It's designed for corrosive environnements and hazardous area.

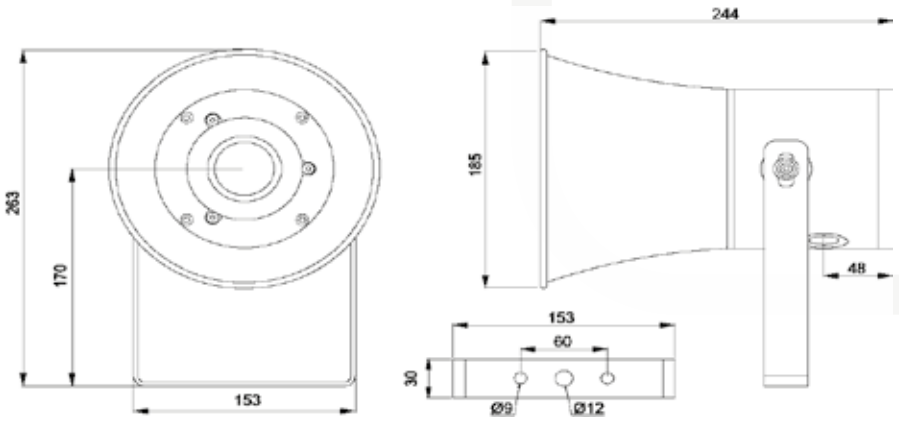
This sounder, according to user control system, can be set with one tone among 59 prerecorded tones.

It is possible to control the sounder via a telephone line.

EU-Type Examination Certificate

ITEM REFERENCES		
Designation:	Voltage:	Item No.:
SD 125-1 12-48 VDC	12...48V DC	3C0504
SD 125-1 100-240 VAC	100...240V AC (50/60hz)	3C0506

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db IIC T4~T6 Gb II 2D Ex tb IIIC T135°C~T85°C
Certificate:	EU-Type Examination Certificate
Operating temperature:	-40°C to +55°C (T6) / -40°C to +60°C (T5) / -40°C to +70°C (T4)
Housing:	ENCLOSURE & BRACKET: Stainless Steel 316L
Housing colour:	Red (RAL 3001) | On request: Black (RAL 9005) | Orange: (RAL 2010) | Yellow (RAL 1018) | Green (RAL 6032) | Blue (RAL 5005) | Grey (RAL 7038)
Ambient humidity:	Until 95%
Consumption:	Adjustable from 5 to 25 W (factory setting 20W)
Noise level:	Until 115 dB at 1 m
Current consumption:	0.5 to 1 A
Weight:	6,4 kg
Ingress protection:	IP66/67
Cable entries:	2xM20x1,5 (cable glands not included)



EXPLOSION-PROOF SOUNDER DEV20

Zones 1, 2, 21, 22

ACOUSTIC SIGNALLING DEVICES

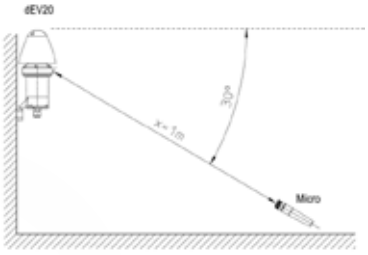
ZONES 1, 2 (gas) & 21, 22 (dust)

Hazardous areas often require the use of acoustical signals for warning or information purposes. The ExII-sounder dEV20 offers both of these signalling features and is designed for continuous operation.

The ExII-sounder dEV20 has an ingress protection rating of IP66, meaning it is suitable for both indoor and outdoor installation. The ExII-Sounder consists of a flame-proof housing manufactured from a light grade aluminium alloy and a sound channel made from impact-resistant polyester.

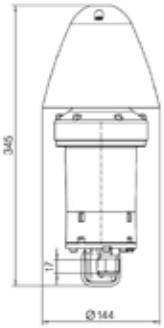
The sounder dEV20 includes two signal levels. The signal tone for the first level is adjusted with the slide switches 1-5 (S0) according to the signal choice list.
The signal tone for the second signal level is adjusted with the slide switches 6-10 (S1).

Delivery condition: S0 = Tone 24, S1 = Tone 4

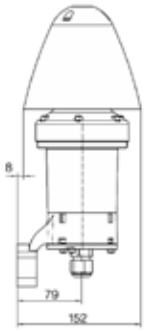


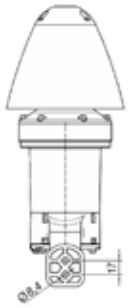
EU-Type Examination Certificate

ITEM REFERENCES			
Designation:	Input voltage:	Current consumption:	Item No.:
dEV20 VDC	19.2-28.8 VDC	460 mA	3A0901
dEV20 VAC	85-264 VAC	93 mA (230 V)	3A0902



TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex d e IIB + H2 T6 Gb II 2D Ex tb IIIC T85°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-50 °C to +60 °C
Operating conditions:	Indoor / Outdoor
Housing:	Copper-free, seawater-resistant aluminium
Cap:	Polyamid (black)
Ingress protection:	IP66 according to IEC 60529
Weight:	2.8 kg
Volume:	Max. approx. 115 dB(A), can be lowered in 3 steps of 10 dB
Signal tones:	32 per signalling stage
Alarm tone selection:	Via DIP switch
Current consumption:	93-460 mA (depending on voltage)
Power consumption:	Max. 14 W
Operating position:	Vertical, cable gland facing downwards
Operating mode:	Continuous operation
Connection terminals:	1,5 mm² / 2,5 mm² terminals
Cable entries:	1xM20x1.5 (cable 5.5 to 13 mm)





EXPLOSION-PROOF SIGNALLING HOOTER MHG11

Zones 1, 2, 21, 22

ACOUSTIC SIGNALLING DEVICES | ZONES 1, 2 (gas) & 21, 22 (dust)

The mHG 11 Ex Signalling Hooter is designed for warning purposes in potentially explosive areas of zones 1, 2 ,21 and 22.

The hooter is available with the common supply voltages and produces a sound level of approx. 108 dB(A).

The device is driven by a powerful, non-polarized electromagnet with an adjustable tappet that hits the membrane 100 to 120 times per second.

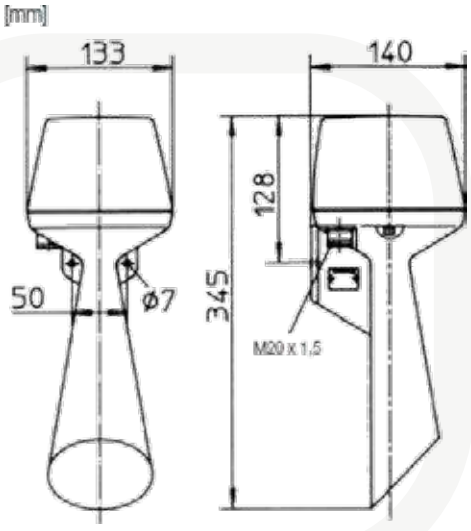
The DC version additionally comprises an electronic circuit breaker.

Volume: Approx. 108 dB(A), in 1 m distance.

EU-Type Examination Certificate

ITEM REFERENCES				
Designation:	Operating range:	Current consumption:	Temperature range:	Item No.:
mHG11	T4, 230 VAC	0,07 A	-55°C to +70°C	3A0601
mHG11	T5, 230 VAC	0,07 A	-55°C to +50°C	3A0602
mHG11	T4, 24 VDC	0,3 A	-55°C to+70°C	3A0605
mHG11	T5, 24 VDC	0,3 A	-55°C to +60°C	3A0606

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex e mb IIC T4 Gb II 2G Ex e mb IIC T5 Gb II 2D Ex tb IIIC T90°C Db
Certificate:	EU-Type Examination Certificate
Operating conditions:	Indoor / Outdoor
Housing:	Aluminium
Weight:	Approx. 2 kg
Ingress protection:	IP66
Cable entries:	1xM20x1,5



EXPLOSION-PROOF SIGNALLING HOOTER MHP11

Zones 1, 2

ACOUSTIC SIGNALLING DEVICES | ZONES 1, 2 (gas)

The mHP 11 Ex Signalling Hooter is designed for warning purposes in potentially explosive areas of zones 1 and 2.

The hooter is available with the common supply voltages and produces a sound level of approx. 108 dB(A).

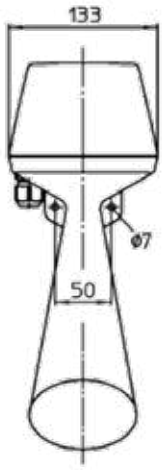
The device is driven by a powerful, non-polarized electromagnet with an adjustable tappet that hits the membrane 100 to 120 times per second.

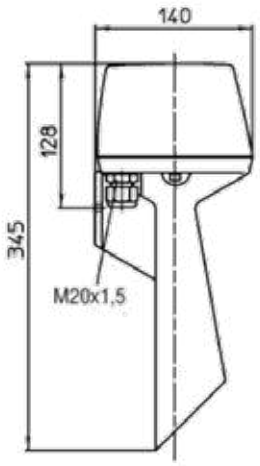
The DC version additionally comprises an electronic circuit breaker.

EU-Type Examination Certificate

ITEM REFERENCES					
Designation:	Operating range:	Current consumption:	Temperature range:	Weight:	Item No.:
mHP11	T5, 230 VAC	0,07 A	-20°C to +50°C	±1.2 kg	3A0502
mHP11	T5, 24 VDC	0,3 A	-20°C to +60°C	±1.2 kg	3A0506
mHP11	T5, 115 VAC	0,15 A	20°C to +50°C	±1.2 kg	3A0509

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex e mb IIC T5 Gb
Certificate:	EU-Type Examination Certificate
Operating conditions:	Indoor / Outdoor
Housing:	Black Polycarbonate
Ingress protection:	IP54
Cable entries:	1xM20x1,5 Plastic cable gland





EXPLOSION-PROOF SIGNALLING HOOTER DGH21/DRGH21

Zones 1, 2, 21, 22

ACOUSTIC SIGNALLING DEVICES

ZONES 1, 2 (gas) & 21, 22 (dust)

The dGH21/dRGH21 Signalling Hooter was designed for warning, calling and indicating purposes in potentially explosive areas of group II and and for rough ambient conditions. The signalling hooter produces a sound level of approx. 105 dB(A) at 1 meter distance.

The characteristic hooting sound clearly stands out from any ambient sound of higher frequency, and is available for all common supply voltages. The dRGH21 version comprises a call current relay and issues the signals in the pulse rate of the incoming telephone call.

The housing is made of synthetic material, which ensures a corrosion-free operation and the classification in protection class II. Therefore, no equipotential bonding conductor is needed. The housing design provides a high degree of sturdiness with a light weight.

All DC variants are equipped with an electronic disconnector, which ensures a significantly longer life cycle compared to conventional solutions.

Features:

- Housing made of GRP
- Volume approx. 105 dB(A)
- dRGH21 version with call current relay
- Ingress protection IP66
- Protection class II

EU-Type Examination Certificate

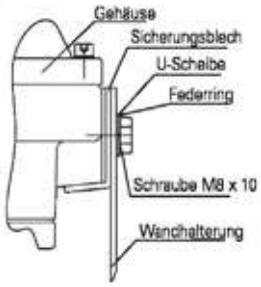
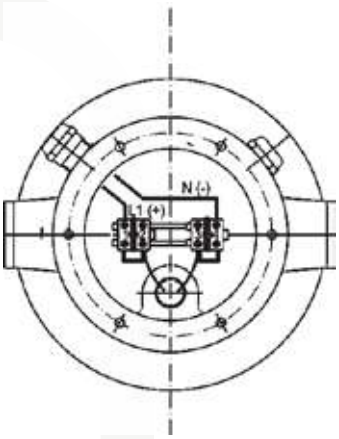
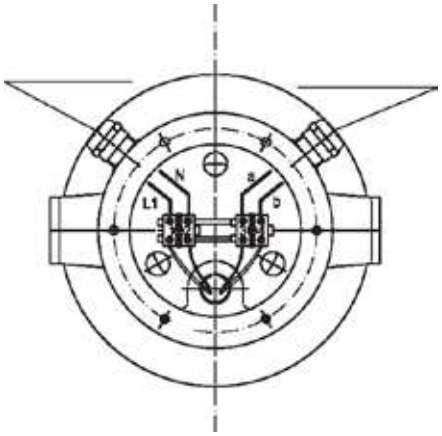
ITEM REFERENCES					
Designation:	Colour:	Operating range:	Current consumption:	Tolerance:	Item No.:
dGH21 B 12 VDC	Black	12 VDC	0.6 A		3B0301
dGH21 B 24 VAC	Black	24 VAC	0,65 A		3B0302
dGH21 B 24 VDC	Black	24 VDC	0.3 A		3B0303
dGH21 B 110 VDC	Black	110 VDC	0.08 A		3B0304
dGH21 B 120 VAC	Black	120 VAC, 60 Hz	0.15 A		3B0305
dGH21 B 230 VAC	Black	230 VAC	0.07 A		3B0306
dRGH21 B 230 VAC CCR	Black	230 VAC, with call current relay	0.07 A		3B0307
dGH21 B 240 VAC	Black	240 VAC, 60 Hz	0.07 A		3B0308
dGH21 R 12 VDC	Red	12 VDC	0.6 A		3B0309
dGH21 R 24 VAC	Red	24 VAC	0,65 A		3B0310
dGH21 R 24 VDC	Red	24 VDC	0.3 A		3B0311
dGH21 R 110 VDC	Red	110 VDC	0.08 A	+10 % /-15 %	3B0312
dGH21 R 120 VAC	Red	120 VAC, 60 Hz	0.15 A		3B0313
dGH21 R 230 VAC	Red	230 VAC	0.07 A		3B0314
dRGH21 R 230 VAC CCR	Red	230 VAC, with call current relay	0.07 A		3B0315
dGH21 R 240 VAC	Red	240 VAC, 60 Hz	0.07 A		3B0316
dGH21 B 42 VAC	Black	42 VAC	0.3 A		3B0317
dGH21 B 48 VAC	Black	48 VAC	0.35 A		3B0318
dGH21 B 48 VDC	Black	48 VDC	0.17 A		3B0319
dGH21 B 60 VDC	Black	60 VDC	0.15 A		3B0320
dGH21 B 110 VAC	Black	110 VAC	0.15 A		3B0321
dGH21 B 230 VDC	Black	230 VDC	0.005 A		3B0322

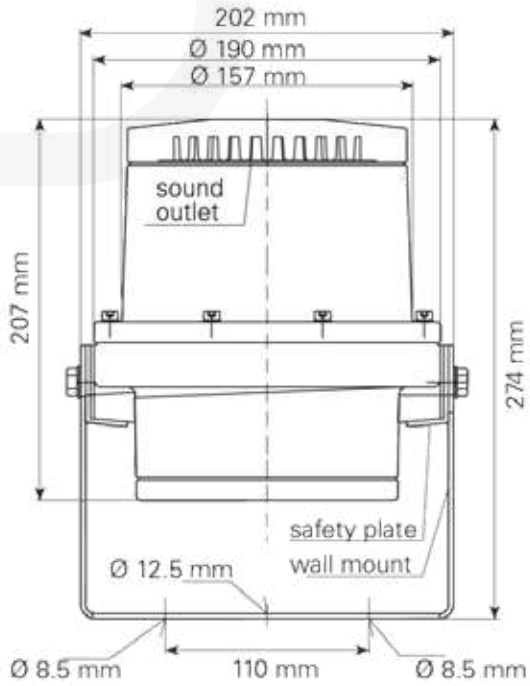
CONTACT – (+34) 943 530 095 | inpratex@inpratex.com

EXPLOSION-PROOF SIGNALLING HOOTER DGH21/DRGH21

Zones 1, 2, 21, 22

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex de IIC T5/T6 Gb II 2D Ex tb IIIC T95°C/T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20 °C to +70 °C (T6) |-20 °C to +75 °C (T5)
Operating conditions:	Indoor / Outdoor
Operating position:	Preferably sound exit to the front
Operating mode:	Continuous operation
Housing:	Glass fibre-reinforced polyester
Volume:	Approx. 105 dB (A), in 1 m distance
Ingress protection:	IP66
Protection class:	II (no equipotential bonding necessary)
Weight:	5.5 kg
Cable entries:	1xM20x1,5 Plastic cable gland | 1xM20x1,5 Plastic plug dRGH21: 2 x M20 x 1.5 Plastic cable glands

Wall mount installation	Connection diagram dGH21	Connection diagram dRGH21
		



ETH20MD AUDIBLE WARNING DEVICE

Zones 1, 2, 21, 22

ACOUSTIC SIGNALLING DEVICES

ZONES 1, 2 (gas) & 21, 22 (dust)

ETH20MD audible warning devices are for use in open environments with a high background noise, where there is a potential explosive atmosphere. They are equipped with a electronic circuit with 32 tones and increased sound power, selectable using a deep-switch.

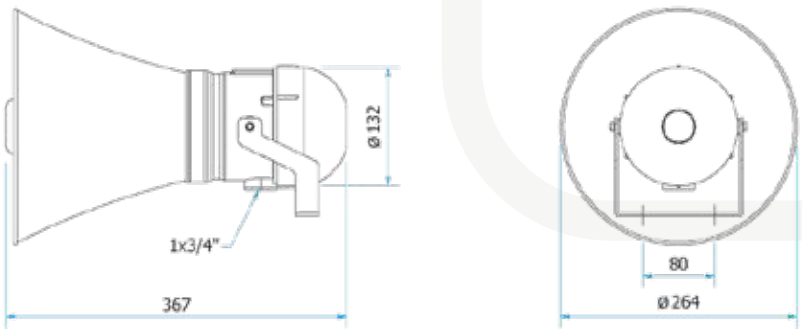
The acoustic transducer has a impedence of 16 Ω and a frequency 2 KHz. The mounting bracket is made of ST. ST. 316L.

The body of the horn has to be taken into consideration when placing it. It has to be floating, to make room for the cable gland.

EU-Type Examination Certificate

ITEM REFERENCES				
Designation:	**Voltage:**	**Working current:**	**Weight:**	Item No.:
ETH20MD101	12 - 24 V AC/DC	0,10-0,12 A	3,10 kg	3B0201
ETH20MD103	110 V AC	0,02 A	3,25 kg	3B0202
ETH20MD104	230 V AC	0,012 A	3,25 kg	3B0203

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex d IIC or IIB+H_2 T3 or T4 Gb II 2D Ex tb IIIC T150°C or T130°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-50°C to +60°C
Body and cover:	Low copper aluminium alloy. Epoxy coating RAL 7000
Speaker horn:	Anodized aluminium
Gasket:	Acid/hidrocarbon resistant silicone
Bolt and screws:	ST. ST. A2
Noise level:	113 dB
Acoustic frequency:	340/2000 Hz
Power consumption:	10 W
Frequency:	50/60 Hz
Driver impedance:	16 Ω
Operating mode:	Continuous
Ingress protection:	IP66
Cable entries:	1x3/4”NPT (cable gland not included)



EXPLOSION-PROOF SIGNALLING HOOTER MHP12

Zones 1, 2

ACOUSTIC SIGNALLING DEVICES | ZONES 1, 2 (gas)

The mHP 12 Ex Signalling Hooter is designed for warning purposes in potentially explosive areas of zones 1 and 2.

The hooter is available with the common supply voltages and produces a sound level of approx. 108 dB(A).

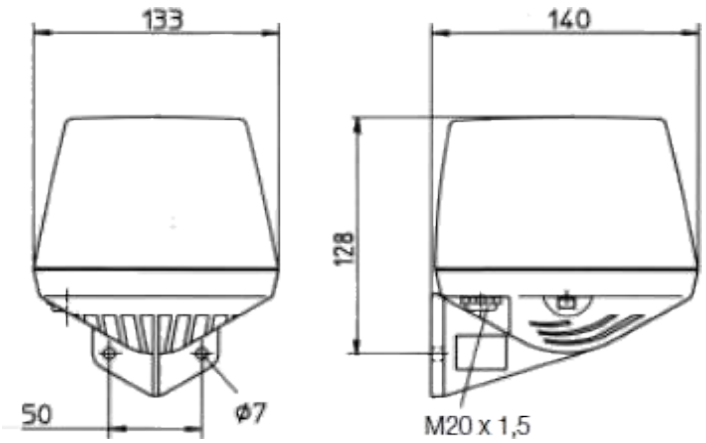
The device is driven by a powerful, non-polarized electromagnet with an adjustable tappet that hits the membrane 100 to 120 times per second.

Volume: approx. 108 dB(A).

EU-Type Examination Certificate

ITEM REFERENCES				
Designation:	Operating range:	Current consumption:	Temperature range:	Item No.:
mHP12	T4, 230 VAC	0,07 A	-20°C to +70°C	3A0801
mHP12	T4, 24 VDC	0,3 A	-20°C to +70°C	3A0805

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex e mb II T4 Gb
Certificate:	EU-Type Examination Certificate
Operating conditions:	Indoor / Outdoor
Housing:	Polycarbonate (Black)
Weight:	Approx. 2 kg
Ingress protection:	IP54
Cable entries:	1xM20x1,5 plastic cable gland



EXPLOSION-PROOF SIGNALLING BELL DGW21

Zones 1, 2

ACOUSTIC SIGNALLING DEVICES

ZONES 1, 2 (gas)

The signalling bell dGW21 was designed to warn, call and signal in areas with explosive atmospheres in group II and rough ambient conditions.
The protection type II 2G Ex de IIC T6 allows the signalling bell to be used without restriction in all ex-areas classified 1 and 2.

The signalling bell produces a sound volume of approx. 105dB(A) at 1m distance.

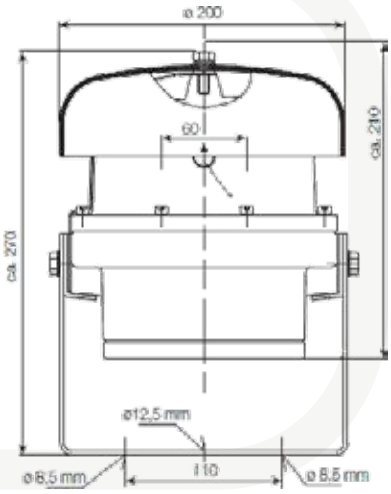
The emphasis of the ringing lies at approx. 1000 Hz, as a result of which the signal stands out clearly against lower-frequency ambient noises. The bell is available for all usual supply voltages.

The version dRGW 21 emits the signals in time with the connected telephone call.

EU-Type Examination Certificate

ITEM REFERENCES		
Designation:	Operating range:	Item No.:
dGW 21 black	12 VDC	3E0101
dGW 21 black	24VDC	3E0102
dGW 21 black	110 VAC	3E0103
dGW 21 black	110 VDC	3E0104
dGW 21 black	230 VAC	3E0105
dGW 21 black	240 VAC 60 Hz	3E0106
dGW 21 red	12 VDC	3E0107
dGW 21 red	24 VDC	3E0108
dGW 21 red	110 VAC	3E0109
dGW 21 red	110 VDC	3E0110
dGW 21 red	230 VAC	3E0111

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex de IIC T6 Gb
Certificate:	EU-Type Examination Certificate
Operating conditions:	Indoor / Outdoor
Ingress protection:	IP66
Weight:	Approx. 5,5 kg
Operating temperature:	-20°C to +40°C
Operating mode:	Continuous
Cable entries:	1xM20x1,5 plastic cable gland



EX-PROOF HORN SPEAKER DSP-15EEXMN(T)

Zones 1, 2, 21, 22

ACOUSTIC SIGNALLING DEVICES | ZONES 1, 2 (gas) & 21, 22 (dust)

This versatile 25W Ex plastic horn speaker is light in weight and features a spacious connection chamber of protection type 'e'. It has dual M20 entries in the back lid for easy cable mounting and supports loop in loop out as standard.

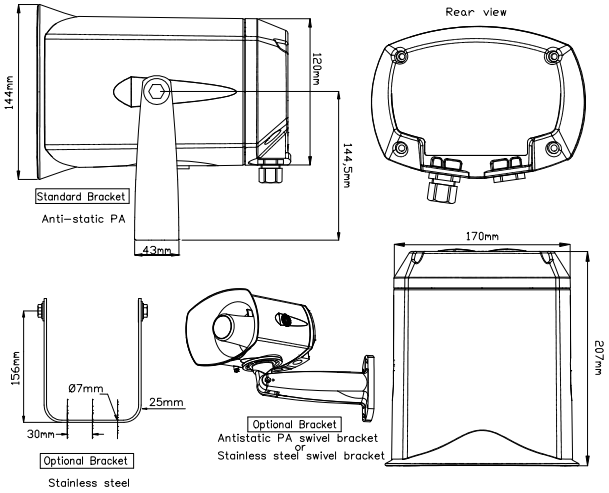
This model has extensive certification qualifying it for use in nearly all corners of the world.

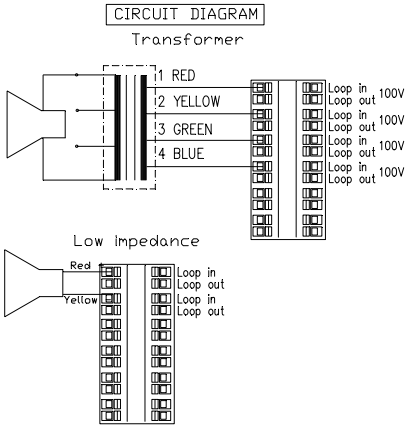
The model can be ordered with different transformers for more choices of power tappings and power ratings.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
DSP-15EExmN(T)	3D0401

TECHNICAL SPECIFICATIONS		
Marking:	II 2G Ex db eb mb IIB+H_2 / IIC T4 Gb II 2D Ex tb IIIC T105°C Db	
Certificate:	EU-Type Examination Certificate	
Operating temperature:	-50°C to +60°C	
Housing:	Anti-static PA / Black	
Mounting:	Bracket	
Termination:	e-chamber, push terminals	
Weight w/transformer:	2,2 kg	
Ingress protection:	IP66/67	
Rated voltage:	100V	
Rated / max. power:	25W / 30W	
	IIB+H_2	IIC
Sound pressure level 1W/1m:	106 dB	102 dB
Sound pressure level rated power:	118 dB	114 dB
Effective freq. range:	380-8000 Hz	450-7000 Hz
Cable entries:	2xM20x1.5 plastic plugs	





PRIMARY NOMINAL TAPPINGS	
1 : 2	25,0 W
2 : 3	15,0 W
3 : 4	6,5 W
1 : 3	5,0 W
2 : 4	2,5 W
1 : 4	1,5 W

BA-56EEXEN(T) CEILING SPEAKER

Zones 1, 2

ACOUSTIC SIGNALLING DEVICES

ZONES 1, 2 (gas)

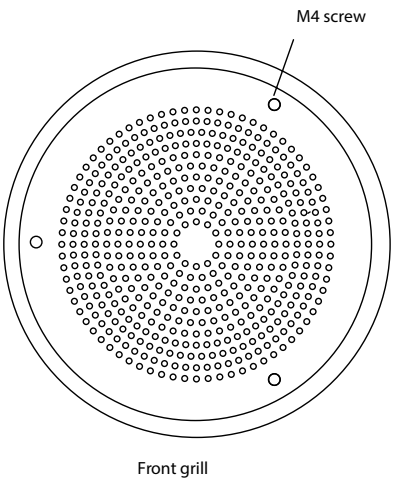
This Ex ceiling speaker has extensive certification qualifying it for use in nearly all corners of the world. The product is made from aluminium and can be supplied with multiple gland entries to ensure loop in loop out support.

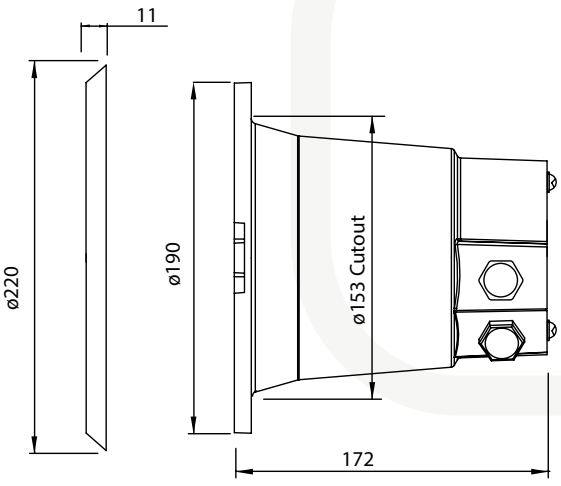
This speaker has multiple options for transformers and tappings, so that the sound pressure level can be adjusted to an appropriate level.

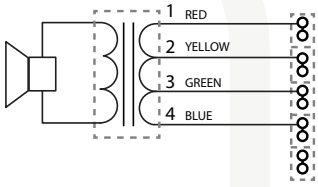
EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
BA-56EExeN(T)	3D0301

TECHNICAL SPECIFICATIONS	
Marking:	Ex II 2G Ex db eb IIB+H_2 T6 Gb
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +50°C
Housing:	Anodized aluminium, RAL 9010 (front)
Mounting:	3 screws
Ingress protection:	IP54
Weight:	3 kg
Termination:	e-chamber, push terminals
Rated (standard) / Max. Power	6 W / 6 W
Sound pressure level 1W/1m:	88 db
Sound pressure level rated power:	95 db
Freq. range:	150 - 20000 Hz
Effective freq. range:	160 - 15000Hz
Dispersion (-6dB) 1kHz / 4kHz:	113° / 25°
Cable entries:	2xM20x1,5 plastic plugs







100V TRANSFORMER TAPPINGS	
1 : 2	6,0 W
2 : 3	3,0 W
3 : 4	1,5 W
1 : 3	1,0 W
2 : 4	0,5 W
1 : 4	0,3 W

BA-56EEXEN(T)X2 CEILING SPEAKER

Zones 1, 2

ACOUSTIC SIGNALLING DEVICES | ZONES 1, 2 (gas)

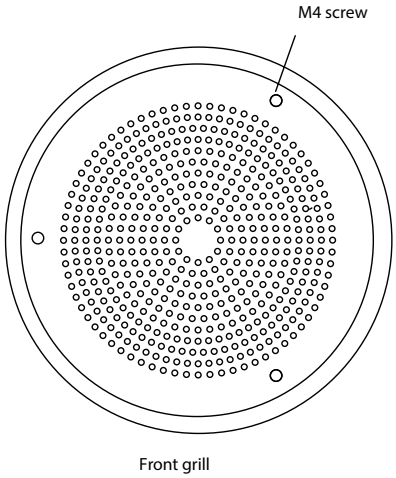
This Ex ceiling speaker has extensive certification qualifying it for use in nearly all corners of the world.

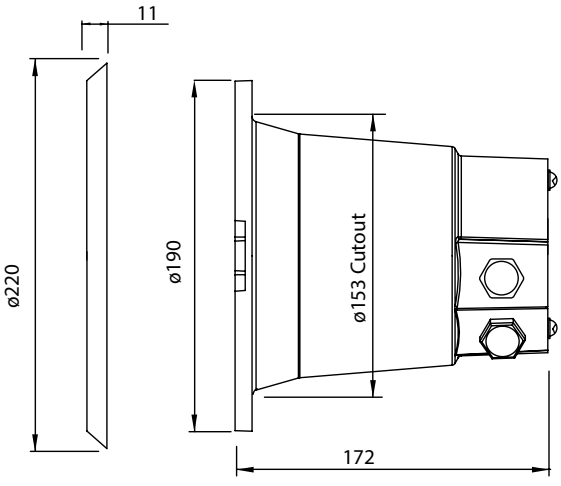
This variation of the product separately contains two loudspeaker elements, two transformers and two terminals in one Ex housing (A + B system).

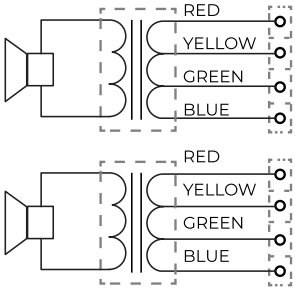
EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
BA-56EExeN(T)x2	3D0302

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIB+H_2 T6 Gb
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +50°C
Housing:	Anodized aluminium, RAL 9010 (front)
Mounting:	3 screws
Ingress protection:	IP54
Weight:	3,1 kg
Termination:	e-chamber, 2x screw terminal
Rated (standard) / Max. Power	3 W / 2x3 W
Sound pressure level 1W/1m:	83 db
Sound pressure level rated power:	87 db
Freq. range:	150 - 20000 Hz
Effective freq. range:	190 - 15000 Hz
Dispersion (-6dB) 1kHz / 4kHz:	113° / 40°
Cable entries:	4xM20x1,5 plastic plugs







100V TRANSFORMER TAPPINGS	
RED : YELLOW	3,0 W
RED : GREEN	1,5 W
RED : BLUE	0,75 W

3.3

OPTICAL & ACOUSTIC SIGNALLING

SB150-1 EX SOUNDER / BEACON - GRP

Zones 1, 2, 21, 22

OPTICAL & ACOUSTIC SIGNALLING | ZONES 1, 2 (gas) & 21, 22 (dust)

This combined product is certified for use in ATEX explosive atmosphere, zone 1 & 2 for gas and zone 21 & 22 for dust. It is dedicated for Oil & Gas, chemical, petrochemical, pharmacy industries, marine and offshore applications.

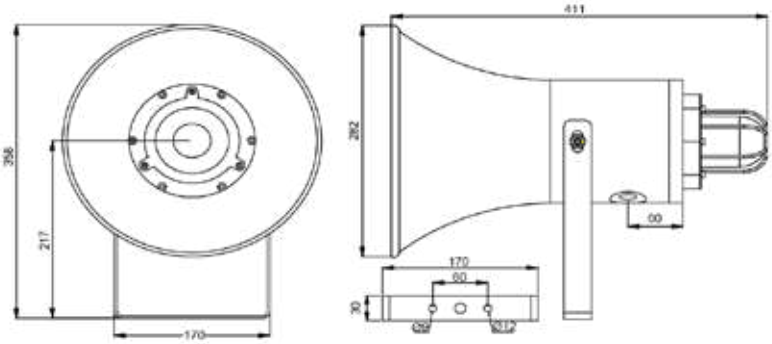
It's designed for corrosive environnements and hazardous area.

This sounder, according to user control system, can be set with one tone among 59 prerecorded tones.

EU-Type Examination Certificate

ITEM REFERENCES		
Model:	Power consumption:	Item No.:
SB 150 12-48 VDC LED 10W Red	12VDC-1100mA / 24VDC-530mA / 48VDC-240 mA	3C0401
SB 150 12-48 VDC LED 10W Amber	12VDC-1100mA / 24VDC-530mA / 48VDC-240 mA	3C0402
SB 150 12-48 VDC LED 10W Blue	12VDC-1100mA / 24VDC-530mA / 48VDC-240 mA	3C0403
SB 150 12-48 VDC LED 10W Green	12VDC-1100mA / 24VDC-530mA / 48VDC-240 mA	3C0404
SB 150 12-48 VDC LED 10W Clear	12VDC-1100mA / 24VDC-530mA / 48VDC-240 mA	3C0405
SB 150 100-240 VAC LED 10W Red	110VAC-160mA / 220VAC-80mA	3C0406
SB 150 100-240 VAC LED 10W Amber	110VAC-160mA / 220VAC-80mA	3C0407
SB 150 100-240 VAC LED 10W Blue	110VAC-160mA / 220VAC-80mA	3C0408
SB 150 100-240 VAC LED 10W Green	110VAC-160mA / 220VAC-80mA	3C0409
SB 150 100-240 VAC LED 10W Clear	110VAC-160mA / 220VAC-80mA	3C0410

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex d IIC T4~T6 Gb II 2D Ex tb IIIC T135°C~T85°C
Certificate:	EU-Type Examination Certificate
Housing:	ENCLOSURE: Glass-Reinforced Polyester (GRP) | LENS: Tempered borosilicate glass 3.3 | BRACKET: Stainless steel 316L
Housing colour:	Standard: Red (RAL 3001) On request: Black (RAL 9004) | Yellow (RAL 1018) | Blue (RAL 5005)
Operating temperature:	-40°C to +55°C (T6) / -40°C to +60°C (T5) / -40°C to +70°C (T4)
Light intensity:	312 Cd
Consumption:	Adjustable from 5 to 25W (factory setting 20W)
Noise level:	Until 115 dB at 1m
Current consumption:	0,5 to 1 A
Weight:	8 kg
Ingress protection:	IP66/67
Cable entries:	2xM20x1,5 holes



ATEX BBJ81 AUDIO & VISUAL CAUTION SPOTLIGHT FITTINGS

Zones 1, 2, 21, 22

OPTICAL & ACOUSTIC SIGNALLING | ZONES 1, 2 (gas) & 21, 22 (dust)

Optical-acoustic signalling device specially designed to be installed in hazardous areas.

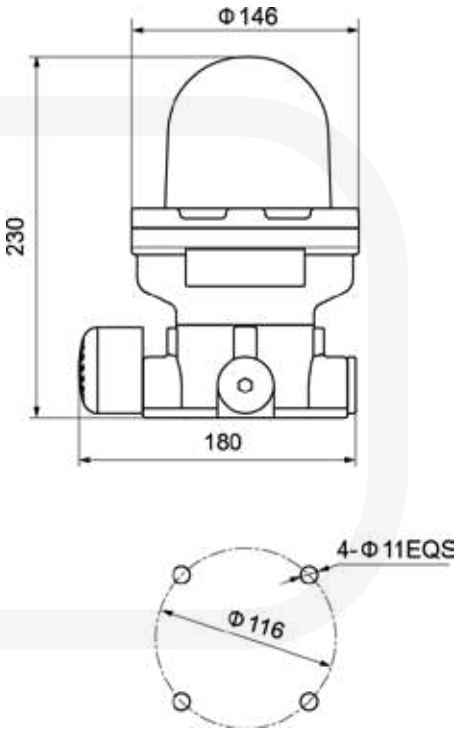
Ultra-bright LED lamp, low power consumption and long service life.

OPTIONAL: Operating voltage 24 V AC

EU-Type Examination Certificate

ITEM REFERENCES			
Model:	Lamp colour:	Rated voltage:	Item No.:
BBJ81-R 220	Red	220 - 240V AC | 50/60Hz	3C0601
BBJ81-B 220	Blue	220 - 240V AC | 50/60Hz	3C0602
BBJ81-Y 220	Yellow	220 - 240V AC | 50/60Hz	3C0603
BBJ81-G 220	Green	220 - 240V AC | 50/60Hz	3C0604
BBJ81-R 24	Red	24 V DC	3C0605
BBJ81-B 24	Blue	24 V DC	3C0606
BBJ81-Y 24	Yellow	24 V DC	3C0607
BBJ81-G 24	Green	24 V DC	3C0608

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex d ib IIC T6 Gb II 2D Ex t IIIC T80°C Db IP66
Certificate:	EU-Type Examination Certificate
Housing:	Copper-free aluminium, yellow (RAL 1021)
Transparent cover:	Toughened glass, stands 4J impact
Exposed fastener:	Stainless steel
Weight:	2,60 kg
Lamp:	LED
Power:	5 W
Flash frequency:	150 times/min
Sound intensity:	100~120 (R=1 m)
Operating temperature:	-40°C to +55°C
Ingress protection:	IP66
Earthing protection:	M5 (internal & external earth bolts)
Terminals:	3 terminals 1,5~2,5 mm² (L+N+PE)
Cable entries:	3xM25x1,5 (plugs)



SECONDARY TELEPHONE ALARM AND SIGNAL UNIT TWIN EEXII

Zones 1, 2

OPTICAL & ACOUSTIC SIGNALLING | ZONES 1, 2 (gas)

The TWIN-EExII is specially designed for application in potentially explosive indoor or outdoor industrial areas. It offers two different operating modes that can be selected using the sliding switch.

As secondary telephone alarm the TWIN EExII is used to draw attention to incoming phone calls, which are indicated with high volume and additionally signalled by the integrated strobe light. Both signals are actuated by the AC ringing voltage.

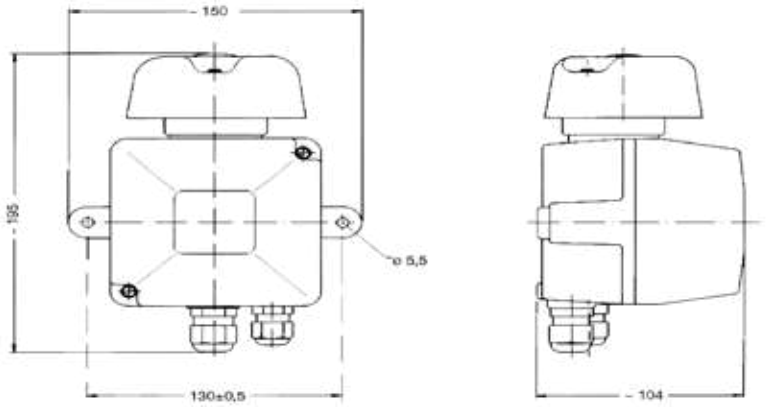
The TWIN-EExII is a compact unit comprising power supply, telephone connection, strobe light, amplifier and loud-speaker. The bottom box is made of seawater-resistant cast aluminium coated with plastic.

The loudspeaker consists of impact and cold-resistant plastic and is permanently mounted to the housing. The strobe light cap made of polycarbonat forms the housing cover.

EU-Type Examination Certificate

ITEM REFERENCES			
Model:	Operating range:	Colour:	Item No.:
TWIN-EExII 5842/1	230VAC 50-60 Hz	Clear	2A2001
TWIN-EExII 5842/1	230VAC 50-60 Hz	Red	2A2002
TWIN-EExII 5842/1	230VAC 50-60 Hz	Amber	2A2003
TWIN-EExII 5842/1	230VAC 50-60 Hz	Green	2A2004
TWIN-EExII 5842/1	230VAC 50-60 Hz	Blue	2A2005

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex e mb [ib] IIC T6/T5/T4 Gb
Certificate:	EU-Type Examination Certificate
Housing:	Die-cast aluminium, cap made of macrolon
Cover:	Polycarbonate
Ingress protection:	IP66
Operating temperature:	-20°C to +40°C
Telephone connection:	W, Lb | 30 VAC ... 75 VAC /23 Hz ... 54 Hz / 0 VDC ... 63 VDC
Acoustic signalling:	Single-tone call/2-tone call/3-tone call Volume: Approx. 90 dB(A), 1 m distance (Only with 230 V network))
Optical signalling:	2 flash tubes, ca. 0,9 joule 1 Hz ... 2 Hz (Only with 230 V network)
Operating position:	Any (wall or ceiling mounting)
Weight:	Approx. 1,5 kg
Cable entries:	1xM20x1.5 cable gland (230 V network) | 1xM20x1.5 cable gland (telephone network)



4

CONTROL & CONNECTION EQUIPMENT

4 - CONTROL & CONNECTION EQUIPMENT

Inpratex offers a comprehensive range of ATEX-certified connection and control equipment, designed for safe installation and operation in hazardous areas, where explosive atmospheres may be present due to gases or vapours or combustible dust.

The range includes ATEX junction and terminal boxes with enclosures made of GRP (glass-reinforced polyester), aluminium or stainless steel, fully configurable according to customer requirements in terms of the number of terminals and cable entries. These enclosures can be supplied for armoured or non-armoured cable installations.

Inpratex also supplies ATEX switches and isolators with aluminium or GRP housings, particularly suitable for use in petrochemical plants, offshore platforms, oil and gas industries, refineries and other industrial environments with potentially explosive atmospheres.

The catalogue is completed with configurable control stations and push-button units, which may incorporate start/stop functions, emergency stop mushroom buttons, push buttons, indicator lights and fire alarm push buttons, among others. The range also includes stainless steel control devices, designed for process control or status indication in industrial machinery and installations.

Inpratex further offers ATEX socket outlets (plugs and sockets) and compact connectors, manufactured from high-performance polyamide, fully watertight and with integrated switching capacity, suitable for use in Zones 1 and 2 (gas) and Zones 21 and 22 (dust).

The range is completed with ATEX limit switches, offering extensive adaptation options and various mounting possibilities, as well as earthing clamps and grounding systems, essential for safety in hazardous area installations.

4.1 - ALUMINIUM TERMINAL BOXES 152

4.2 - GRP TERMINAL BOXES 176

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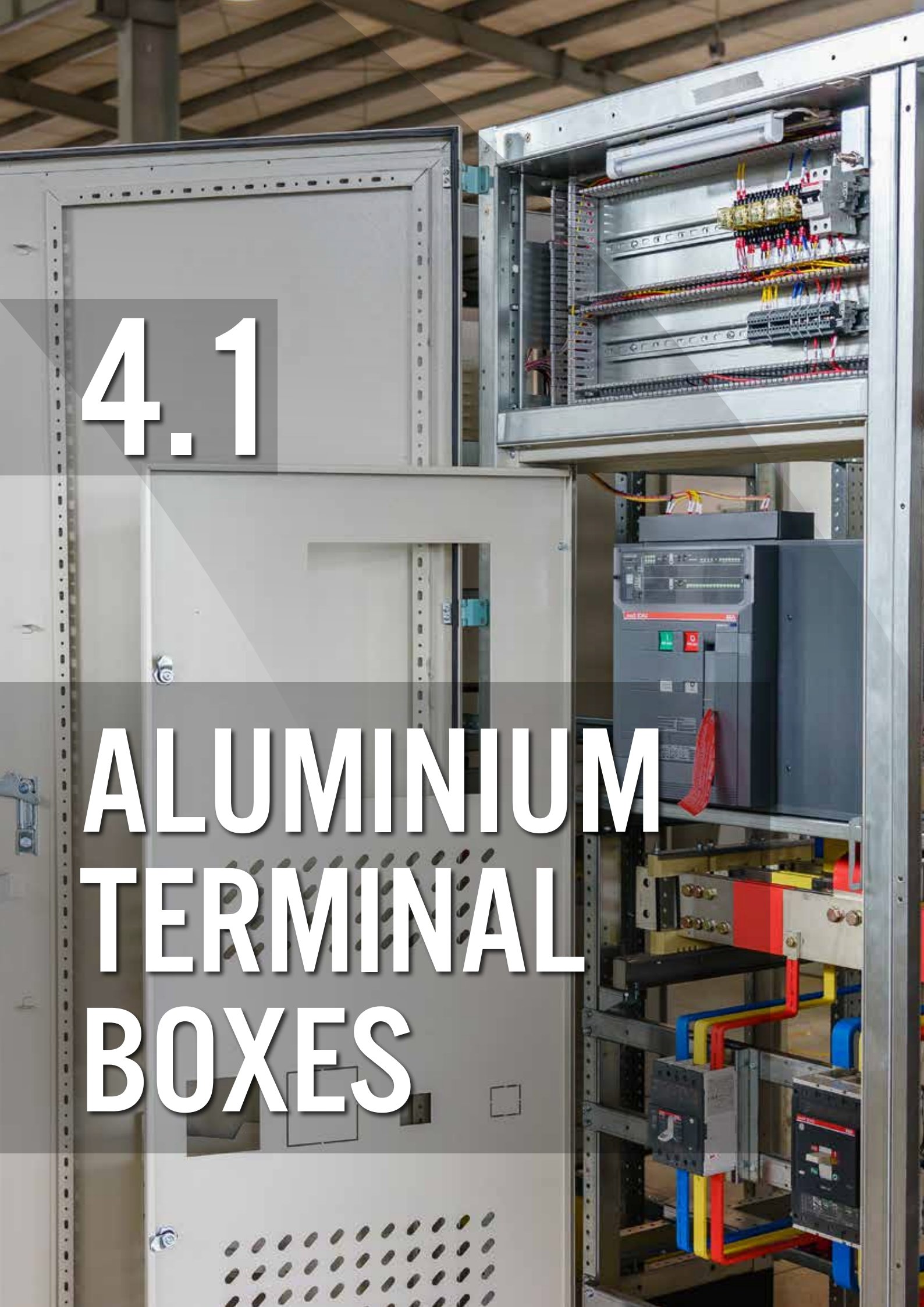
4.9 - EARTHING & GROUNDING DEVICES 312

Our product ranges are constantly updated on our website: ***www.inpratex.com***



4.1

ALUMINIUM TERMINAL BOXES

ATEX JUNCTION BOXES

ZONES 1, 2 (gas) & 21, 22 (dust)

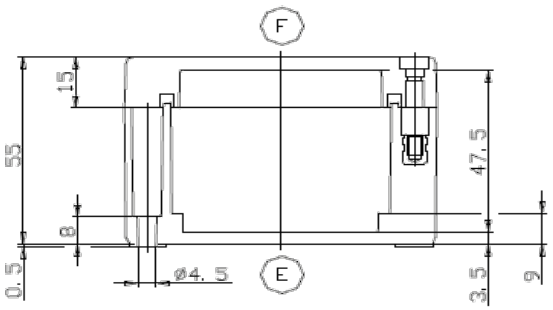
ATEX Zones 1,2,21,22 rated explosion-proof aluminium alloy junction boxes. These enclosures are suitable for those industries where potentially explosive environments exist, e.g. chemical, petrochemical and pharmaceutical industries, Oil&Gas, et...

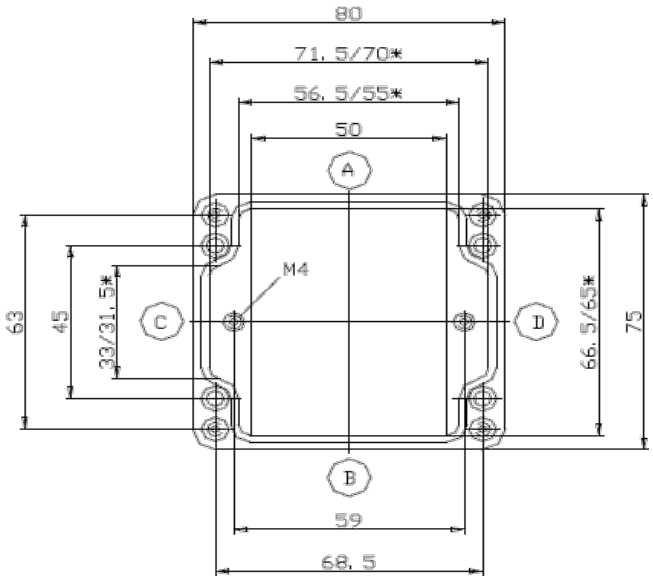
EU-Type Examination Certificate

We don't supply empty "U" certified enclosures. These terminal boxes must be configured with the number of terminals and cable entries.

ITEM REFERENCES

Max. number of terminals:							Max. number of cable entries (plastic glands):								Item No.:
Type:	2,5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	35 mm²	Size:	M16	M20	M25	M32	M40	M50	M63	
Number:	8	0	0	0	0	0	A	2	1	1	0	0	0	0	5A0301..xx*
							B	2	1	1	0	0	0	0	
							C	2	1	0	0	0	0	0	
							D	2	1	0	0	0	0	0	





* The following should be attached to the reference of each box size:
1 - Type and number of terminals required (never exceed the maximum quantity shown in the table)
2 - Size and number of cable entries:
- For unarmoured cable, it may never exceed the maximum quantity shown in the table.
- If armoured cable is used, the number of entries must be defined in each case.

The value 0 indicates that this type of terminal / cable entry size can' t be used in this box model

TECHNICAL SPECIFICATIONS

Marking:	II 2G Ex e II T4/T6 Gb II 2G Ex ia IIC T6 Gb II 2D Ex tD A21 IP65 T80°C
Certificate:	EU-Type Examination Certificate
Operating temperature:	-50°C to +60°C
Dimensions:	75x80x57 mm
Ingress protection:	IP65
Weight:	280 g (empty)
Colour:	RAL 7001

CONFIGURABLE EX-PROOF ALUMINIUM TERMINAL BOXES

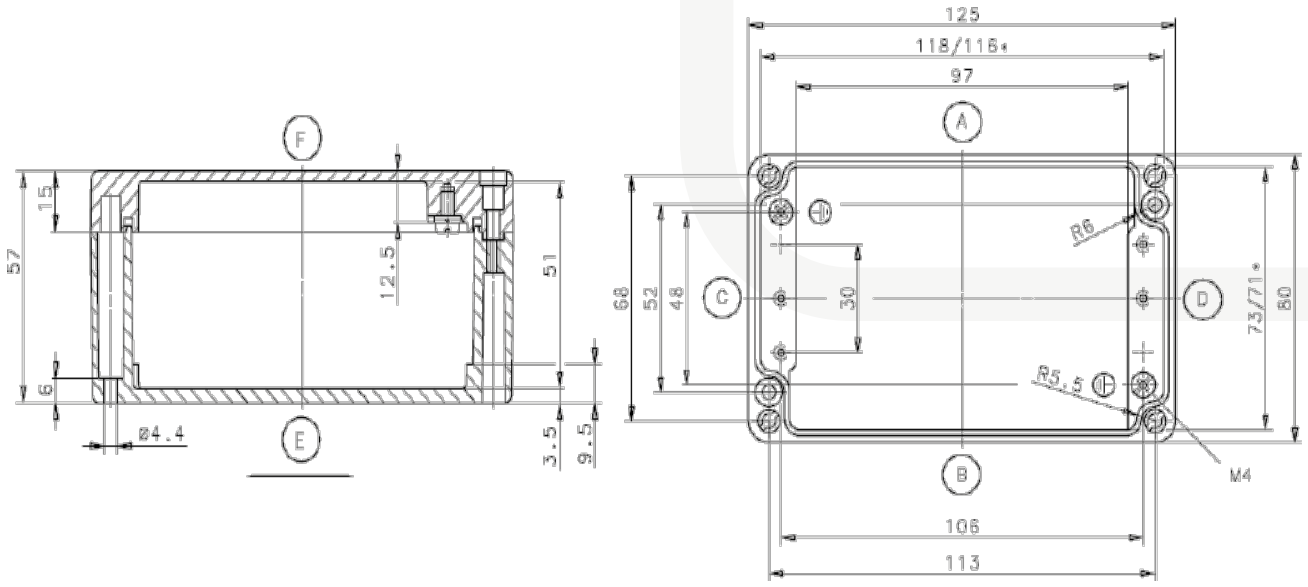
Zones 1, 2, 21, 22

The number of cable entries and the number of terminals is configurable according to the customer's needs.
The boxes are supplied finished, with the necessary terminals and with the cable entries already made.

We don't supply empty "U" certified enclosures. These terminal boxes must be configured with the number of terminals and cable entries.

ITEM REFERENCES

Max. number of terminals:							Max. number of cable entries (plastic glands):								Item No.:
Type:	2,5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	35 mm²	Size:	M16	M20	M25	M32	M40	M50	M63	
Number:	17	0	0	0	0	0	A	4	3	2	0	0	0	0	5A0302..xx*
							B	4	3	2	0	0	0	0	
							C	2	1	0	0	0	0	0	
							D	2	1	0	0	0	0	0	



* The following should be attached to the reference of each box size:
1 - Type and number of terminals required (never exceed the maximum quantity shown in the table)
2 - Size and number of cable entries:
- For unarmoured cable, it may never exceed the maximum quantity shown in the table.
- If armoured cable is used, the number of entries must be defined in each case.

The value 0 indicates that this type of terminal / cable entry size can' t be used in this box model

TECHNICAL SPECIFICATIONS

Marking:	II 2G Ex e II T4/T6 Gb II 2G Ex ia IIC T6 Gb II 2D Ex tD A21 IP65 T80°C
Certificate:	EU-Type Examination Certificate
Operating temperature:	-50°C to +60°C
Dimensions:	125x80x57 mm
Ingress protection:	IP65
Weight:	435 g (empty)
Colour:	RAL 7001

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CONFIGURABLE EX-PROOF ALUMINIUM TERMINAL BOXES

Zones 1, 2, 21, 22

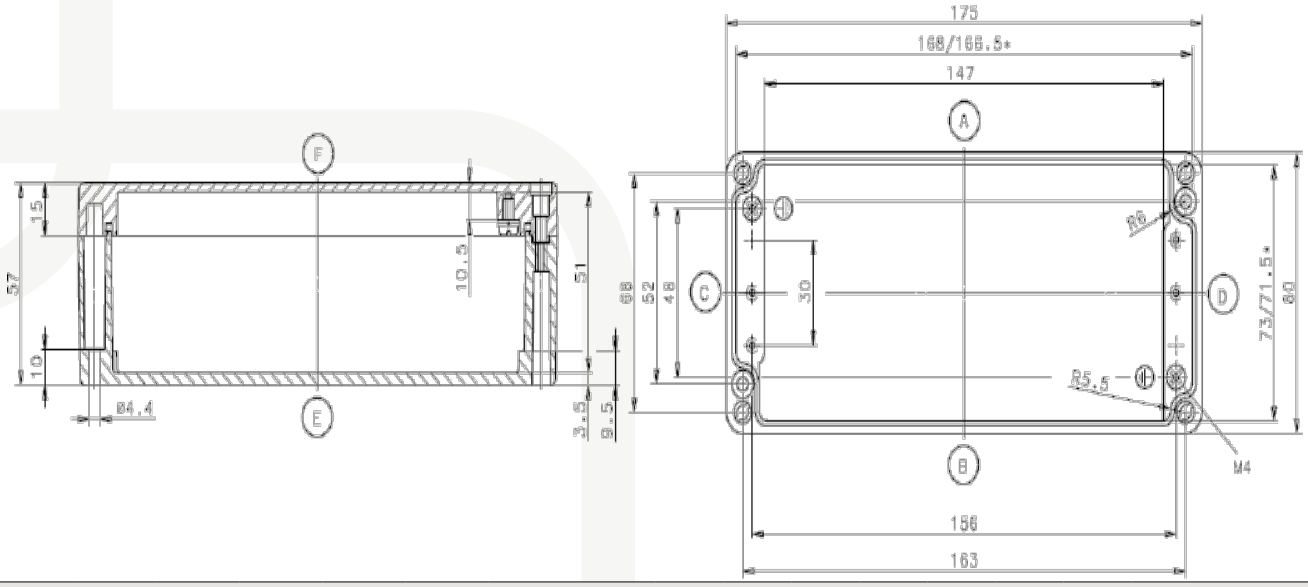
Full catalogue available on our website: www.inpratex.com

The number of cable entries and the number of terminals is configurable according to the customer's needs.
The boxes are supplied finished, with the necessary terminals and with the cable entries already made.

We don't supply empty "U" certified enclosures. These terminal boxes must be configured with the number of terminals and cable entries.

ITEM REFERENCES

Max. number of terminals:							Max. number of cable entries (plastic glands):							Item No.:
Type:	2,5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	35 mm²	Size::	M16	M20	M25	M32	M40	M50	M63	
Number:	27	0	0	0	0	0	A	6	4	4	0	0	0	0	5A0303..xx*
							B	6	4	4	0	0	0	0	
							C	2	1	0	0	0	0	0	
							D	2	1	0	0	0	0	0	



* The following should be attached to the reference of each box size:
1 - Type and number of terminals required (never exceed the maximum quantity shown in the table)
2 - Size and number of cable entries:
- For unarmoured cable, it may never exceed the maximum quantity shown in the table.
- If armoured cable is used, the number of entries must be defined in each case.

The value 0 indicates that this type of terminal / cable entry size can' t be used in this box model

TECHNICAL SPECIFICATIONS

Marking:	Ex II 2G Ex e II T4/T6 Gb Ex II 2G Ex ia IIC T6 Gb Ex II 2D Ex tD A21 IP65 T80°C
Certificate:	EU-Type Examination Certificate
Operating temperature:	-50°C to +60°C
Dimensions:	175x80x57 mm
Ingress protection:	IP65
Weight:	530 g (empty)
Colour:	RAL 7001

CONFIGURABLE EX-PROOF ALUMINIUM TERMINAL BOXES

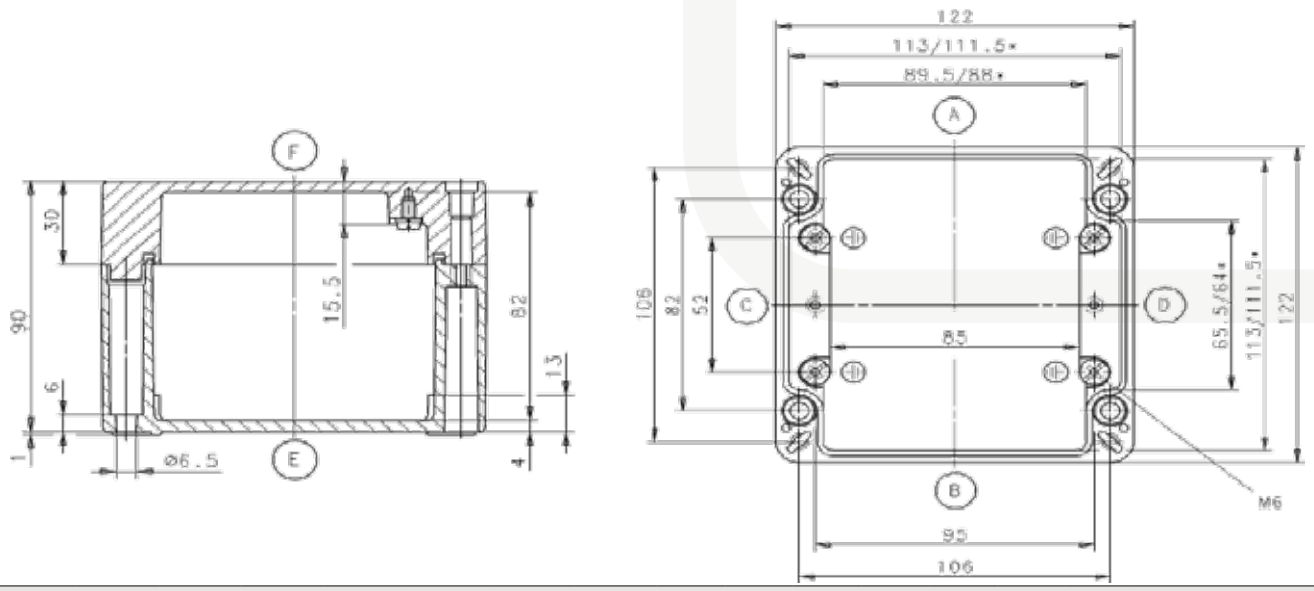
Zones 1, 2, 21, 22

The number of cable entries and the number of terminals is configurable according to the customer's needs.
The boxes are supplied finished, with the necessary terminals and with the cable entries already made.

We don't supply empty "U" certified enclosures. These terminal boxes must be configured with the number of terminals and cable entries.

ITEM REFERENCES

Max. number of terminals:							Max. number of cable entries (plastic glands):							Item No.:
Type:	2,5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	35 mm²	Size:	M16	M20	M25	M32	M40	M50	M63	
Number:	15	13	9	7	0	0	A	6	4	2	2	1	0	0	5A0304..xx*
							B	6	4	2	2	1	0	0	
							C	2	1	1	0	0	0	0	
							D	2	1	1	0	0	0	0	



* The following should be attached to the reference of each box size:
1 - Type and number of terminals required (never exceed the maximum quantity shown in the table)
2 - Size and number of cable entries:
- For unarmoured cable, it may never exceed the maximum quantity shown in the table.
- If armoured cable is used, the number of entries must be defined in each case.

The value 0 indicates that this type of terminal / cable entry size can' t be used in this box model

TECHNICAL SPECIFICATIONS

Marking:	Ex II 2G Ex e II T4/T6 Gb Ex II 2G Ex ia IIC T6 Gb Ex II 2D Ex tD A21 IP65 T80°C
Certificate:	EU-Type Examination Certificate
Operating temperature:	-50°C to +60°C
Dimensions:	122x122x90 mm
Ingress protection:	IP65
Weight:	920 g (empty)
Colour:	RAL 7001

CONFIGURABLE EX-PROOF ALUMINIUM TERMINAL BOXES

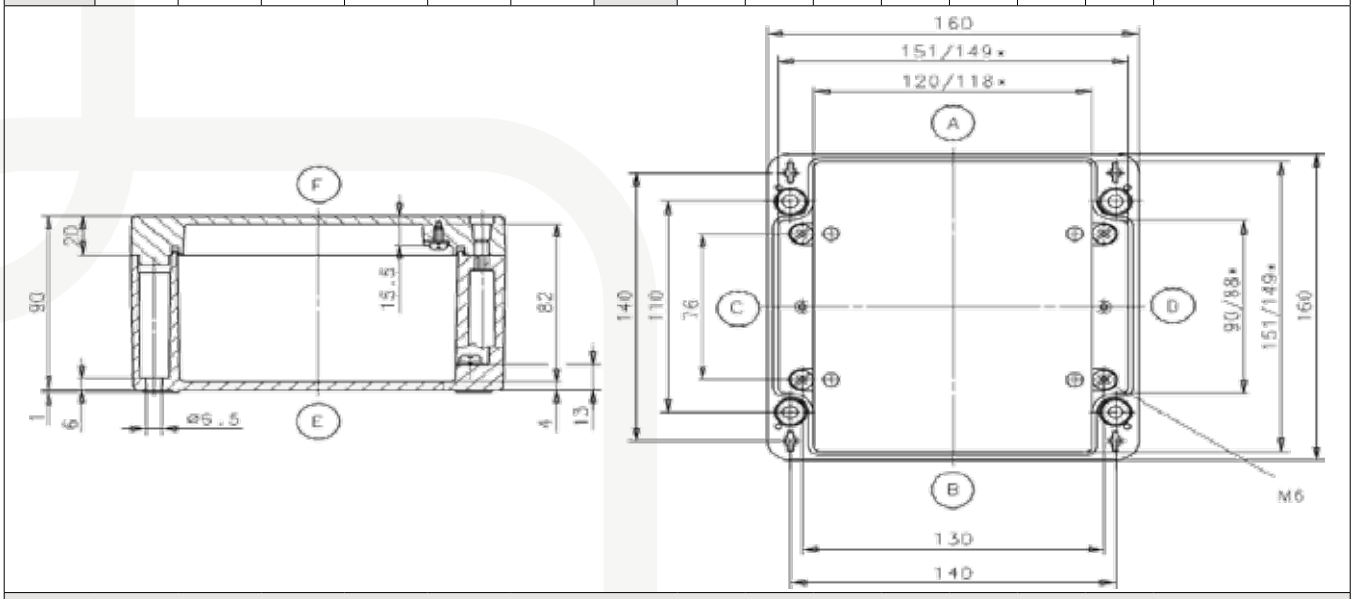
Zones 1, 2, 21, 22

The number of cable entries and the number of terminals is configurable according to the customer's needs.
The boxes are supplied finished, with the necessary terminals and with the cable entries already made.

We don't supply empty "U" certified enclosures. These terminal boxes must be configured with the number of terminals and cable entries.

ITEM REFERENCES

Max. number of terminals:							Max. number of cable entries (plastic glands):								Item No.:
Type:	2,5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	35 mm²	Size:	M16	M20	M25	M32	M40	M50	M63	
Number:	22	18	13	11	9	0	A	9	6	4	2	2	1	0	5A0305..xx*
							B	9	6	4	2	2	1	0	
							C	4	3	2	2	0	0	0	
							D	4	3	2	2	0	0	0	



* The following should be attached to the reference of each box size:
1 - Type and number of terminals required (never exceed the maximum quantity shown in the table)
2 - Size and number of cable entries:
- For unarmoured cable, it may never exceed the maximum quantity shown in the table.
- If armoured cable is used, the number of entries must be defined in each case.

The value 0 indicates that this type of terminal / cable entry size can' t be used in this box model

TECHNICAL SPECIFICATIONS

Marking:	Ex II 2G Ex e II T4/T6 Gb Ex II 2G Ex ia IIC T6 Gb Ex II 2D Ex tD A21 IP65 T80°C
Certificate:	EU-Type Examination Certificate
Operating temperature:	-50°C to +60°C
Dimensions:	160x160x90 mm
Ingress protection:	IP65
Weight:	1410 g (empty)
Colour:	RAL 7001

CONFIGURABLE EX-PROOF ALUMINIUM TERMINAL BOXES

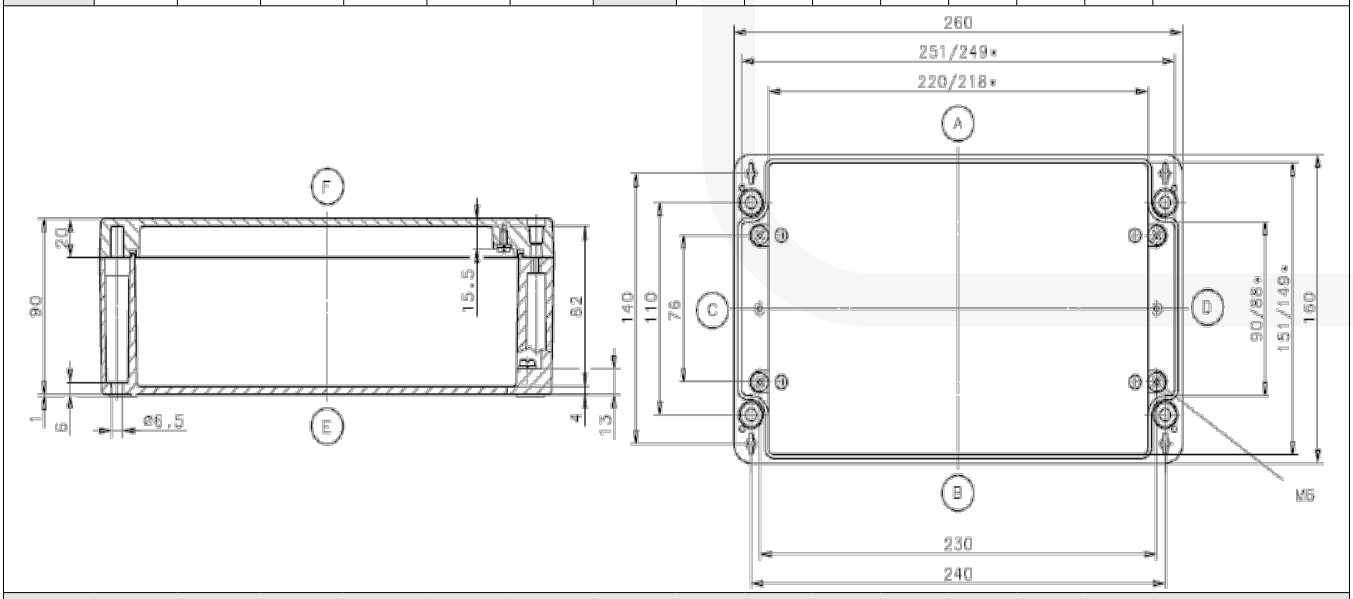
Zones 1, 2, 21, 22

The number of cable entries and the number of terminals is configurable according to the customer's needs.
The boxes are supplied finished, with the necessary terminals and with the cable entries already made.

We don't supply empty "U" certified enclosures. These terminal boxes must be configured with the number of terminals and cable entries.

ITEM REFERENCES

Max. number of terminals:							Max. number of cable entries (plastic glands):								Item No.:
Type:	2,5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	35 mm²	Size:	M16	M20	M25	M32	M40	M50	M63	
Number:	42	35	26	21	17	0	A	17	12	7	4	3	3	0	5A0306..xx*
							B	17	12	7	4	3	3	0	
							C	4	3	2	2	0	0	0	
							D	4	3	2	2	0	0	0	



* The following should be attached to the reference of each box size:
1 - Type and number of terminals required (never exceed the maximum quantity shown in the table)
2 - Size and number of cable entries:
- For unarmoured cable, it may never exceed the maximum quantity shown in the table.
- If armoured cable is used, the number of entries must be defined in each case.

The value 0 indicates that this type of terminal / cable entry size can' t be used in this box model

TECHNICAL SPECIFICATIONS

Marking:	Ex II 2G Ex e II T4/T6 Gb Ex II 2G Ex ia IIC T6 Gb Ex II 2D Ex tD A21 IP65 T80°C
Certificate:	EU-Type Examination Certificate
Operating temperature:	-50°C to +60°C
Dimensions:	260x160x90 mm
Ingress protection:	IP65
Weight:	1960 g (empty)
Colour:	RAL 7001

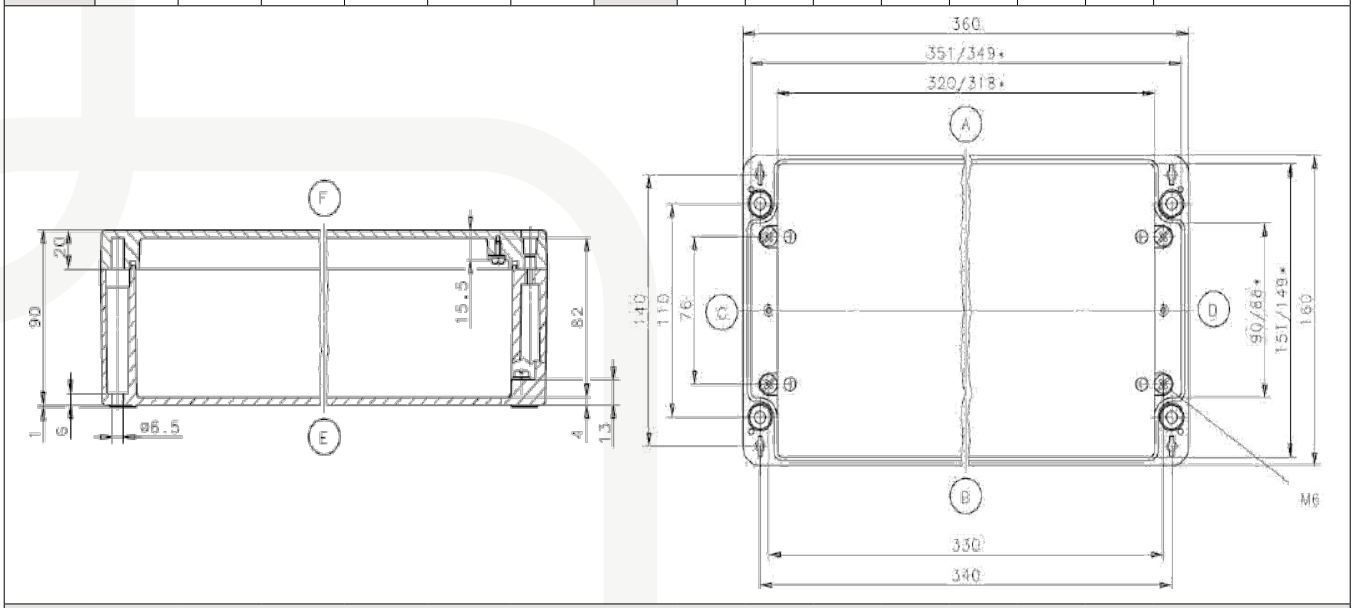
CONFIGURABLE EX-PROOF ALUMINIUM TERMINAL BOXES

Zones 1, 2, 21, 22

The number of cable entries and the number of terminals is configurable according to the customer's needs.
The boxes are supplied finished, with the necessary terminals and with the cable entries already made.

We don't supply empty "U" certified enclosures. These terminal boxes must be configured with the number of terminals and cable entries.

ITEM REFERENCES														
Max. number of terminals:							Max. number of cable entries (plastic glands):							Item No.:
Type:	2,5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	35 mm²	Size:	M16	M20	M25	M32	M40	M50	M63	
Number:	62	51	38	31	25	0	A	26	18	11	6	5	4	0	5A0307..xx*
							B	26	18	11	6	5	4	0	
							C	4	3	2	2	0	0	0	
							D	4	3	2	2	0	0	0	



* The following should be attached to the reference of each box size:
1 - Type and number of terminals required (never exceed the maximum quantity shown in the table)
2 - Size and number of cable entries:
- For unarmoured cable, it may never exceed the maximum quantity shown in the table.
- If armoured cable is used, the number of entries must be defined in each case.

The value 0 indicates that this type of terminal / cable entry size can't be used in this box model

TECHNICAL SPECIFICATIONS	
Marking:	Ex II 2G Ex e II T4/T6 Gb Ex II 2G Ex ia IIC T6 Gb Ex II 2D Ex tD A21 IP65 T80°C
Certificate:	EU-Type Examination Certificate
Operating temperature:	-50°C to +60°C
Dimensions:	360x160x90 mm
Ingress protection:	IP65
Weight:	2550 g (empty)
Colour:	RAL 7001

CONFIGURABLE EX-PROOF ALUMINIUM TERMINAL BOXES

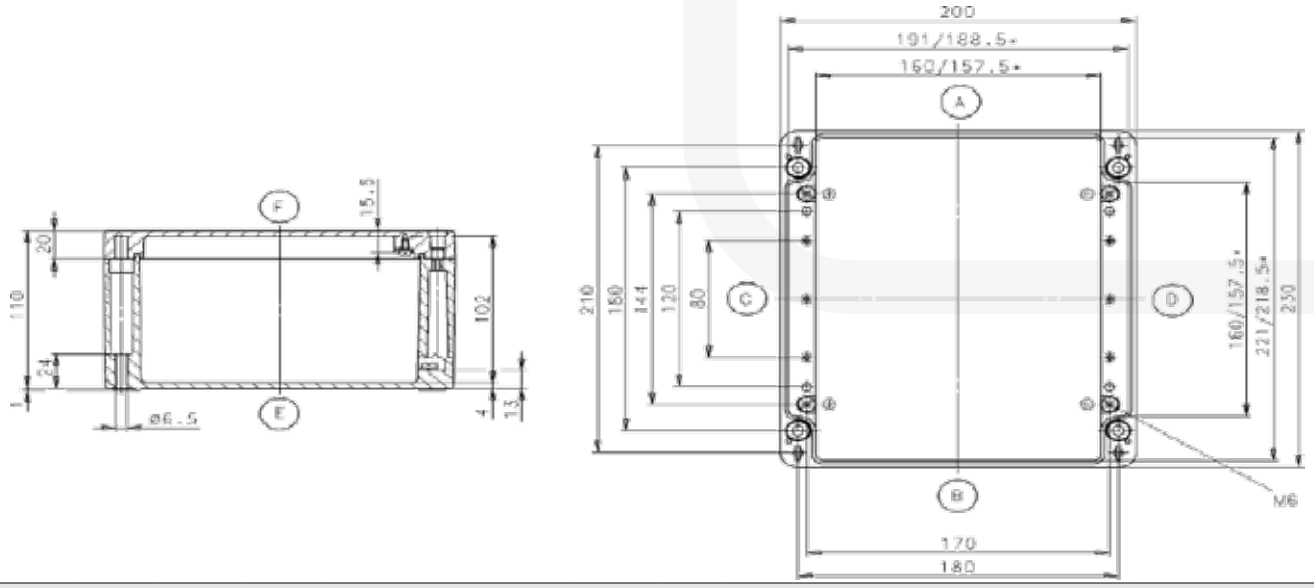
Zones 1, 2, 21, 22

The number of cable entries and the number of terminals is configurable according to the customer's needs.
The boxes are supplied finished, with the necessary terminals and with the cable entries already made.

We don't supply empty "U" certified enclosures. These terminal boxes must be configured with the number of terminals and cable entries.

ITEM REFERENCES

Max. number of terminals:							Max. number of cable entries (plastic glands):								Item No.:
Type:	2,5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	35 mm²	Size:	M16	M20	M25	M32	M40	M50	M63	
Number:	60	50	18	15	12	0	A	15	12	8	4	3	2	2	5A0308..xx*
							B	15	12	8	4	3	2	2	
							C	12	8	5	3	2	2	1	
							D	12	8	5	3	2	2	1	



* The following should be attached to the reference of each box size:
1 - Type and number of terminals required (never exceed the maximum quantity shown in the table)
2 - Size and number of cable entries:
- For unarmoured cable, it may never exceed the maximum quantity shown in the table.
- If armoured cable is used, the number of entries must be defined in each case.

The value 0 indicates that this type of terminal / cable entry size can' t be used in this box model

TECHNICAL SPECIFICATIONS

Marking:	Ex II 2G Ex e II T4/T6 Gb Ex II 2G Ex ia IIC T6 Gb Ex II 2D Ex tD A21 IP65 T80°C
Certificate:	EU-Type Examination Certificate
Operating temperature:	-50°C to +60°C
Dimensions::	200x230x110 mm
Ingress protection:	IP65
Weight:	2730 g (empty)
Colour:	RAL 7001

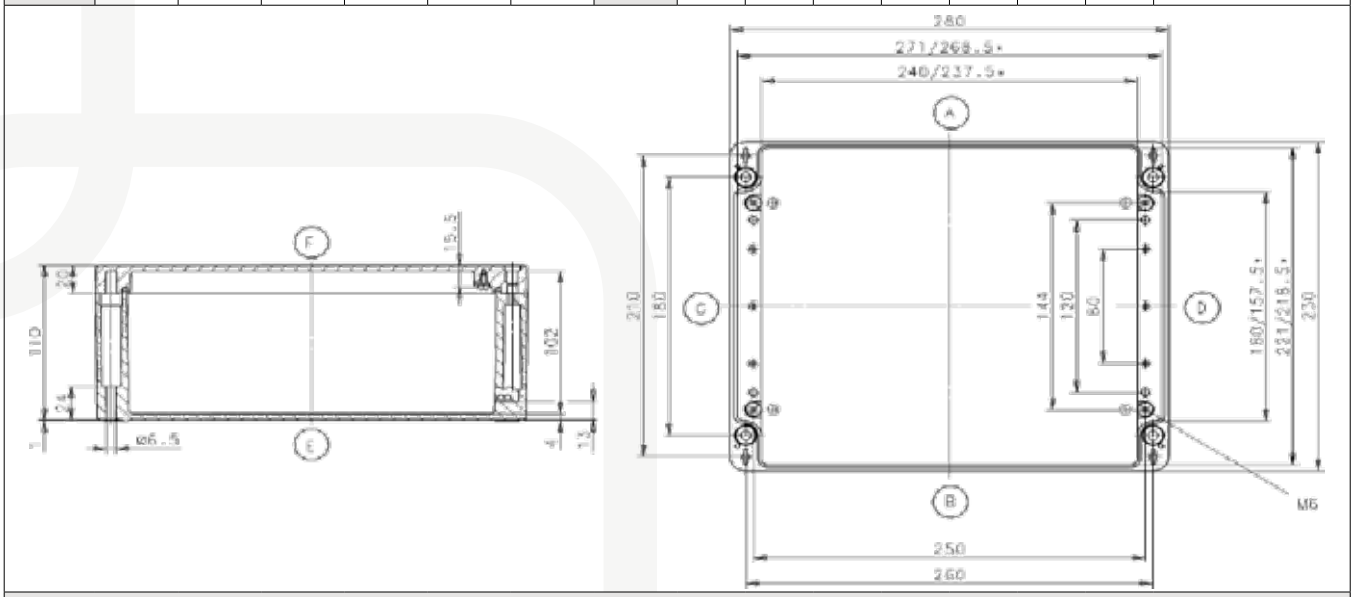
CONFIGURABLE EX-PROOF ALUMINIUM TERMINAL BOXES

Zones 1, 2, 21, 22

The number of cable entries and the number of terminals is configurable according to the customer's needs.
The boxes are supplied finished, with the necessary terminals and with the cable entries already made.

We don't supply empty "U" certified enclosures. These terminal boxes must be configured with the number of terminals and cable entries.

ITEM REFERENCES														
Max. number of terminals:							Max. number of cable entries (plastic glands):							Item No.:
Type:	2,5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	35 mm²	Size:	M16	M20	M25	M32	M40	M50	M63	
Number:	92	76	28	23	19	14	A	25	18	11	7	4	3	3	5A0309..xx*
							B	25	18	11	7	4	3	3	
							C	12	8	5	3	2	2	1	
							D	12	8	5	3	2	2	1	



* The following should be attached to the reference of each box size:
1 - Type and number of terminals required (never exceed the maximum quantity shown in the table)
2 - Size and number of cable entries:
- For unarmoured cable, it may never exceed the maximum quantity shown in the table.
- If armoured cable is used, the number of entries must be defined in each case.

The value 0 indicates that this type of terminal / cable entry size can' t be used in this box model

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex e II T4/T6 Gb II 2G Ex ia IIC T6 Gb II 2D Ex tD A21 IP65 T80°C
Certificate:	EU-Type Examination Certificate
Operating temperature:	-50°C to +60°C
Dimensions:	280x230x110 mm
Ingress protection:	IP65
Weight:	3840 g (empty)
Colour:	RAL 7001

CONFIGURABLE EX-PROOF ALUMINIUM TERMINAL BOXES

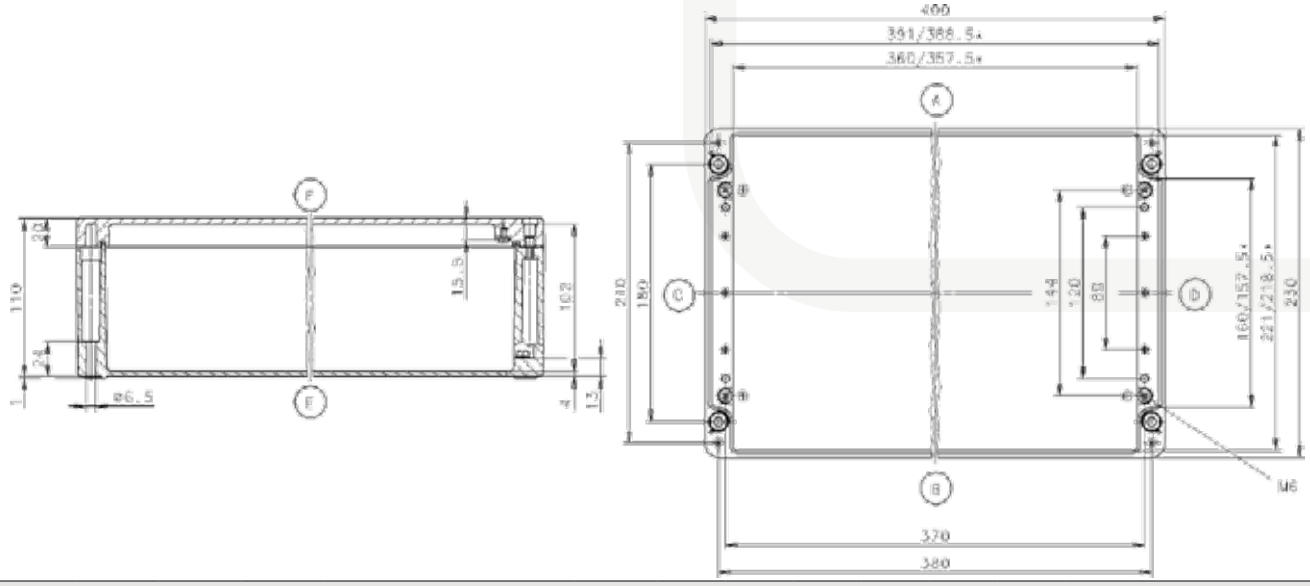
Zones 1, 2, 21, 22

The number of cable entries and the number of terminals is configurable according to the customer's needs.
The boxes are supplied finished, with the necessary terminals and with the cable entries already made.

We don't supply empty "U" certified enclosures. These terminal boxes must be configured with the number of terminals and cable entries.

ITEM REFERENCES

Max. number of terminals:							Max. number of cable entries (plastic glands):								Item No.:
Type:	2,5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	35 mm²	Size:	M16	M20	M25	M32	M40	M50	M63	
Number:	140	116	43	35	29	21	A	38	27	17	11	6	5	4	5A0310..xx*
							B	38	27	17	11	6	5	4	
							C	12	8	5	3	2	2	1	
							D	12	8	5	3	2	2	1	



* The following should be attached to the reference of each box size:
1 - Type and number of terminals required (never exceed the maximum quantity shown in the table)
2 - Size and number of cable entries:
- For unarmoured cable, it may never exceed the maximum quantity shown in the table.
- If armoured cable is used, the number of entries must be defined in each case.

The value 0 indicates that this type of terminal / cable entry size can' t be used in this box model

TECHNICAL SPECIFICATIONS

Marking:	II 2G Ex e II T4/T6 Gb II 2G Ex ia IIC T6 Gb II 2D Ex tD A21 IP65 T80°C
Certificate:	EU-Type Examination Certificate
Operating temperature:	-50°C to +60°C
Dimensions:	400x230x110 mm
Ingress protection:	IP65
Weight:	4870 g (empty)
Colour:	RAL 7001

ATEX JUNCTION BOXES

ZONES 1, 2 (gas) & 21, 22 (dust)

Explosion-proof junction box for hazardous areas. The enclosure includes 4 open cable entries and is equipped with 6 terminals (2.5 mm²) and 2 internal grounding terminals. Supplied with pre-installed terminal bridges (easily removable with a flat-head screwdriver).

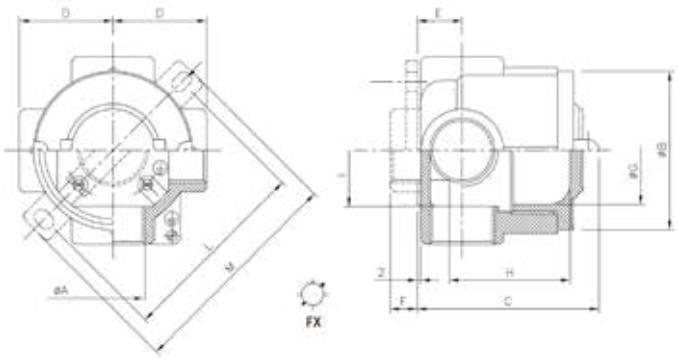
The Wago 2252-1201 and 2252-1207 clamp-type terminal blocks are perfect for small spaces thanks to their compact design. They are made of polyamide (PA66) and are operated by means of a clearly distinguishable orange push button. They guarantee safe electrical connections. They allow the connection of solid and stranded conductors. The front entry of the terminals together with the push button facilitates wiring. This S series box is a small box, suitable for wiring luminaires or small appliances. Designed for explosive atmospheres where cost, installation space and heavy industrial environments are taken into account.

EU-Type Examination Certificate

ITEM REFERENCES												
Designation:	External dimensions (mm):					Internal dimensions (mm):			Mounting brackets (mm):		Weight:	Item No.:
	ØB	C	D	E	ØF	G	H	I	ØL	M		
SX 16M-MM	90	78	50	20	8	70	49	70	108	126	475 gr	5A0401

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db IIC T6 Gb II 2D Ex tb IIIC T85°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Housing:	Aluminum light alloy
Terminals:	6x 2,5mm² terminals (bridged in pairs, jumpers can be removed) + 2x 2,5mm² earth terminals
Ingress protection:	IP66/67
Cable entries:	4x M20x1,5 (cable glands / plugs not included)

ACCESSORIES		
Designation:		Item No.:
	Cable glands for armoured cable M20x1,5 (Outer diameter 9 - 15,5 mm)	7B0702
	Cable glands for armoured cable M20x1,5 (Outer diameter 13,2 - 20,5 mm)	7B0703B
	Cable glands for non armoured cable M20x1,5 (Outer diameter 3 - 7 mm)	7B0903
	Cable glands for non armoured cable M20x1,5 (Outer diameter 5 - 10,3 mm)	7B0904
	Cable glands for non armoured cable M20x1,5 (Outer diameter 9 - 15,3 mm)	7B0905
	Plug M20x1,5	7D0102



ATEX JUNCTION BOXES

ZONES 1, 2 (gas) & 21, 22 (dust)

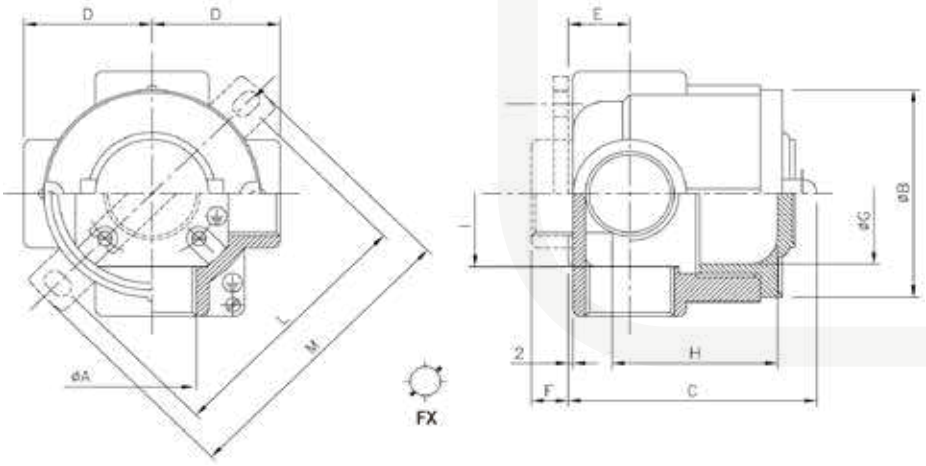
Explosion-proof junction boxes ideal for routing and interconnecting the wires at the intersection of the conduits.

Supplied with rough surface or outside painted according to customer specifications.

EU-Type Examination Certificate

ITEM REFERENCES												
Designation:	External dimensions (mm):					Internal dimensions (mm):			Mounting brackets (mm):		Weight:	Item No.:
	ØB	C	D	E	ØF	G	H	I	ØL	M		
SFX 16N MM 2-8	90	78	50	20	8	70	49	70	108	126	440 gr	5A0501
SFX 26N MM 2-8	90	78	50	20	8	70	49	70	108	126	440 gr	5A0502

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db IIC T6 Gb II 2D Ex tb IIIC T85°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Aluminum light alloy (Aluminox on request)
Operating temperature:	-20°C to +40°C
Terminals:	8 Terminals 2,5mm²
Ingress protection:	IP66/67
Cable entries:	
SFX 16N MM 2-8	SFX 26N MM 2-8
1/2” NPT (ØA)	3/4” NPT (ØA)



BHD51 SERIES EXPLOSION-PROOF JUNCTION BOXES

Zones 1, 2, 21, 22

ATEX JUNCTION BOXES | ZONES 1, 2 (gas) & 21, 22 (dust)

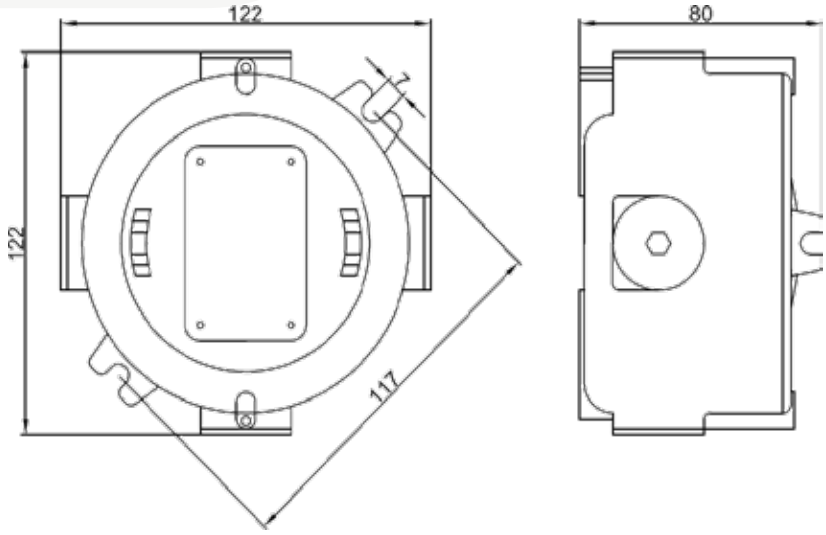
Explosion-proof Ex d junction boxes.

Manufactured in copper-free aluminium, powder coated surface.

EU-Type Examination Certificate

ITEM REFERENCES		
Designation:	Weight:	Item No.:
BHD51-D/M20x1,5	0,70 kg	5A0101
BHD51-D/M25x1,5	0,70 kg	5A0102

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex d IIC T6 Gb II 2D Ex t IIIC T80°C Db IP66
Certificate:	EU-Type Examination Certificate
Enclosure colour:	Yellow (RAL 1021)
Operating temperature:	-60°C to +55°C
Rated voltage:	Max. 500 VAC
Rated current:	20A
Terminals:	6 terminals 2,5mm²
Ingress protection:	IP66



ALUMINIUM JUNCTION BOX - 2 ENTRIES / 2 TERMINALS

Zones 1, 2, 21, 22

ATEX JUNCTION BOXES

ZONES 1, 2 (gas) & 21, 22 (dust)

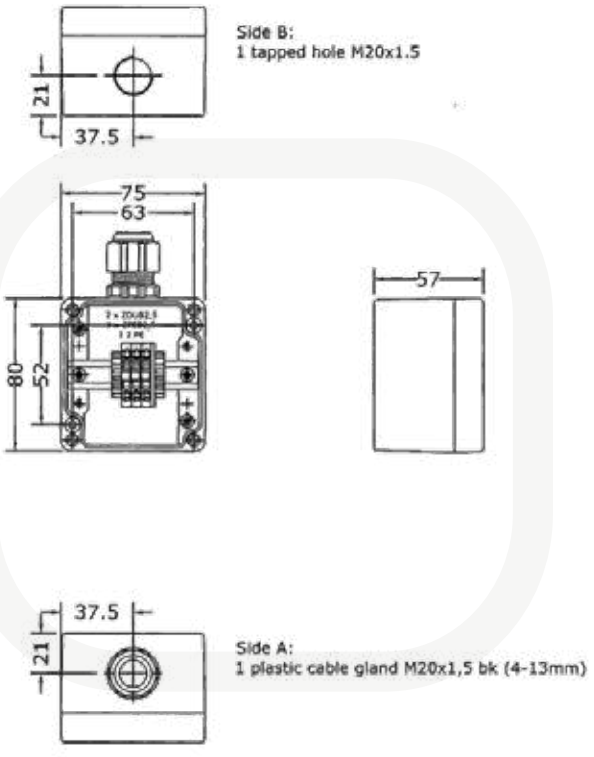
Ex e aluminium junction box for hazardous areas.

The box includes 2 cable entries and is equipped with 2x2.5mm² + 1 earth terminal.

EU-Type Examination Certificate

ITEM REFERENCES		
Designation:	Cable glands:	Item No.:
A21-E2-00806+2T2,5+2M20	Without cable glands	5A0806
A21-E2-00806+2T2,5+2PM20	2 plastic cable glands (4-13 mm)	5A0807
A21-E2-00806+2T2,5+1PM20+1PAM20	1 plastic cable gland (4-13 mm) + 1 brass cable gland (9-15,5 mm)	5A0808
A21-E2-00806+2T2,5+1PM20+1PANM20	1 plastic cable glands (4-13 mm) + 1 nickel plated brass cable gland (9-15,5 mm)	5A0809
A21-E2-00806+2T2,5+2PAM20	2 brass cable glands (9-15,5 mm)	5A0810
A21-E2-00806+2T2,5+2PANM20	2 nickel plated brass cable glands (9-15,5 mm)	5A0811

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex e IIC T6 Gb II 2D Ex tb IIIC T80°C
Certificate:	EU-Type Examination Certificate
Housing:	Aluminium
Dimensions:	75x80x57mm
Operating temperature:	-20°C to +40°C
Terminals:	2 x 2,5mm² + 1 PE
Ingress protection:	IP66
Cable entries:	2xM20x1,5



ALUMINIUM JUNCTION BOX - 8 ENTRIES / 14 TERMINALS

Zones 1, 2, 21, 22

ATEX JUNCTION BOXES | ZONES 1, 2 (gas) & 21, 22 (dust)

Ex e terminal boxes for hazardous areas.

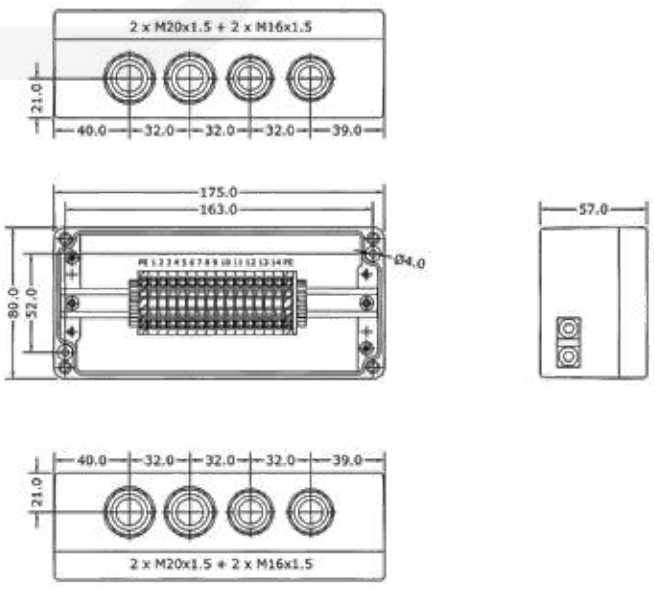
Manufactured in aluminum.

The box has 4xM16 and 4xM20 cable entries, and is equipped with 14 2.5mm² terminals + 2 ground terminals.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
A21-E2-01806+14T2,5+4M16+4M20	5A0822

DATOS TÉCNICOS		
Marking:	II 2G Ex eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db	
Certificate:	CEU-Type Examination Certificate	
Housing:	Aluminium	
Dimensions:	175x80x57mm	
Operating temperature:	-20°C to +40°C	
Terminals:	14 x 2,5mm² + 2 PE	
Ingress protection:	IP65	
Cable entries:	Upper side: 2x M16x1,5 plastic cable glands (4-10 mm) 2x M20x1,5 plastic cable glands (7-13 mm)	Lower side: 2x M16x1,5 plastic cable glands (4-10 mm) 2x M20x1,5 plastic cable glands (7-13 mm)



ALUMINIUM JUNCTION BOX - 6 ENTRIES / 18 TERMINALS

Zones 1, 2, 21, 22

ATEX JUNCTION BOXES

ZONES 1, 2 (gas) & 21, 22 (dust)

Ex e terminal boxes for hazardous areas.

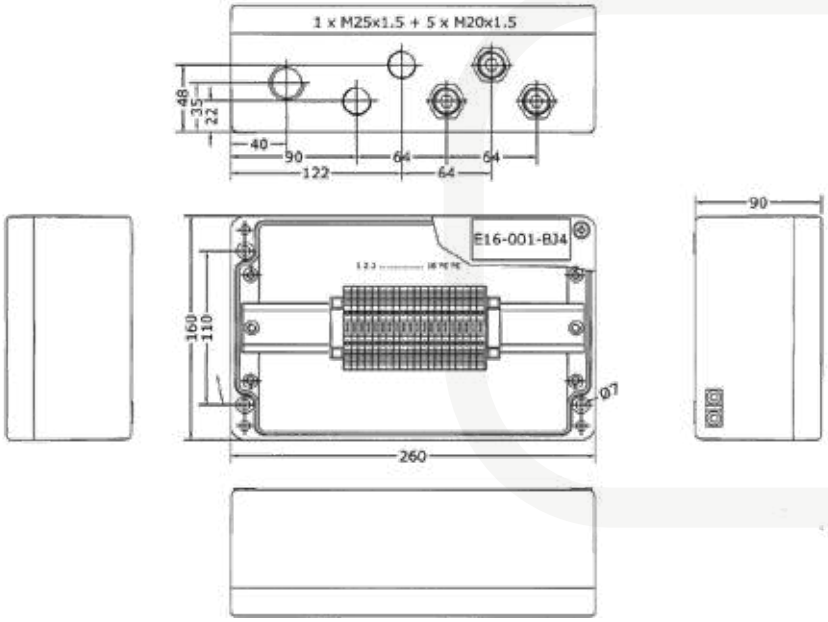
Manufactured in aluminum.

The box has 1xM25 and 5xM20 cable entries, and is equipped with 18 2.5mm² terminals + 2 ground terminals.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	Item No.:
A21-E2-02609+18T2,5+1M25+5M20	5A0812

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex e IIC T6 Gb II 2D Ex tb IIIC T80°C
Certificate:	EU-Type Examination Certificate
Housing:	Aluminium | Optional tag white background and black text (80x30 mm)
Dimensions:	260x160x90mm
Operating temperature:	-20°C to +40°C
Terminals:	18 x 2,5mm² + 2 PE
Ingress protection:	IP65
Cable entries:	1x M25x1,5 | 5x M20x1,5



ALUMINIUM JUNCTION BOX - 7 ENTRIES / 18 TERMINALS

Zones 1, 2, 21, 22

ATEX JUNCTION BOXES | ZONES 1, 2 (gas) & 21, 22 (dust)

Ex e terminal boxes for hazardous areas.

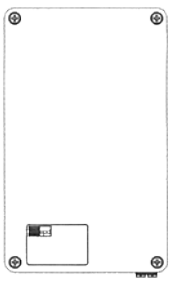
Manufactured in aluminum.

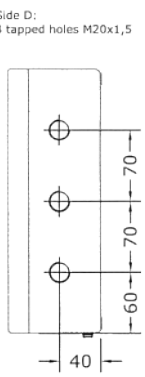
The enclosure has 1xM25 cable entry on the bottom and 6xM20 entries (3 on each side), and is equipped with 18 2.5mm² terminals + 1 earth bar.

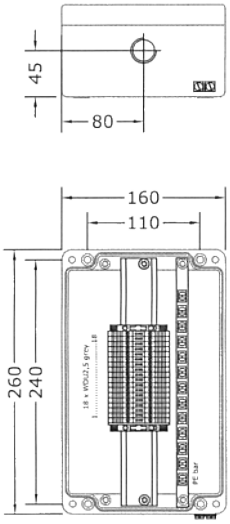
EU-Type Examination Certificate

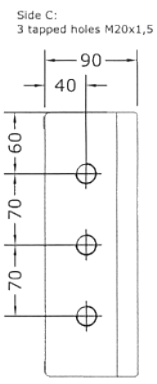
ITEM REFERENCES	
Designation:	**Item No.:**
A21-E2-02609+18T2,5+1M25+6M20	5A0823

DATOS TÉCNICOS	
Marking:	II 2G Ex eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Aluminium
Dimensions:	260x160x90mm
Operating temperature:	-20°C to +40°C
Terminals:	18 x 2,5mm² + 1 earth bar
Ingress protection:	IP65
Cable entries:	1x M25x1,5 | 6x M20x1,5 (cable glands/plugs not included)









ATEX JUNCTION BOXES

ZONES 1, 2 (gas) & 21, 22 (dust)

Ex e terminal boxes for hazardous areas.

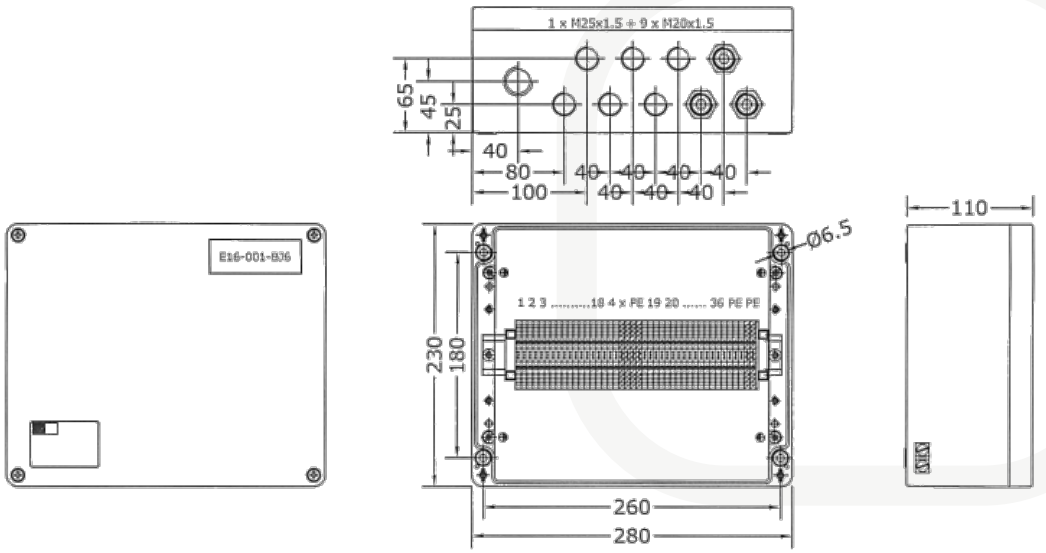
Manufactured in aluminum.

The box has 1xM25 and 9xM20 cable entries, and is equipped with 36 2.5mm² terminals + 6 ground terminals.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
A21-E2-02811+36T2,5+1M25+9M20	5A0813

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex e IIC T6 Gb II 2D Ex tb IIIC T80°C
Certificate:	EU-Type Examination Certificate
Housing:	Aluminium | Optional tag white background and black text (80x30 mm)
Dimensions:	280x230x110mm
Operating temperature:	-20°C to +40°C
Terminals:	36 x 2,5mm² + 6 PE
Ingress protection:	IP65
Cable entries:	1x M25x1,5 | 9x M20x1,5



EX I ALUMINIUM JUNCTION BOX - 6 ENTRIES / 21 TERMINALS

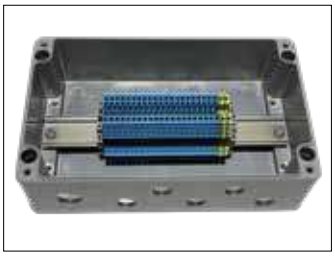
Zones 1, 2, 21, 22

ATEX JUNCTION BOXES | ZONES 1, 2 (gas) & 21, 22 (dust)

Ex i junction box for hazardous areas.

Manufactured in aluminum.

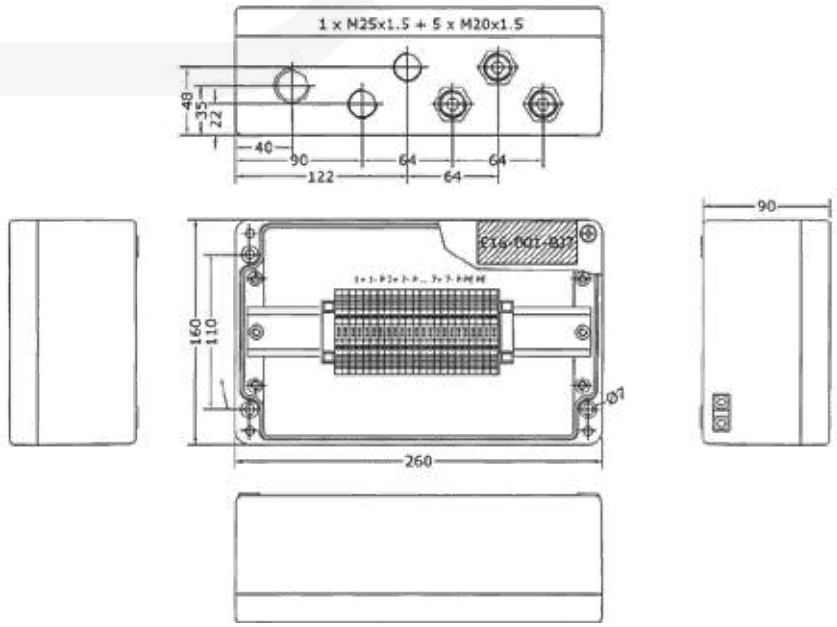
The box has 1xM25 and 5xM20 cable entries, and is equipped with 21 2.5mm² blue terminals + 2 ground terminals.



EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
A21-I2-02609+21T2,5+1M25+5M20	5A0818

TECHNICAL SPECIFICATIONS	
Marking:	II 2(1)G Ex e [ia Ga] IIC T6 Gb II 2(1)D Ex tb [ia Da] IIIC T80°C
Certificate:	EU-Type Examination Certificate
Housing:	Aluminium | Optional tag blue background and white text (80x30 mm)
Dimensions:	260x160x90mm
Operating temperature:	-20°C a +40°C
Terminals:	21 x 2,5mm² + 2 PE
Ingress protection:	IP65
Cable entries:	1x M25x1,5 | 5x M20x1,5



EX I ALUMINIUM JUNCTION BOX - 8 ENTRIES / 21 TERMINALS

Zones 1, 2, 21, 22

ATEX JUNCTION BOXES

ZONES 1, 2 (gas) & 21, 22 (dust)

Ex i junction box for hazardous areas.

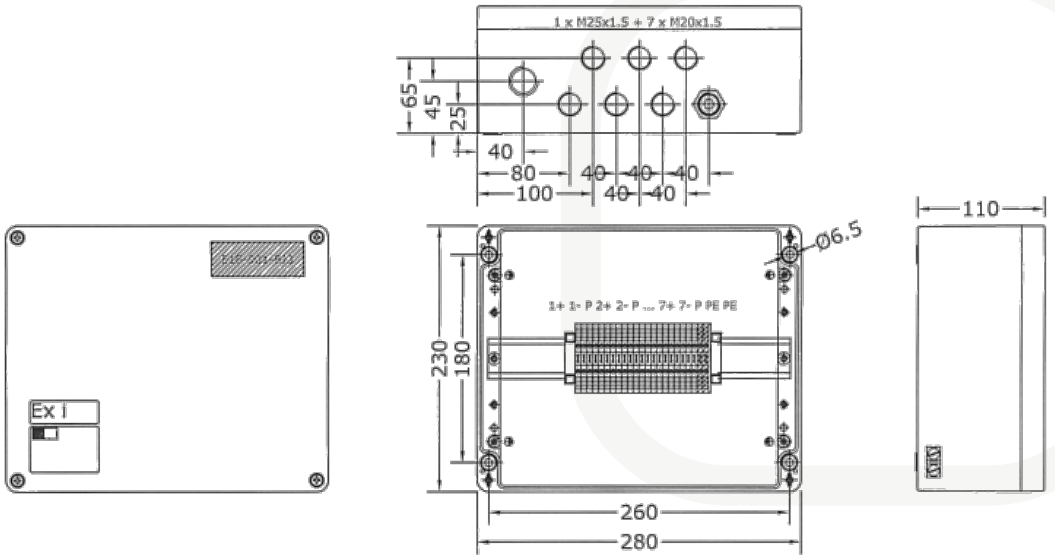
Manufactured in aluminum.

The box has 1xM25 and 7xM20 cable entries, and is equipped with 21 2.5mm² blue terminals + 2 ground terminals.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
A21-E2-02811+21T2,5+1M25+7M20	5A0819

TECHNICAL SPECIFICATIONS	
Marking:	II 2(1)G Ex e [ia Ga] IIC T6 Gb II 2(1)D Ex tb [ia Da] IIIC T80°C
Certificate:	CEU-Type Examination Certificate
Housing:	Aluminium | Optional tag blue background and white text (80x30 mm)
Dimensions:	280x230x110mm
Operating temperature:	-20°C to +40°C
Terminals:	21 x 2,5mm² + 2 PE
Ingress protection:	IP65
Cable entries:	1x M25x1,5 | 7x M20x1,5



EX I ALUMINIUM JUNCTION BOX - 1 ENTRY / 1 EX I CONNECTOR

Zones 1, 2

ATEX JUNCTION BOXES | ZONES 1, 2 (gas)

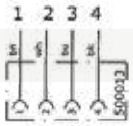
Ex i aluminium junction box certified for use in hazardous areas

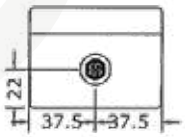
Equipped with 4 x MPT 1,5S/BU terminals, 1x M20x1.5 EMC cable gland and 1x M12 Ex i connectors (female).

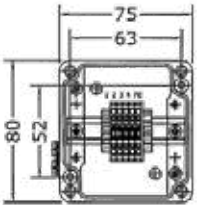
EU-Type Examination Certificate

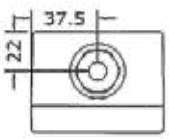
ITEM REFERENCES		
Designation:	**Configuration:**	**Item No.:**
A21-I2-00806+4T1,5+1M20+1C	1xM20x1,5 EMC cable gland + 1 Flange socket	5A0820

TECHNICAL SPECIFICATIONS	
Marking:	II 2(1)G Ex ia IIC T6 Gb
Certificate:	EU-Type Examination Certificate
Housing:	Aluminium
Dimensions:	75x80x57mm
Operating temperature:	-20°C to +40°C
Terminals:	4 x MPT 1,5S/BU (1 external earth connection)
Ingress protection:	IP65
Cable entries:	1xM20x1,5 nickel plated brass EMC cable gland (6-13mm)
Ex i connectors:	1 Flange socket 4 Poles (4 wires length 0,5 m) (plug not included)









EX I ALUMINIUM JUNCTION BOX - 1 ENTRY / 2 EX I CONNECTORS

Zones 1, 2

ATEX JUNCTION BOXES

ZONES 1, 2 (gas)

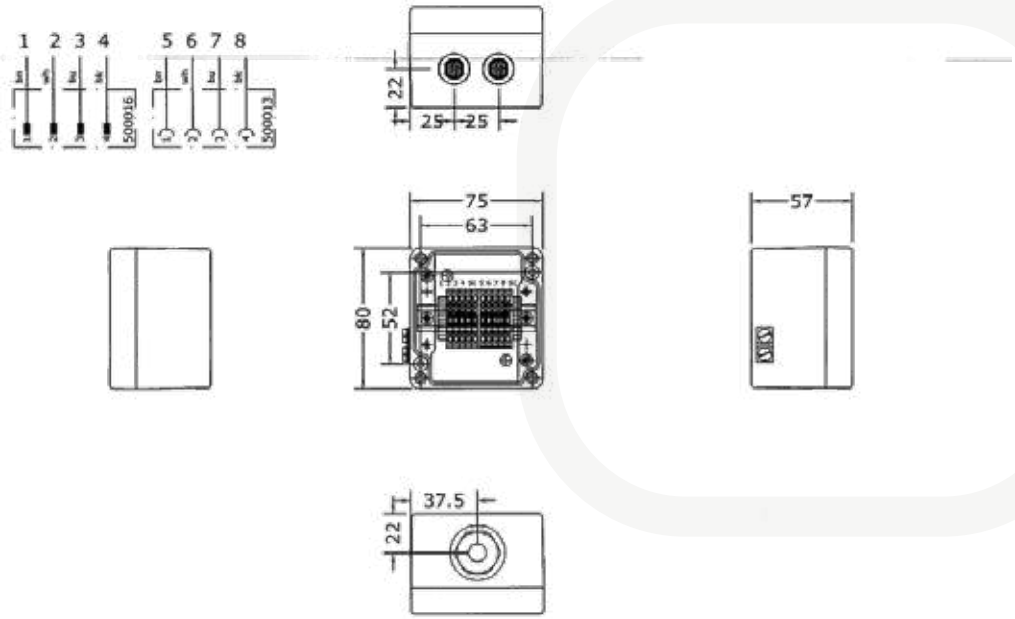
Ex i aluminium junction box certified for use in hazardous areas

Equipped with 10 x MPT 1,5S/BU terminals, 1x M20x1.5 EMC cable gland and 2x M12 Ex i connectors (male and female).

EU-Type Examination Certificate

ITEM REFERENCES		
Designation:	**Configuration:**	**Item No.:**
A21-I2-00806+10T1,5+1M20+2C	1xM20x1,5 EMC cable gland + 1 Flange plug + 1 Flange socket	5A0817

TECHNICAL SPECIFICATIONS	
Marking:	II 2(1)G Ex ia IIC T6 Gb
Certificate:	EU-Type Examination Certificate
Housing:	Aluminium
Dimensions:	75x80x57mm
Operating temperature:	-20°C to +40°C
Terminals:	10 x MPT 1,5S/BU (1 external earth connection)
Ingress protection:	IP65
Cable entries:	1xM20x1,5 nickel plated brass EMC cable gland (6-13mm)
Ex i connectors:	1 Flange plug 4 Poles (4 wires length 0,5 m) (coupler not included) 1 Flange socket 4 Poles (4 wires length 0,5 m) (plug not included)



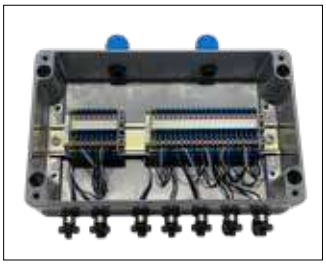
EX I ALUMINIUM JUNCTION BOX - 2 ENTRIES / 7 EX I CONNECTORS

Zones 1, 2

ATEX JUNCTION BOXES | ZONES 1, 2 (gas)

Ex i aluminium junction box certified for use in hazardous areas

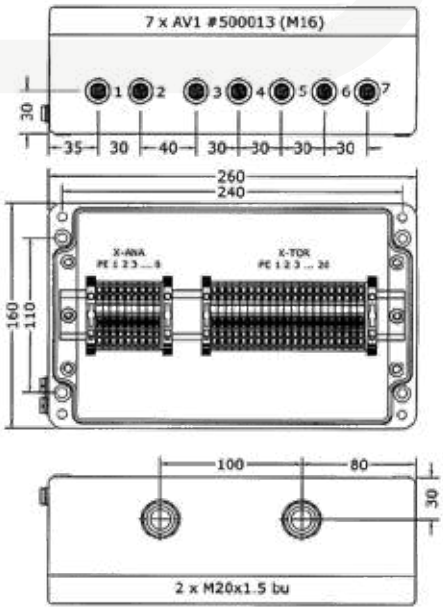
The box is equipped with 2x M20 cable entries and 7x Ex i M12 connectors, and is fitted with 28 blue 2.5mm² terminals and 2 2.5mm² earth terminals inside.

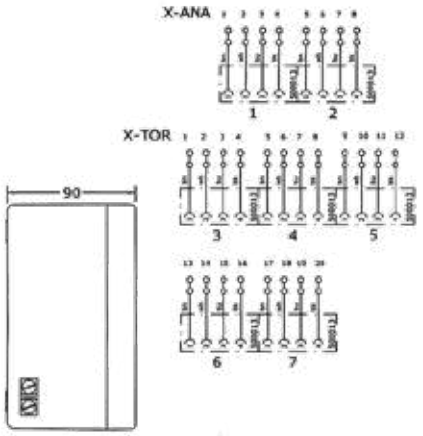


EU-Type Examination Certificate

ITEM REFERENCES		
Designation:	**Configuration:**	**Item No.:**
A21-I2-02209+28T2,5+2M20+7C	2 blue M20 plastic cable glands + 7 Flange sockets	5A0825

TECHNICAL SPECIFICATIONS	
Marking:	II 2(1)G Ex eb [ia Ga] IIC T6 Gb
Certificate:	EU-Type Examination Certificate
Housing:	Aluminium. External earth connection.
Dimensions:	220x120x90 mm
Operating temperature:	-20°C to +40°C
Terminals:	Block 1: 8 blue terminals 2.5mm² + 1 earth terminal 2.5mm² Block 2: 20 blue terminals 2.5mm² + 1 earth terminal 2.5mm²
Ingress protection:	IP65
Cable entries:	2x M20x1,5 blue plastic cable glands (7-13mm)
Ex i connectors:	7 flange sockets 4 Poles (4 wires length 200 mm) (plugs not included)





4.2

GRP TERMINAL BOXES

ATEX JUNCTION BOXES

ZONES 1, 2 (gas) & 21, 22 (dust)

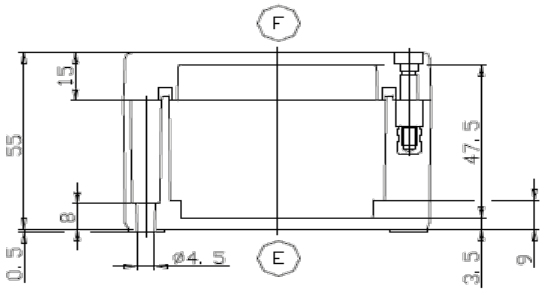
EU-Type Examination Certificate

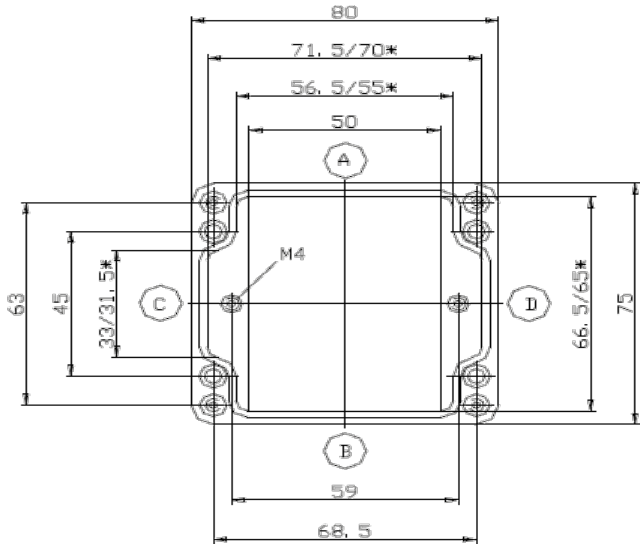
We don't supply empty "U" certified enclosures. These terminal boxes must be configured with the number of terminals and cable entries.

GRP (glass-reinforced polyester) junction box range, suitable for use within ATEX-rated Ex e Increased Safety areas. Supplied fully assembled and certified, please confirm your terminal and gland size/s and quantity requirements when enquiring.

ITEM REFERENCES

Max. number of terminals:							Max. number of cable entries (plastic glands):								Item No.:
Type:	2,5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	35 mm²	Size:	M16	M20	M25	M32	M40	M50	M63	
Number:	7	0	0	0	0	0	A	2	2	1	0	0	0	0	5A0201..xx*
							B	2	2	1	0	0	0	0	
							C	1	1	0	0	0	0	0	
							D	1	1	0	0	0	0	0	





* The following should be attached to the reference of each box size:

1 - Type and number of terminals required (never exceed the maximum quantity shown in the table)

2 - Size and number of cable entries:

- For unarmoured cable, it may never exceed the maximum quantity shown in the table.
- If armoured cable is used, the number of entries must be defined in each case.

The value 0 indicates that this type of terminal / cable entry size can't be used in this box model

TECHNICAL SPECIFICATIONS

Marking:	Ex II 2G Ex e II T4/T6 Gb Ex II 2G Ex ia IIC T6 Gb Ex II 2D Ex tD A21 IP65 T80°C
Certificate:	EU-Type Examination Certificate
Operating temperature:	-50°C to +60°C
Dimensions:	80x75x55 mm
Ingress protection:	IP65
Weight:	230 g (empty)
Colour:	RAL 9005

CONFIGURABLE EX E GRP JUNCTION BOXES

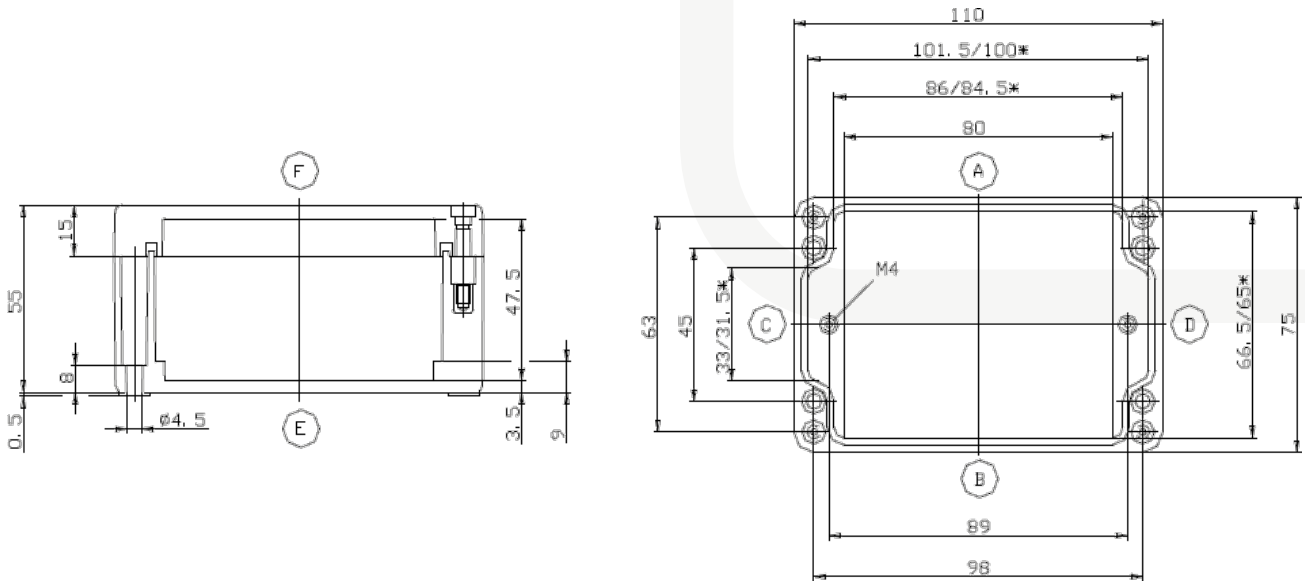
Zones 1, 2, 21, 22

The number of cable entries and the number of terminals is configurable according to the customer's needs.
The boxes are supplied finished, with the necessary terminals and with the cable entries already made.

We don't supply empty "U" certified enclosures. These terminal boxes must be configured with the number of terminals and cable entries.

ITEM REFERENCES

Max. number of terminals:							Max. number of cable entries (plastic glands):								Item No.:
Type:	2,5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	35 mm²	Size:	M16	M20	M25	M32	M40	M50	M63	
Number:	13	0	0	0	0	0	A	3	3	2	0	0	0	0	5A0202..xx*
							B	3	3	2	0	0	0	0	
							C	1	1	0	0	0	0	0	
							D	1	1	0	0	0	0	0	



* The following should be attached to the reference of each box size:
1 - Type and number of terminals required (never exceed the maximum quantity shown in the table)
2 - Size and number of cable entries:
- For unarmoured cable, it may never exceed the maximum quantity shown in the table.
- If armoured cable is used, the number of entries must be defined in each case.

The value 0 indicates that this type of terminal / cable entry size can' t be used in this box model

TECHNICAL SPECIFICATIONS

Marking:	Ex II 2G Ex e II T4/T6 Gb Ex II 2G Ex ia IIC T6 Gb Ex II 2D Ex tD A21 IP65 T80°C
Certificate:	EU-Type Examination Certificate
Operating temperature:	-50°C to +60°C
Dimensions:	110x75x55 mm
Ingress protection:	IP65
Weight:	295 g (empty)
Colour:	RAL 9005

CONFIGURABLE EX E GRP JUNCTION BOXES

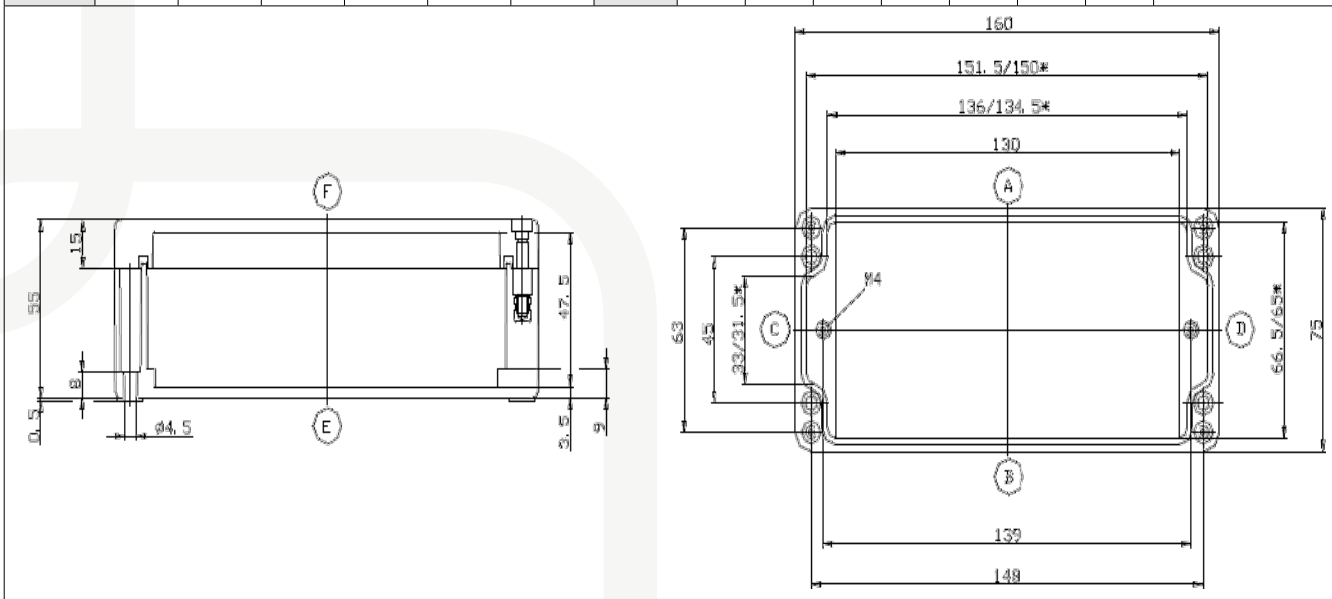
Zones 1, 2, 21, 22

The number of cable entries and the number of terminals is configurable according to the customer's needs.
The boxes are supplied finished, with the necessary terminals and with the cable entries already made.

We don't supply empty "U" certified enclosures. These terminal boxes must be configured with the number of terminals and cable entries.

ITEM REFERENCES

Max. number of terminals:							Max. number of cable entries (plastic glands):							Item No.:
Type:	2,5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	35 mm²	Size:	M16	M20	M25	M32	M40	M50	M63	
Number:	22	0	0	0	0	0	A	5	4	3	0	0	0	0	5A0203..xx*
							B	5	4	3	0	0	0	0	
							C	1	1	0	0	0	0	0	
							D	1	1	0	0	0	0	0	



* The following should be attached to the reference of each box size:
1 - Type and number of terminals required (never exceed the maximum quantity shown in the table)
2 - Size and number of cable entries:
- For unarmoured cable, it may never exceed the maximum quantity shown in the table.
- If armoured cable is used, the number of entries must be defined in each case.

The value 0 indicates that this type of terminal / cable entry size can' t be used in this box model

TECHNICAL SPECIFICATIONS

Marking:	Ex II 2G Ex e II T4/T6 Gb Ex II 2G Ex ia IIC T6 Gb Ex II 2D Ex tD A21 IP65 T80°C
Certificate:	EU-Type Examination Certificate
Operating temperature:	-50°C to +60°C
Dimensions:	160x75x55 mm
Ingress protection:	IP65
Weight:	405 g (empty)
Colour:	RAL 9005

CONFIGURABLE EX E GRP JUNCTION BOXES

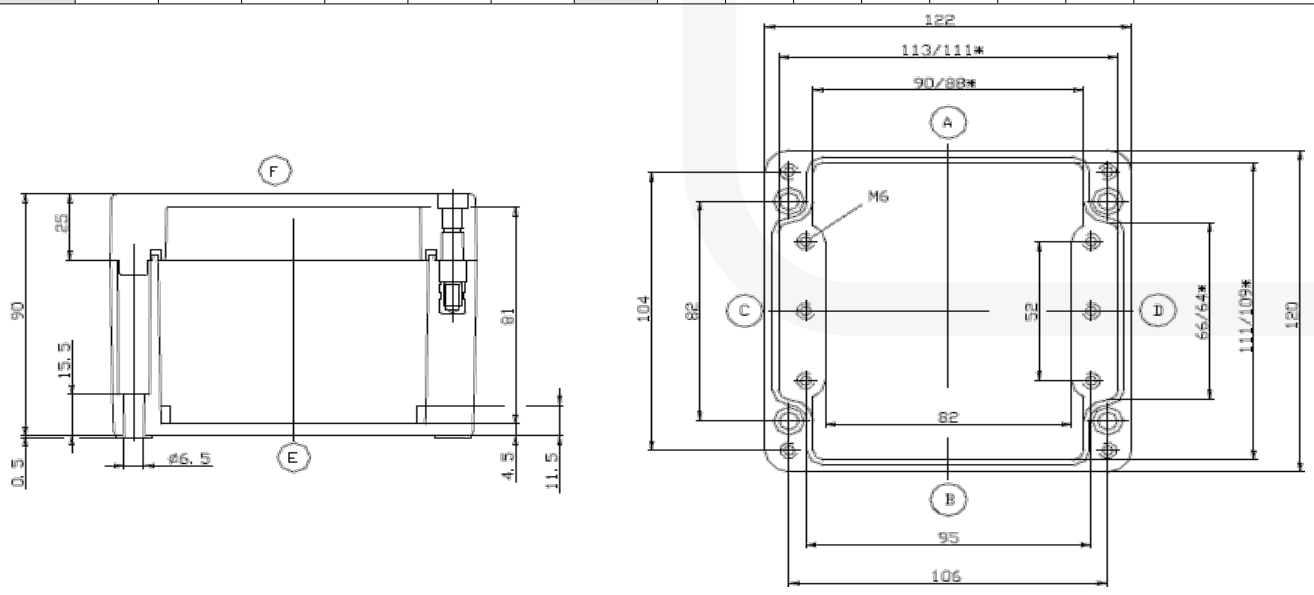
Zones 1, 2, 21, 22

The number of cable entries and the number of terminals is configurable according to the customer's needs.
The boxes are supplied finished, with the necessary terminals and with the cable entries already made.

We don't supply empty "U" certified enclosures. These terminal boxes must be configured with the number of terminals and cable entries.

ITEM REFERENCES

Max. number of terminals:							Max. number of cable entries (plastic glands):							Item No.:
Type:	2,5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	35 mm²	Size:	M16	M20	M25	M32	M40	M50	M63	
Number:	16	13	10	6	0	0	A	5	4	3	2	1	0	0	5A0204..xxx*
							B	5	4	3	2	1	0	0	
							C	3	2	2	1	0	0	0	
							D	3	2	2	1	0	0	0	



* The following should be attached to the reference of each box size:
1 - Type and number of terminals required (never exceed the maximum quantity shown in the table)
2 - Size and number of cable entries:
- For unarmoured cable, it may never exceed the maximum quantity shown in the table.
- If armoured cable is used, the number of entries must be defined in each case.

The value 0 indicates that this type of terminal / cable entry size can' t be used in this box model

TECHNICAL SPECIFICATIONS

Marking:	Ex II 2G Ex e II T4/T6 Gb Ex II 2G Ex ia IIC T6 Gb Ex II 2D Ex tD A21 IP65 T80°C
Certificate:	EU-Type Examination Certificate
Operating temperature:	-50°C to +60°C
Dimensions:	122x120x90 mm
Ingress protection:	IP65
Weight:	750 g (empty)
Colour:	RAL 9005

CONFIGURABLE EX E GRP JUNCTION BOXES

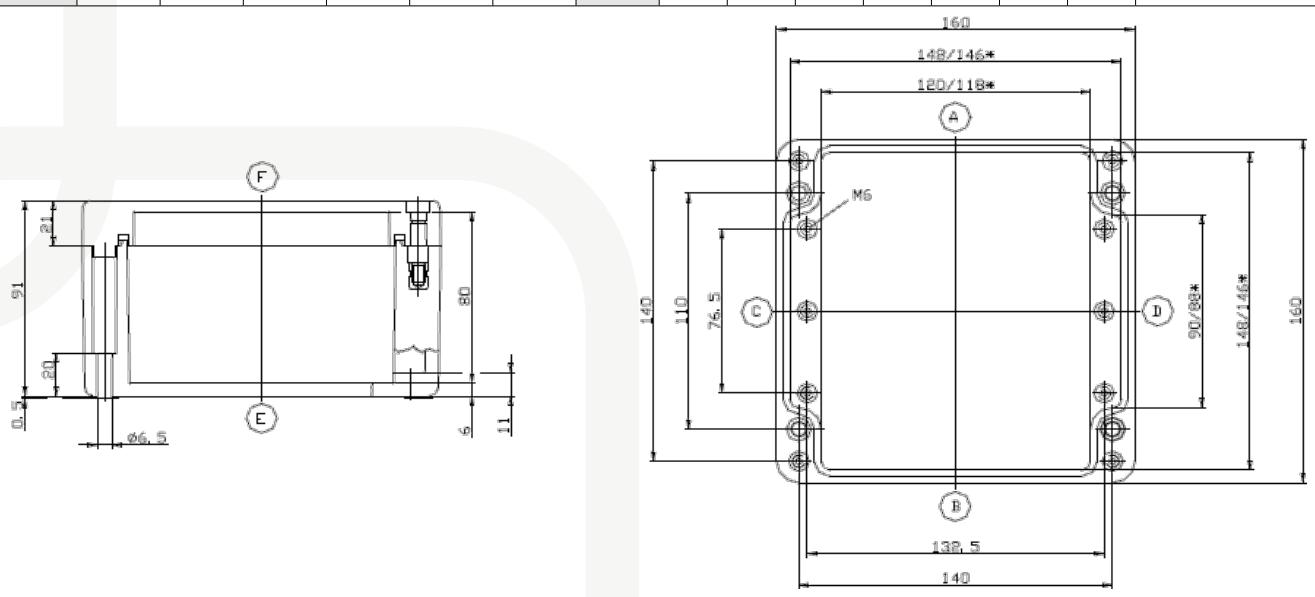
Zones 1, 2, 21, 22

The number of cable entries and the number of terminals is configurable according to the customer's needs.
The boxes are supplied finished, with the necessary terminals and with the cable entries already made.

We don't supply empty "U" certified enclosures. These terminal boxes must be configured with the number of terminals and cable entries.

ITEM REFERENCES

Max. number of terminals:							Max. number of cable entries (plastic glands):								Item No.:
Type:	2,5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	35 mm²	Size:	M16	M20	M25	M32	M40	M50	M63	
Number:	22	18	13	11	9	0	A	8	6	4	2	2	1	0	5A0205..xx*
							B	8	6	4	2	2	1	0	
							C	4	3	2	2	1	0	0	
							D	4	3	2	2	1	0	0	



* The following should be attached to the reference of each box size:
1 - Type and number of terminals required (never exceed the maximum quantity shown in the table)
2 - Size and number of cable entries:
- For unarmoured cable, it may never exceed the maximum quantity shown in the table.
- If armoured cable is used, the number of entries must be defined in each case.

The value 0 indicates that this type of terminal / cable entry size can' t be used in this box model

TECHNICAL SPECIFICATIONS

Marking:	Ex II 2G Ex e II T4/T6 Gb Ex II 2G Ex ia IIC T6 Gb Ex II 2D Ex tD A21 IP65 T80°C
Certificate:	EU-Type Examination Certificate
Operating temperature:	-50°C to +60°C
Dimensions:	160x160x91 mm
Ingress protection:	IP65
Weight:	1130 g (empty)
Colour:	RAL 9005

CONFIGURABLE EX E GRP JUNCTION BOXES

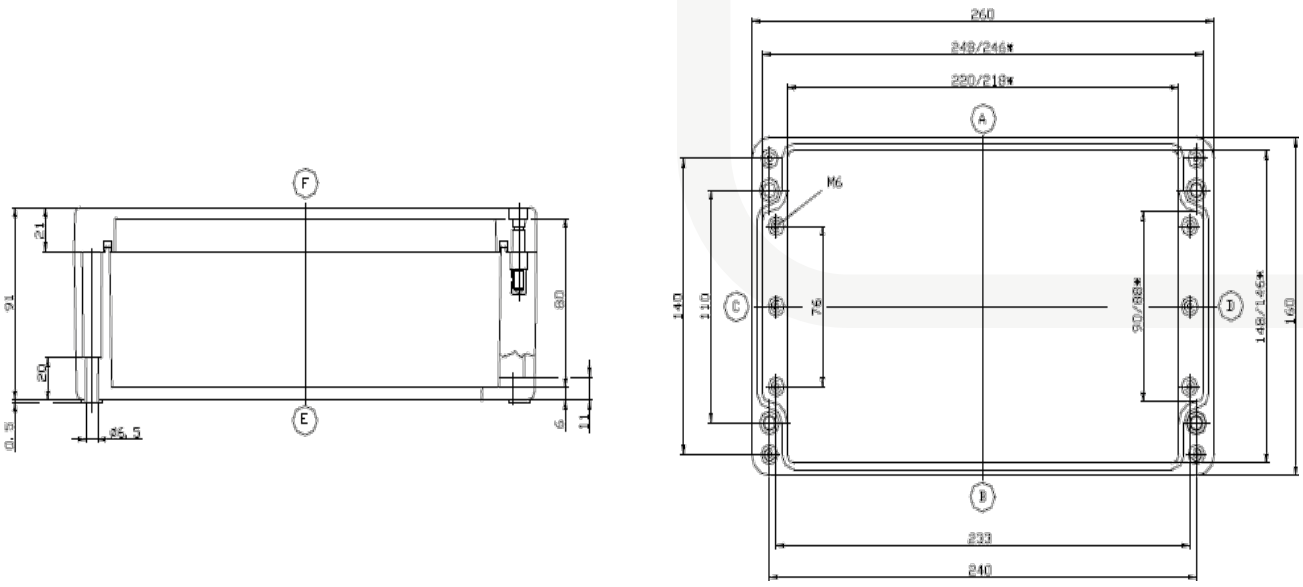
Zones 1, 2, 21, 22

The number of cable entries and the number of terminals is configurable according to the customer's needs.
The boxes are supplied finished, with the necessary terminals and with the cable entries already made.

We don't supply empty "U" certified enclosures. These terminal boxes must be configured with the number of terminals and cable entries.

ITEM REFERENCES

Max. number of terminals:							Max. number of cable entries (plastic glands):							Item No.:
Type:	2,5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	35 mm²	Size:	M16	M20	M25	M32	M40	M50	M63	
Number:	42	35	26	21	17	0	A	15	12	8	4	3	3	0	5A0206..xx*
							B	15	12	8	4	3	3	0	
							C	4	3	2	2	1	0	0	
							D	4	3	2	2	1	0	0	



* The following should be attached to the reference of each box size:
1 - Type and number of terminals required (never exceed the maximum quantity shown in the table)
2 - Size and number of cable entries:
- For unarmoured cable, it may never exceed the maximum quantity shown in the table.
- If armoured cable is used, the number of entries must be defined in each case.

The value 0 indicates that this type of terminal / cable entry size can' t be used in this box model

TECHNICAL SPECIFICATIONS

Marking:	Ex II 2G Ex e II T4/T6 Gb Ex II 2G Ex ia IIC T6 Gb Ex II 2D Ex tD A21 IP65 T80°C
Certificate:	EU-Type Examination Certificate
Operating temperature:	-50°C to +60°C
Dimensions:	260x160x91 mm
Ingress protection:	IP65
Weight:	1710 g (empty)
Colour:	RAL 9005

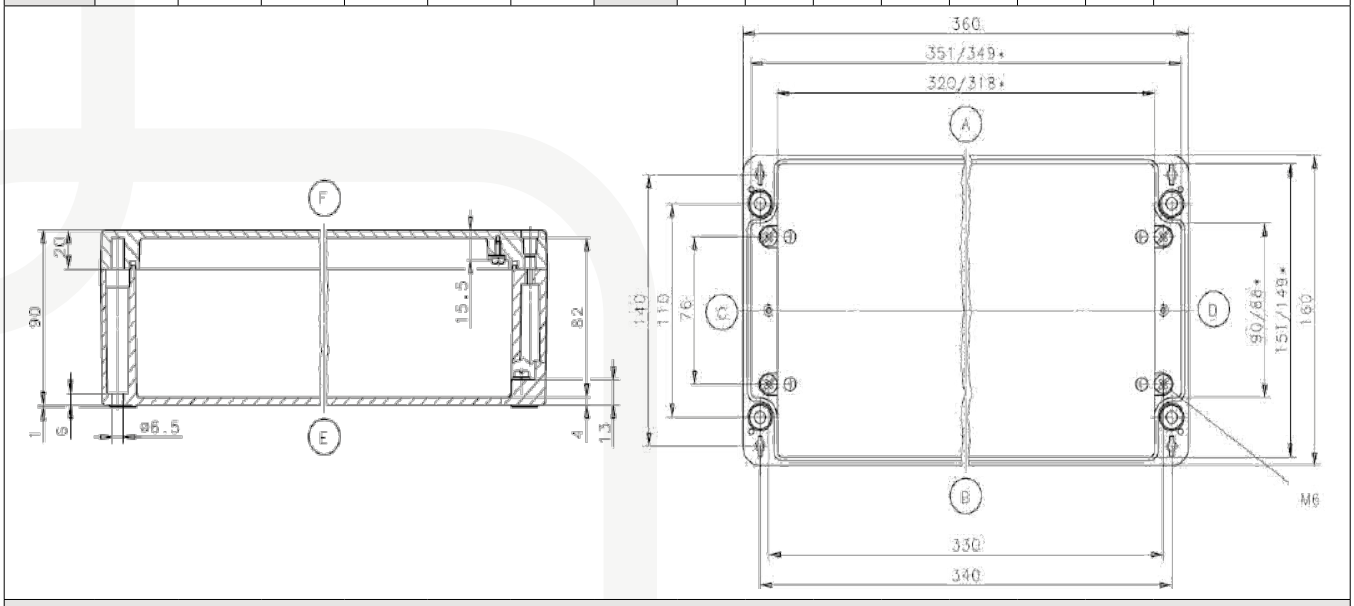
CONFIGURABLE EX E GRP JUNCTION BOXES

Zones 1, 2, 21, 22

The number of cable entries and the number of terminals is configurable according to the customer's needs.
The boxes are supplied finished, with the necessary terminals and with the cable entries already made.

We don't supply empty "U" certified enclosures. These terminal boxes must be configured with the number of terminals and cable entries.

ITEM REFERENCES														
Max. number of terminals:							Max. number of cable entries (plastic glands):							Item No.:
Type:	2,5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	35 mm²	Size:	M16	M20	M25	M32	M40	M50	M63	
Number:	62	51	38	31	25	0	A	23	18	11	7	5	4	0	5A0207..xx*
							B	23	18	11	7	5	4	0	
							C	4	3	2	2	1	0	0	
							D	4	3	2	2	1	0	0	



* The following should be attached to the reference of each box size:
1 - Type and number of terminals required (never exceed the maximum quantity shown in the table)
2 - Size and number of cable entries:
- For unarmoured cable, it may never exceed the maximum quantity shown in the table.
- If armoured cable is used, the number of entries must be defined in each case.

The value 0 indicates that this type of terminal / cable entry size can' t be used in this box model

TECHNICAL SPECIFICATIONS	
Marking:	Ex II 2G Ex e II T4/T6 Gb Ex II 2G Ex ia IIC T6 Gb Ex II 2D Ex tD A21 IP65 T80°C
Certificate:	EU-Type Examination Certificate
Operating temperature:	-50°C to +60°C
Dimensions:	360x160x91 mm
Ingress protection:	IP65
Weight:	2150 g (empty)
Colour:	RAL 9005

CONFIGURABLE EX E GRP JUNCTION BOXES

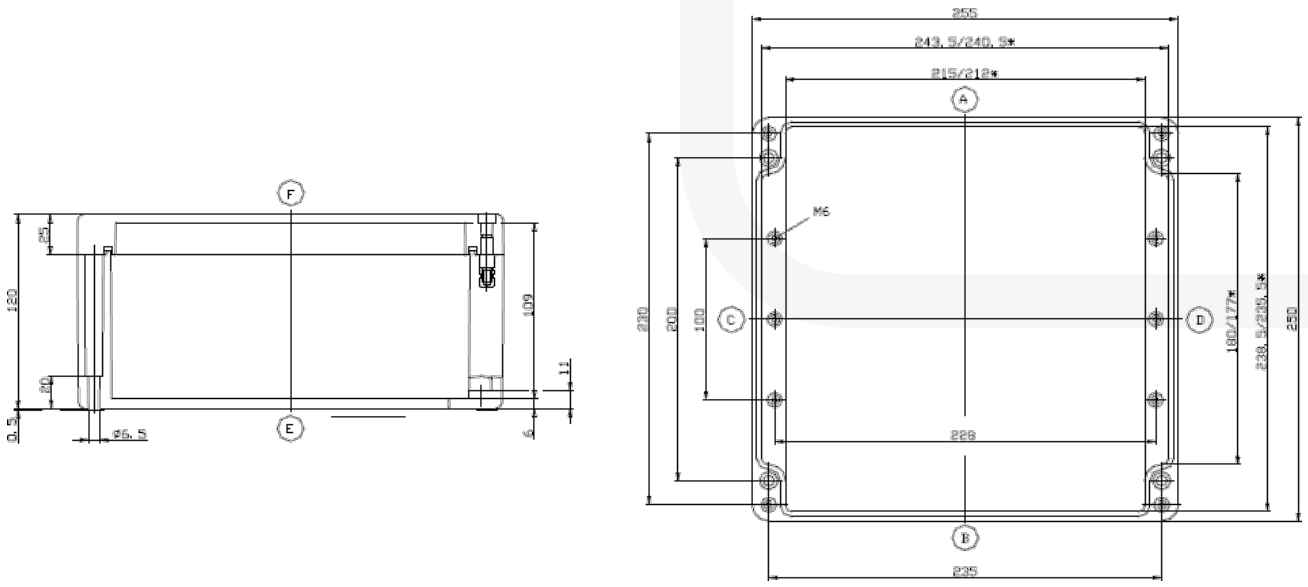
Zones 1, 2, 21, 22

The number of cable entries and the number of terminals is configurable according to the customer's needs.
The boxes are supplied finished, with the necessary terminals and with the cable entries already made.

We don't supply empty "U" certified enclosures. These terminal boxes must be configured with the number of terminals and cable entries.

ITEM REFERENCES

Max. number of terminals:							Max. number of cable entries (plastic glands):							Item No.:
Type:	2,5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	35 mm²	Size:	M16	M20	M25	M32	M40	M50	M63	
Number:	80	66	25	20	16	12	A	23	17	11	7	4	3	3	5A0208..xx*
							B	23	17	11	7	4	3	3	
							C	14	10	8	4	3	2	2	
							D	14	10	8	4	3	2	2	



* The following should be attached to the reference of each box size:
1 - Type and number of terminals required (never exceed the maximum quantity shown in the table)
2 - Size and number of cable entries:
- For unarmoured cable, it may never exceed the maximum quantity shown in the table.
- If armoured cable is used, the number of entries must be defined in each case.

The value 0 indicates that this type of terminal / cable entry size can' t be used in this box model

TECHNICAL SPECIFICATIONS

Marking:	II 2G Ex e II T4/T6 Gb II 2G Ex ia IIC T6 Gb II 2D Ex tD A21 IP65 T80°C
Certificate:	EU-Type Examination Certificate
Operating temperature:	-50°C to +60°C
Dimensions:	255x250x120 mm
Ingress protection:	IP65
Weight:	2650 g (empty)
Colour:	RAL 9005

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CONFIGURABLE EX E GRP JUNCTION BOXES

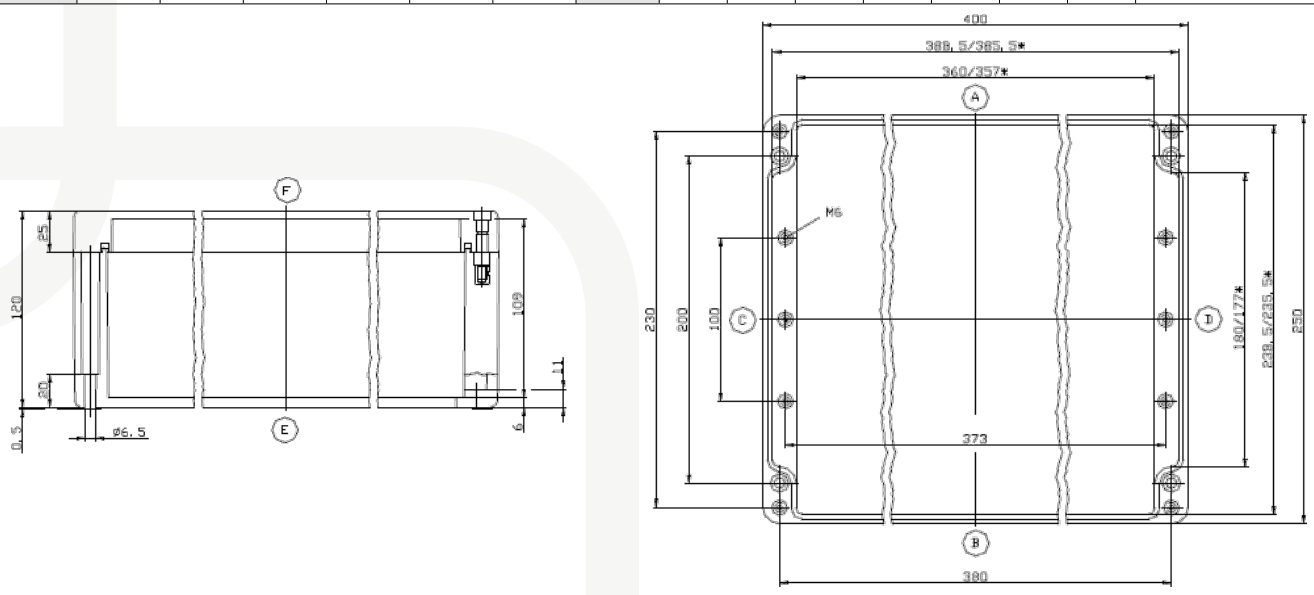
Zones 1, 2, 21, 22

The number of cable entries and the number of terminals is configurable according to the customer's needs.
The boxes are supplied finished, with the necessary terminals and with the cable entries already made.

We don't supply empty "U" certified enclosures. These terminal boxes must be configured with the number of terminals and cable entries.

ITEM REFERENCES

Max. number of terminals:							Max. number of cable entries (plastic glands):							Item No.:
Type:	2,5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	35 mm²	Size:	M16	M20	M25	M32	M40	M50	M63	
Number:	140	116	43	35	29	21	A	38	27	17	13	6	5	4	5A0209..xx*
							B	38	27	17	13	6	5	4	
							C	14	10	8	4	3	2	2	
							D	14	10	8	4	3	2	2	



* The following should be attached to the reference of each box size:
1 - Type and number of terminals required (never exceed the maximum quantity shown in the table)
2 - Size and number of cable entries:
- For unarmoured cable, it may never exceed the maximum quantity shown in the table.
- If armoured cable is used, the number of entries must be defined in each case.

The value 0 indicates that this type of terminal / cable entry size can' t be used in this box model

TECHNICAL SPECIFICATIONS

Marking:	Ex II 2G Ex e II T4/T6 Gb Ex II 2G Ex ia IIC T6 Gb Ex II 2D Ex tD A21 IP65 T80°C
Certificate:	EU-Type Examination Certificate
Operating temperature:	-50°C to +60°C
Dimensions:	400x250x120 mm
Ingress protection:	IP65
Weight:	3650 g (empty)
Colour:	RAL 9005

CONFIGURABLE EX E GRP JUNCTION BOXES

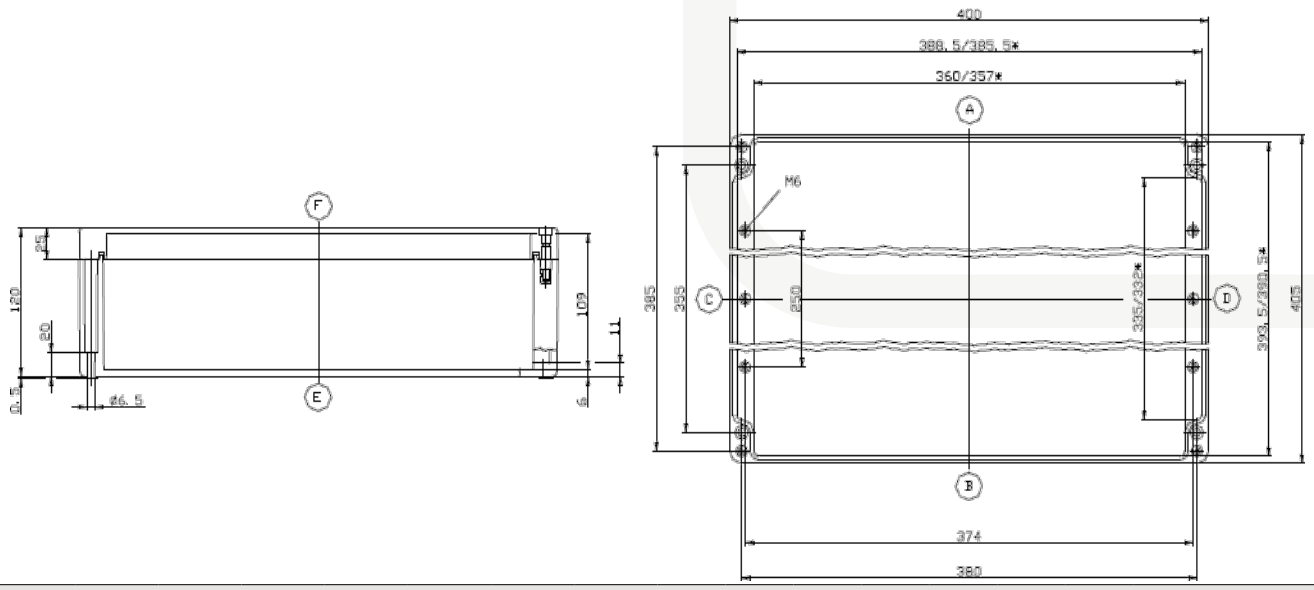
Zones 1, 2, 21, 22

The number of cable entries and the number of terminals is configurable according to the customer's needs.
The boxes are supplied finished, with the necessary terminals and with the cable entries already made.

We don't supply empty "U" certified enclosures. These terminal boxes must be configured with the number of terminals and cable entries.

ITEM REFERENCES

Max. number of terminals:							Max. number of cable entries (plastic glands):							Item No.:
Type:	2,5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	35 mm²	Size:	M16	M20	M25	M32	M40	M50	M63	
Number:	210	174	86	35	29	21	A	38	27	17	13	6	5	4	5A0210..xx*
							B	38	27	17	13	6	5	4	
							C	29	20	15	7	5	4	4	
							D	29	20	15	7	5	4	4	



* The following should be attached to the reference of each box size:
1 - Type and number of terminals required (never exceed the maximum quantity shown in the table)
2 - Size and number of cable entries:
- For unarmoured cable, it may never exceed the maximum quantity shown in the table.
- If armoured cable is used, the number of entries must be defined in each case.

The value 0 indicates that this type of terminal / cable entry size can' t be used in this box model

TECHNICAL SPECIFICATIONS

Marking:	Ex II 2G Ex e II T4/T6 Gb Ex II 2G Ex ia IIC T6 Gb Ex II 2D Ex tD A21 IP65 T80°C
Certificate:	EU-Type Examination Certificate
Operating temperature:	-50°C to +60°C
Dimensions:	400x405x120 mm
Ingress protection:	IP65
Weight:	5580 g (empty)
Colour:	RAL 9005

CONFIGURABLE EX E GRP JUNCTION BOXES

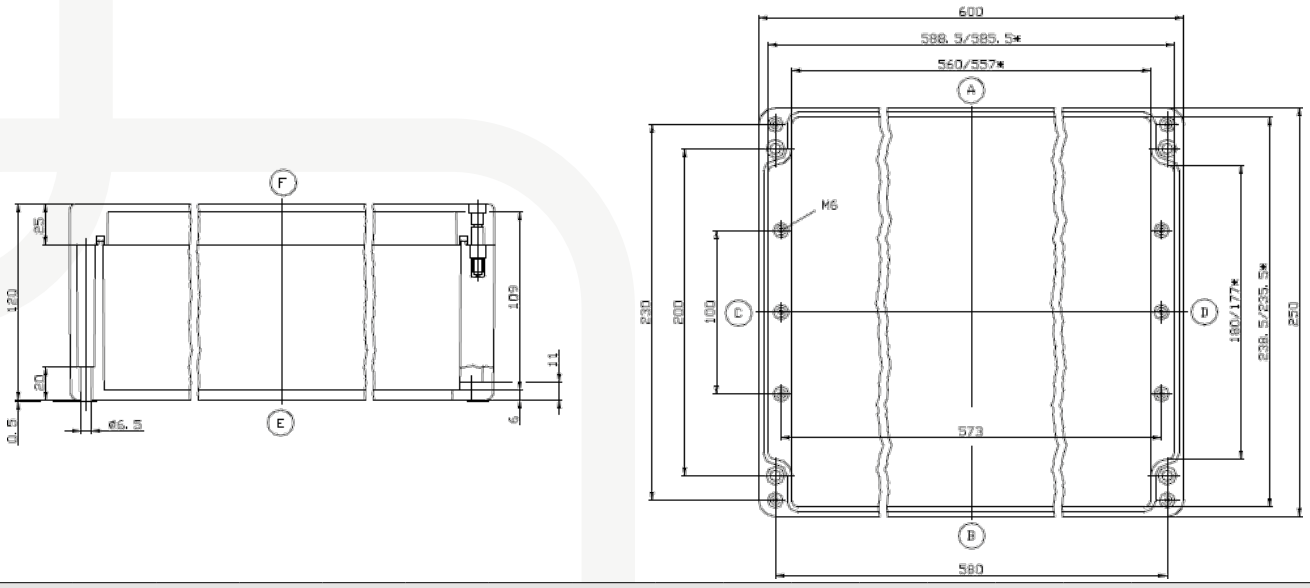
Zones 1, 2, 21, 22

The number of cable entries and the number of terminals is configurable according to the customer's needs.
The boxes are supplied finished, with the necessary terminals and with the cable entries already made.

We don't supply empty "U" certified enclosures. These terminal boxes must be configured with the number of terminals and cable entries.

ITEM REFERENCES

Max. number of terminals:							Max. number of cable entries (plastic glands):							Item No.:
Type:	2,5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	35 mm²	Size:	M16	M20	M25	M32	M40	M50	M63	
Number:	220	182	68	55	45	34	A	84	52	24	18	10	6	4	5A0211..xx*
							B	84	52	24	18	10	6	4	
							C	14	10	8	4	3	2	2	
							D	14	10	8	4	3	2	2	



* The following should be attached to the reference of each box size:
1 - Type and number of terminals required (never exceed the maximum quantity shown in the table)
2 - Size and number of cable entries:
- For unarmoured cable, it may never exceed the maximum quantity shown in the table.
- If armoured cable is used, the number of entries must be defined in each case.

The value 0 indicates that this type of terminal / cable entry size can' t be used in this box model

TECHNICAL SPECIFICATIONS

Marking:	Ex II 2G Ex e II T4/T6 Gb Ex II 2G Ex ia IIC T6 Gb Ex II 2D Ex tD A21 IP65 T80°C
Certificate:	EU-Type Examination Certificate
Operating temperature:	-50°C to +60°C
Dimensions:	600x250x120 mm
Ingress protection:	IP65
Weight:	5380 g (empty)
Colour:	RAL 9005

GRP JUNCTION BOX 2 CABLE ENTRIES - 2 TERMINALS

Zones 1, 2, 21, 22

ATEX JUNCTION BOXES

ZONES 1, 2 (gas) & 21, 22 (dust)

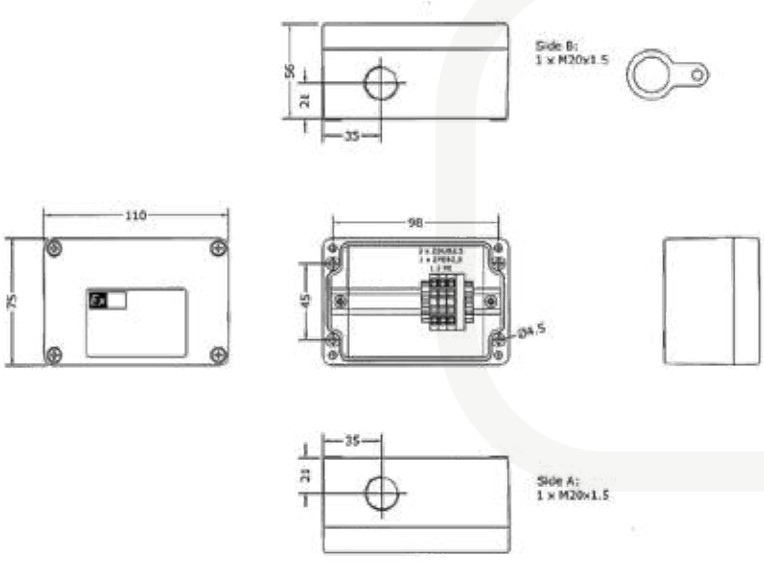
GRP (glass-reinforced polyester) junction box, suitable for use within ATEX rated Ex e Increased Safety areas.

Equipped with 2 cable entries and 2x 2,5mm² + 1 PE terminals.

EU-Type Examination Certificate

ITEM REFERENCES		
Designation:	**Cable glands:**	**Item No.:**
A21-E1-01106+2T2,5+2M20	Without cable glands	5A1003
A21-E1-01106+2T2,5+1PM20+1PAM20	1 plastic cable gland (4-13 mm) + 1 brass cable gland (9-15,5 mm)	5A1004
A21-E1-01106+2T2,5+1PM20+1PANM20	1 plastic cable glands (4-13 mm) + 1 nickel plated brass cable gland (9-15,5 mm)	5A1005

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Glass Reinforced Polyester (GRP)
Dimensions:	110x75x55 mm
Operating temperature:	-20°C to +40°C
Rated voltage:	max. 550V
Rated current:	max. 21 A
Terminals:	2 x 2,5mm² + 1 PE
Ingress protection:	IP65
Cable entries:	2xM20x1,5



ATEX JUNCTION BOXES

ZONES 1, 2 (gas) & 21, 22 (dust)

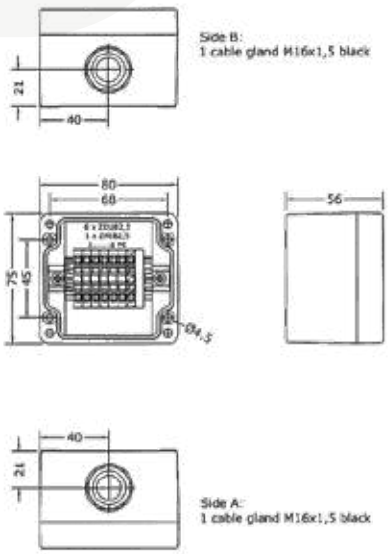
GRP (glass-reinforced polyester) junction box, suitable for use within ATEX rated Ex e Increased Safety areas.

The box is equipped with 2 cable entries M16x1.5 and 6 2.5mm² terminals + 1 PE terminal inside.

EU-Type Examination Certificate

ITEM REFERENCES		
Designation:	**Cable glands:**	**Item No.:**
A21-E1-00806+6T2,5+2PM16	2 plastic cable glands (4-9 mm)	5A1101

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Glass Reinforced Polyester (GRP)
Dimensions:	80x75x55mm
Operating temperature:	-20°C to +40°C
Rated voltage:	max. 500V
Rated current:	max. 14 A
Terminals:	6 x 2,5mm² + 1 PE
Ingress protection:	IP65
Cable entries:	2xM16x1,5 plastic cable glands for non-armoured cable



GRP JUNCTION BOX 4 CABLE ENTRIES - 4 TERMINALS

Zones 1, 2, 21, 22

ATEX JUNCTION BOXES

ZONES 1, 2 (gas) & 21, 22 (dust)

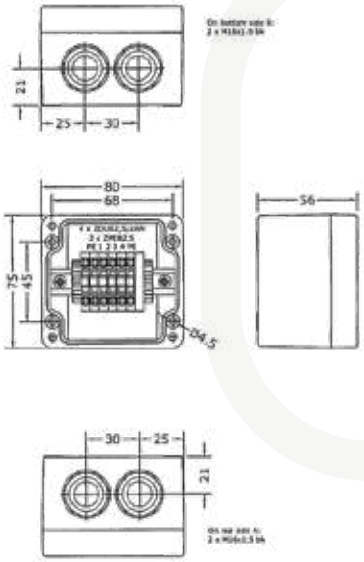
GRP (glass-reinforced polyester) junction box, suitable for use within ATEX rated Ex e Increased Safety areas.

Equipped with 4 cable entries and 4x 2,5mm² + 2 PE terminals.

EU-Type Examination Certificate

ITEM REFERENCES		
Designation:	Cable glands:	Item No.:
A21-E1-00806+4T2,5+4PM16	4 Plastic cable glands (4-9 mm)	5A1102

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Glass Reinforced Polyester (GRP)
Dimensions:	80x75x55 mm
Operating temperature:	-20°C to +40°C
Rated voltage:	max. 550V
Rated current:	max. 16 A
Terminals:	4 x 2,5mm² + 2 PE
Ingress protection:	IP65
Cable entries:	4xM16x1,5 plastic cable glands for non-armoured cable



ATEX JUNCTION BOXES

ZONES 1, 2 (gas) & 21, 22 (dust)

** Supplied without cable glands and plugs*

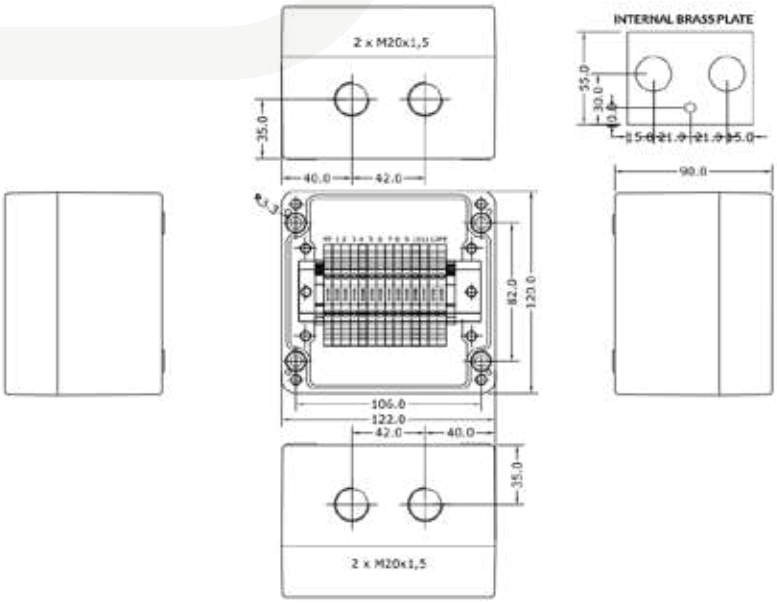
GRP (glass-reinforced polyester) junction box, suitable for use within ATEX rated Ex e Increased Safety areas.

Equipped with 4 cable entries and 12 terminals 2,5mm² + 2 PE Terminals.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
A21-E1-01209+12T2,5+4M20	5A0601
3 mm inner grounding plate for armoured cable	5A0602

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex e IIC T6 Gb II 2D Ex tb IIIC T80°C
Certificate:	EU-Type Examination Certificate
Housing:	Glass Reinforced Polyester (GRP)
Dimensions:	122x120x90 mm
Operating temperature:	-40°C to +40°C
Rated voltage:	max. 500V
Rated current:	max. 13 A
Terminals:	12 x 2,5mm² + 2 PE
Ingress protection:	IP65
Cable entries:	4xM20x1,5 (Supplied without cable glands and plugs)



GRP JUNCTION BOX 3 CABLE ENTRIES - 8 TERMINALS

Zones 1, 2, 21, 22

ATEX JUNCTION BOXES

ZONES 1, 2 (gas) & 21, 22 (dust)

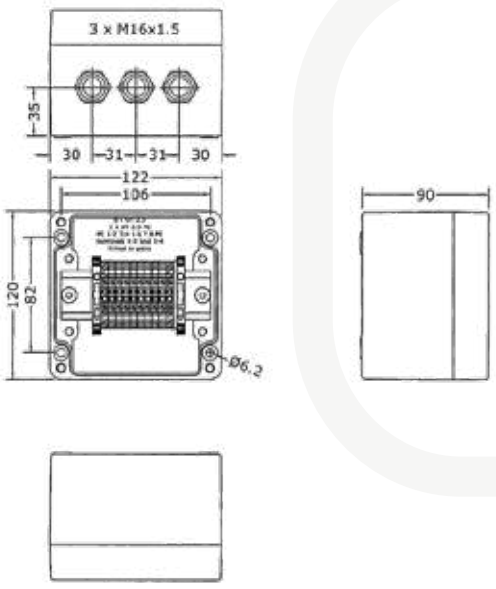
GRP (glass-reinforced polyester) junction box, suitable for use within ATEX rated Ex e Increased Safety areas.

Equipped with 3 cable entries and 8x 2,5mm² + 2 PE terminals.

EU-Type Examination Certificate

ITEM REFERENCES		
Designation:	Cable glands:	Item No.:
A21-E1-01209+8T2,5+3PM16	3 Plastic cable glands (4-9 mm)	5A1105

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Glass Reinforced Polyester (GRP)
Dimensions:	122x120x90 mm
Operating temperature:	-20°C to +40°C
Rated voltage:	max. 500V
Rated current:	max. 15 A
Terminals:	8 x 2,5mm² + 2 PE
Ingress protection:	IP65
Cable entries:	3xM16x1,5 plastic cable glands for non-armoured cable



ATEX JUNCTION BOXES

ZONES 1, 2 (gas) & 21, 22 (dust)

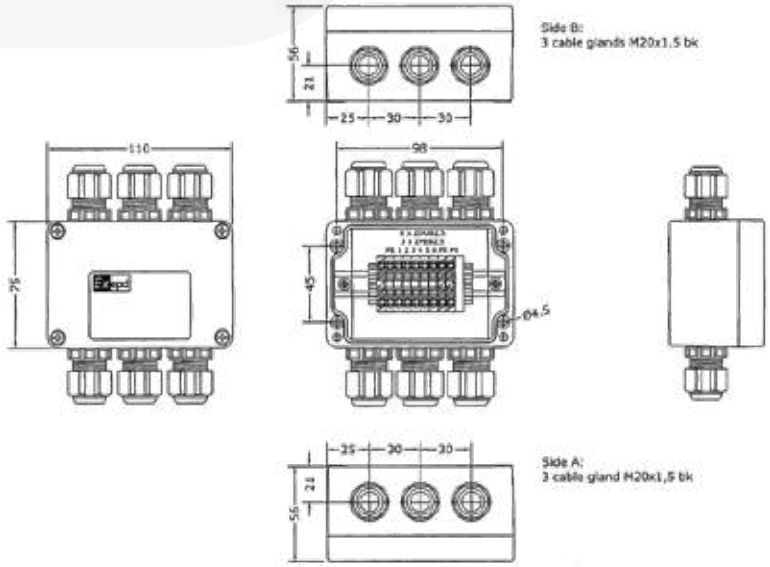
GRP (glass-reinforced polyester) junction box, suitable for use within ATEX rated Ex e Increased Safety areas.

Equipped with 6 cable entries and 6x 2,5mm² + 3 PE terminals.

EU-Type Examination Certificate

ITEM REFERENCES		
Designation:	**Cable glands:**	**Item No.:**
A21-E1-01106+6T2,5+6PM20	6 Plastic cable glands (7-13 mm)	5A1103

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Glass Reinforced Polyester (GRP)
Dimensions:	110x75x55 mm
Operating temperature:	-20°C to +40°C
Rated voltage:	max. 550V
Rated current:	max. 14 A
Terminals:	6 x 2,5mm² + 3 PE
Ingress protection:	IP65
Cable entries:	6xM20x1,5 plastic cable glands for non-armoured cable



GRP JUNCTION BOX 6 CABLE ENTRIES - 9 TERMINALS

Zones 1, 2, 21, 22

ATEX JUNCTION BOXES

ZONES 1, 2 (gas) & 21, 22 (dust)

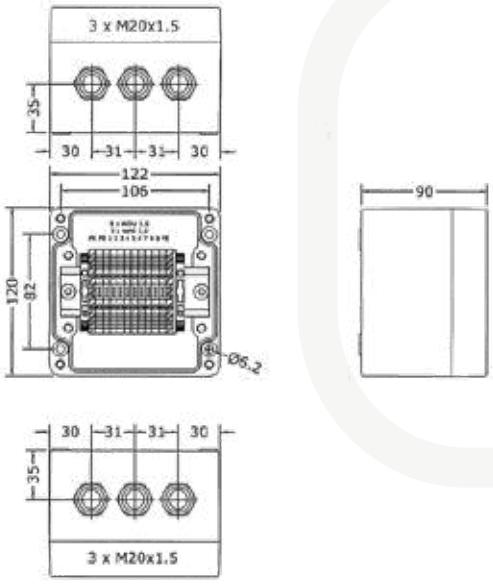
GRP (glass-reinforced polyester) junction box, suitable for use within ATEX rated Ex e Increased Safety areas.

Equipped with 6 cable entries and 9x 2,5mm² + 3 PE terminals.

EU-Type Examination Certificate

ITEM REFERENCES		
Designation:	Cable glands:	Item No.:
A21-E1-01206+9T2,5+6PM20	6 Plastic cable glands (7-13 mm)	5A1104

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Glass Reinforced Polyester (GRP)
Dimensions:	122x120x90mm
Operating temperature:	-20°C to +40°C
Rated voltage:	max. 500V
Rated current:	max. 14 A
Terminals:	9 x 2,5mm² + 3 PE
Ingress protection:	IP65
Cable entries:	6xM20x1,5 plastic cable glands for non-armoured cable



ATEX JUNCTION BOXES

ZONES 1, 2 (gas) & 21, 22 (dust)

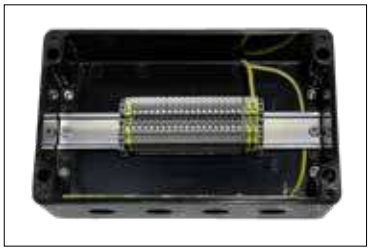
** Supplied without cable glands and plugs*

ATEX junction boxes certified for installation in hazardous areas.

Manufactured in Glass Reinforced Polyester (GRP)

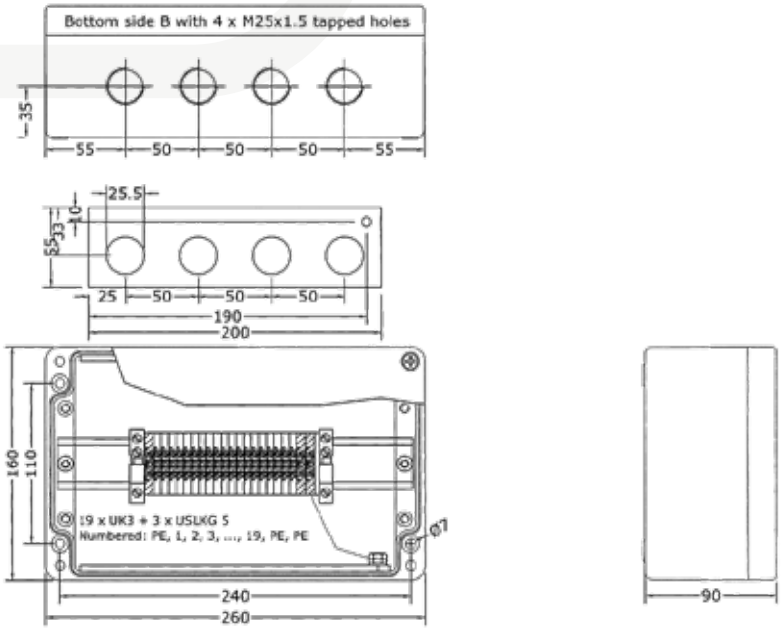
The box is configured with 4 unplugged M25x1.5 cable entries, and is equipped with 19 2.5mm² terminals, 3 grounding terminals and a brass grounding plate inside.

EU-Type Examination Certificate



ITEM REFERENCES	
Designation:	**Item No.:**
A21-E1-02609+19T2,5+4M25	5A1001

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Glass Reinforced Polyester (GRP)
Dimensions:	260x160x90 mm
Operating temperature:	-20°C to +40°C
Rated voltage:	max. 500V
Rated current:	max. 10 A
Terminals:	19 x 2,5mm² + 3 PE
Ingress protection:	IP66
Cable entries:	4xM25x1,5 (Cable glands / plugs not included)



GRP JUNCTION BOX 5 CABLE ENTRIES - 20 TERMINALS

Zones 1, 2, 21, 22

ATEX JUNCTION BOXES

ZONES 1, 2 (gas) & 21, 22 (dust)

** Supplied without cable glands and plugs*

ATEX junction boxes certified for installation in hazardous areas.

Manufactured in Glass Reinforced Polyester (GRP)

The box is configured with 4 unplugged M25x1.5 and 1 M32x1,5 cable entries, and is equipped with 20 2.5mm² terminals, 3 grounding terminals and a brass grounding plate inside.

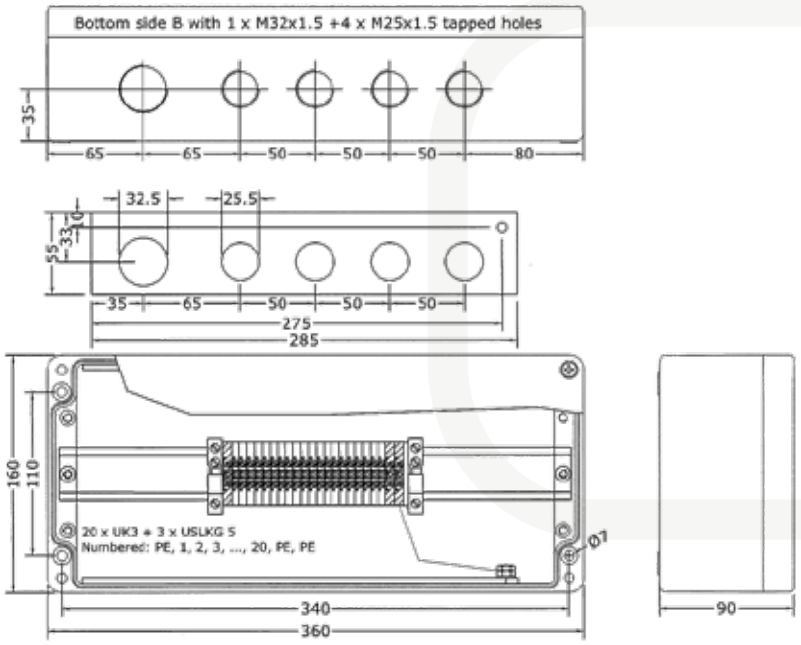
EU-Type Examination Certificate

ITEM REFERENCES

Designation:	Item No.:
A21-E1-03609+20T2,5+4M25+1M32	5A1002

TECHNICAL SPECIFICATIONS

Marking:	II 2G Ex eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Glass Reinforced Polyester (GRP)
Dimensions:	360x160x90 mm
Operating temperature:	-20°C to +40°C
Rated voltage:	max. 500V
Rated current:	max. 10 A
Terminals:	20 x 2,5mm² + 3 PE
Ingress protection:	IP66
Cable entries:	4xM25x1,5 | 1xM32x1,5 (Cable glands / plugs not included)



GRP JUNCTION BOX 10 CABLE ENTRIES - 14 TERMINALS

Zones 1, 2, 21, 22

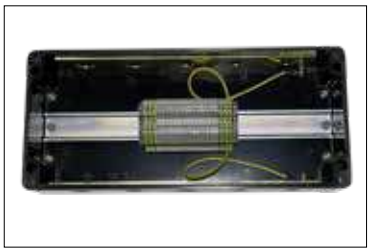
ATEX JUNCTION BOXES

ZONES 1, 2 (gas) & 21, 22 (dust)

ATEX junction boxes certified for installation in hazardous areas. Manufactured in Glass Reinforced Polyester (GRP)

The box is configured with 3xM20x1.5 and 2xM25x1.5 entries on its upper side, and 2xM20x1.5 and 3xM25x1.5 entries on its lower side, and is equipped with 14 2.5mm² terminals, 6 grounding terminals and a 2 brass grounding plates inside.

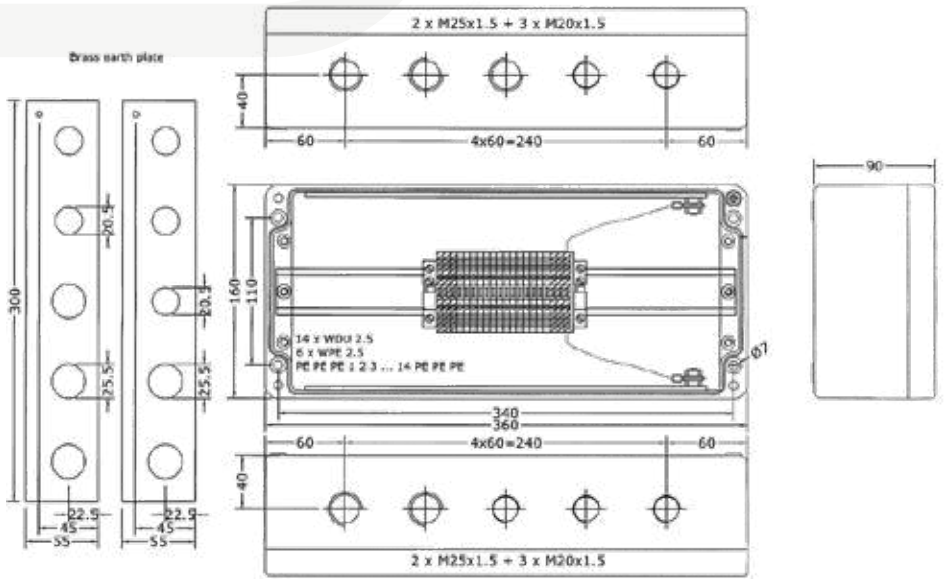
EU-Type Examination Certificate



** Supplied without cable glands and plugs*

ITEM REFERENCES	
Designation:	**Item No.:**
A21-E1-03609+14T2,5+5M20+5M25	5A0816

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Glass Reinforced Polyester (GRP)
Dimensions:	360x160x90 mm
Operating temperature:	-20°C to +40°C
Rated voltage:	max. 500V
Rated current:	max. 12 A
Terminals:	14 x 2,5mm² + 6 PE
Ingress protection:	IP65
Cable entries:	Upper side: 3xM20x1,5, 2xM25x1,5 (Cable glands / plugs not included) Bottom side: 2xM20x1,5, 3xM25x1,5 (Cable glands / plugs not included)



GRP JUNCTION BOX 2 CABLE ENTRIES - 3 TERMINALS 35MM

Zones 1, 2, 21, 22

ATEX JUNCTION BOXES

ZONES 1, 2 (gas) & 21, 22 (dust)

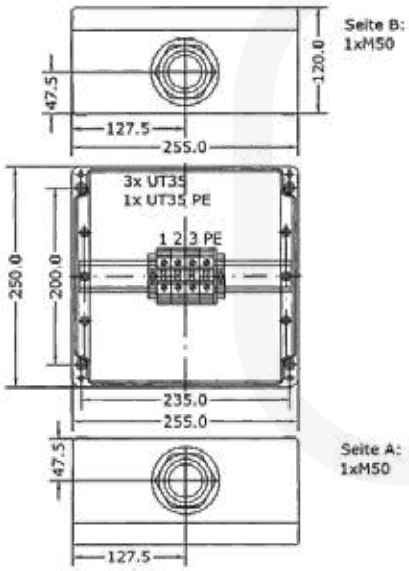
GRP (glass-reinforced polyester) junction box, suitable for use within ATEX rated Ex e Increased Safety areas.

Equipped with 2 cable entries and 3x 35mm² + 1 PE terminals.

EU-Type Examination Certificate

ITEM REFERENCES		
Designation:	Cable glands:	Item No.:
A21-E1-02612+3T35+2PM50	2 Plastic cable glands (23-35 mm)	5A0821

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Glass Reinforced Polyester (GRP)
Dimensions:	255x250x120 mm
Operating temperature:	-20°C to +40°C
Rated voltage:	max. 500V
Rated current:	max. 80 A
Terminals:	3x 35mm² + 1 PE
Ingress protection:	IP65
Cable entries:	2xM50x1,5 plastic cable glands for non-armoured cable



GRP JUNCTION BOX ZONE 2,22 - 4 ENTRIES ARMOURED CABLE

Zones 2, 22

ATEX JUNCTION BOXES

ZONES 2 (gas) & 22 (dust)

Declaration of Conformity

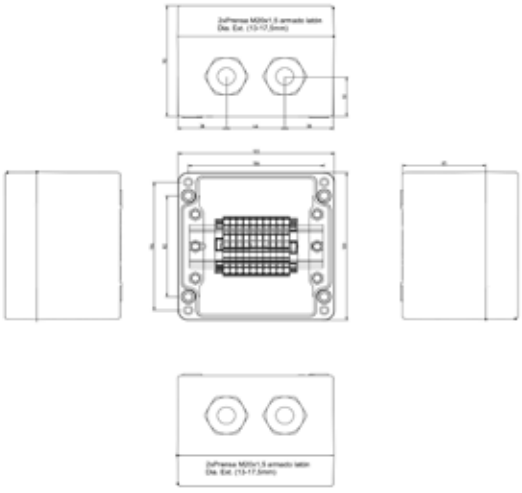
ATEX junction box for hazardous areas (Zones 2,22).

Manufactured in fibreglass reinforced polyester.

It is equipped with 4 M20x1,5 entries for armoured cable, 6 x 2,5mm² terminals and 4x2,5mm² PE terminals.

ITEM REFERENCES		
Designation:	**Cable entries:**	**Item No.:**
Junction Box EX 12212090 GRP L	4 x M20x1,5 brass cable gland (14-20,5 mm)	5A0701
Junction Box EX 12212090 GRP LN	4 x M20x1,5 nickel plated brass cable gland (14-20,5 mm)	5A0702
Junction Box EX 12212090 GRP TP	4 x M20x1,5 plastic cable glands (Grounding plates included)	5A0703

TECHNICAL SPECIFICATIONS	
Marking:	II 3G Ex ec IIC T6 Gc II 3D Ex tc IIIC T80°C Dc
Certificate:	Declaration of conformity
Housing:	Glass Reinforced Polyester (GRP)
Dimensions:	122x120x90 mm
Operating temperature:	-20°C to +60°C -50°C to +60°C (Whenever permitted by the terminal used)
Terminals:	6 x 2,5mm² with jumpers (1, 2/3, 4/5, 6) + 4 PE terminals 2,5mm² (PE)
Ingress protection:	IP66 | IK08
Cable entries:	4xM20x1,5 brass cable glands for armoured cable / plugs



GRP JUNCTION BOX ZONE 2,22 - 4 ENTRIES NON ARMOURED CABLE

Zones 2, 22

ATEX JUNCTION BOXES

ZONES 2 (gas) & 22 (dust)

ATEX junction box for hazardous areas (Zones 2,22).

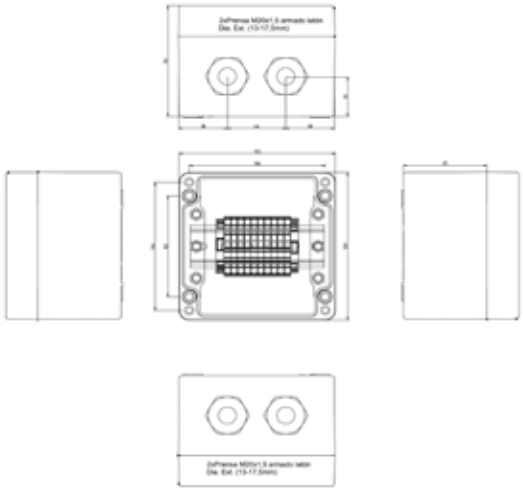
Manufactured in fibreglass reinforced polyester.

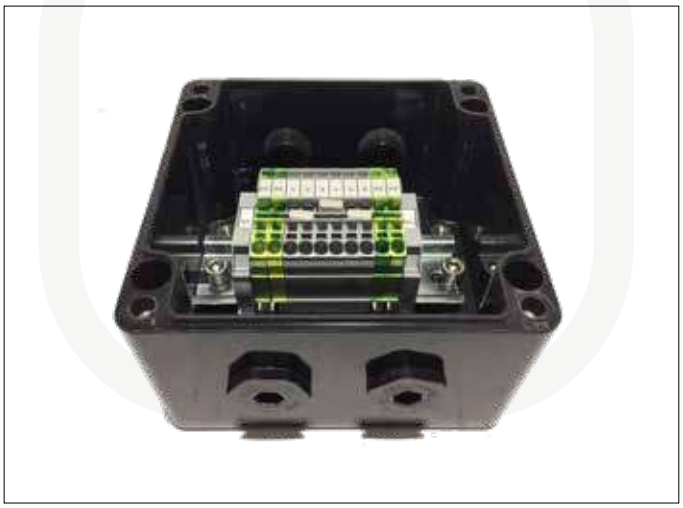
It is equipped with 4 M20x1,5 entries for non armoured cable, 6 x 2,5mm² terminals and 4 x 2,5mm² PE terminals.

Declaration of Conformity

ITEM REFERENCES		
Designation:	Cable entries:	Item No.:
Junction Box EX 12212090 GRP P	4 x M20x1,5 plastic cable glands (7-13 mm)	5A0704
Junction Box EX 12212090 GRP T	4 x M20x1,5 plastic plugs	5A0705

TECHNICAL SPECIFICATIONS	
Marking:	II 3G Ex ec IIC T6 Gc II 3D Ex tc IIIC T80°C Dc
Certificate:	Declaration of conformity
Housing:	Glass Reinforced Polyester (GRP)
Dimensions:	122x120x90 mm
Operating temperature:	-20°C to +60°C -50°C to +60°C (Whenever permitted by the terminal used)
Terminals:	6 x 2,5mm² with jumpers (1, 2/3, 4/5, 6) + 4 PE terminals 2,5mm² (PE)
Ingress protection:	IP66 | IK08
Cable entries:	4xM20x1,5 plastic cable glands for non armoured cable / plugs





GRP EX I JUNCTION BOX - 2 ENTRIES / 2 TERMINALS

Zones 1, 2, 21, 22

ATEX JUNCTION BOXES | ZONES 1, 2 (gas) & 21, 22 (dust)

Ex i junction box for hazardous areas.

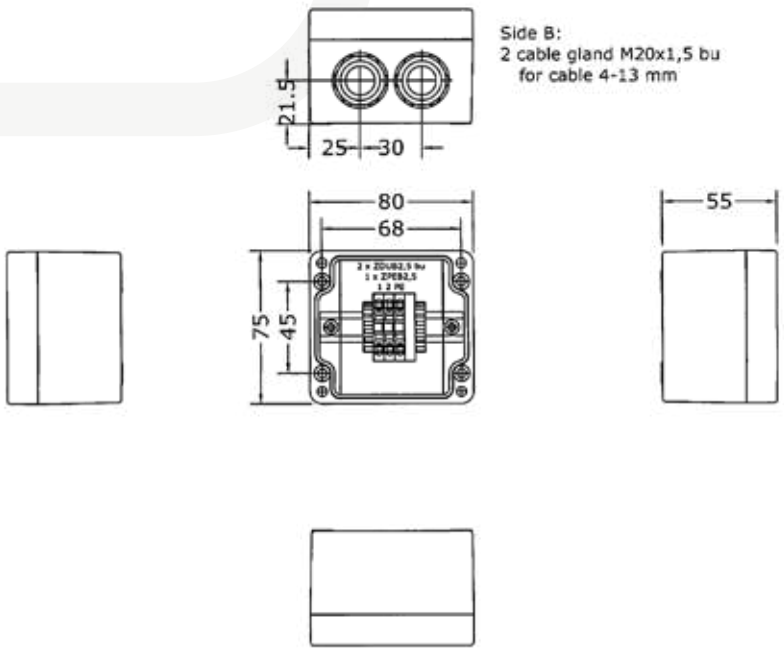
Made of glass fiber reinforced polyester.

The box includes 2 cable entries with blue polyamide glands M20x1.5 and is equipped with 2x2.5mm² blue terminals + 1 earth terminal.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
A21-I1-Z1246+2T2,5+2M20	5A0802

TECHNICAL SPECIFICATIONS	
Marking:	II 2(1)G Ex e [ia] IIC T6 Gb II 2D Ex tb IIIC T80°C
Certificate:	EU-Type Examination Certificate
Housing:	Glass Reinforced Polyester (GRP)
Dimensions:	80x75x55 mm
Operating temperature:	-20°C to +40°C
Terminals:	2 x 2,5mm² + 1 PE
Ingress protection:	IP66
Cable entries:	2xM20x1,5 plastic blue cable glands (7-13 mm)



GRP EX I JUNCTION BOX - 2 ENTRIES / 4 TERMINALS

Zones 1, 2, 21, 22

ATEX JUNCTION BOXES

ZONES 1, 2 (gas) & 21, 22 (dust)

Ex i junction box for hazardous areas.

Made of glass fiber reinforced polyester.

The box includes 2 cable entries with blue polyamide glands M16x1.5 or M20x1,5 and is equipped with 4x2.5mm² blue terminals + 1 earth terminal.

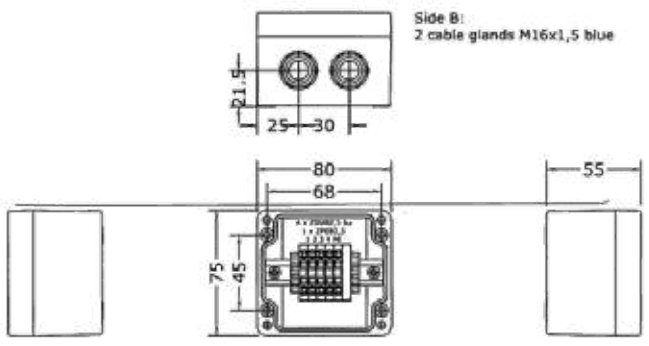
EU-Type Examination Certificate

ITEM REFERENCES		
Designation:	Cable entries:	Item No.:
A21-I1-00806+4T2,5+2M16	2xM16 blue plastic cable glands (4-10 mm)	5A0824
A21-I1-00806+4T2,5+2M20	2xM20 blue plastic cable glands (7-13 mm)	5A0824A

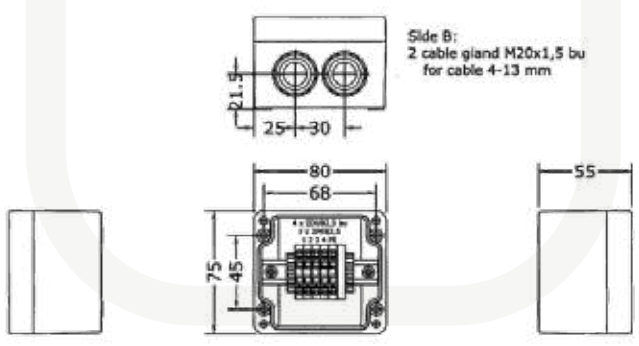
TECHNICAL SPECIFICATIONS	
Marking:	II 2(1)G Ex eb [ia Ga] IIC T6 Gb II 2(1)D Ex tb [ia Da] IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Glass Reinforced Polyester (GRP)
Dimensions:	80x75x55 mm
Operating temperature:	-20°C to +40°C
Terminals:	4 x 2,5mm² + 1 PE
Ingress protection:	IP65

DIMENSIONS

M16x1,5 CABLE ENTRIES



M20x1,5 CABLE ENTRIES



GRP EX I JUNCTION BOX - 3 ENTRIES / 4 TERMINALS

Zones 1, 2, 21, 22

ATEX JUNCTION BOXES | ZONES 1, 2 (gas) & 21, 22 (dust)

Ex i junction box for hazardous areas.

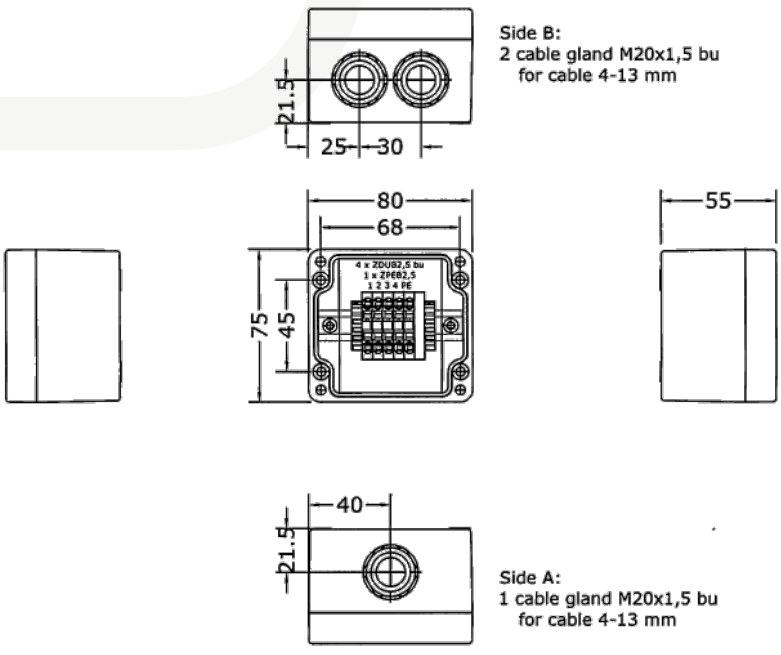
Made of glass fiber reinforced polyester.

The box includes 3 cable entries with blue polyamide glands M20x1.5 and is equipped with 4x2.5mm² blue terminals + 1 earth terminal.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
A21-I1-Z1245+4T2,5+3M20	5A0803

TECHNICAL SPECIFICATIONS	
Marking:	II 2(1)G Ex e [ia] IIC T6 Gb II 2D Ex tb IIIC T80°C
Certificate:	EU-Type Examination Certificate
Housing:	Glass Reinforced Polyester (GRP)
Dimensions:	80x75x55 mm
Operating temperature:	-20°C to +40°C
Terminals:	4 x 2,5mm² + 1 PE
Ingress protection:	IP66
Cable entries:	3xM20x1,5 plastic blue cable glands (7-13 mm)



GRP EX I JUNCTION BOX - 4 ENTRIES / 6 TERMINALS

Zones 1, 2, 21, 22

ATEX JUNCTION BOXES

ZONES 1, 2 (gas) & 21, 22 (dust)

Ex i junction box for hazardous areas.

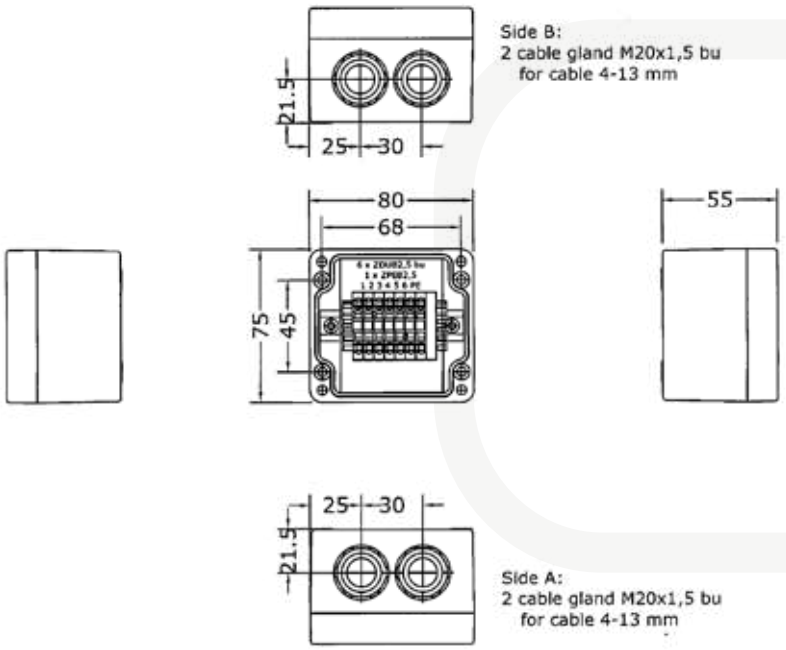
Made of glass fiber reinforced polyester.

The box includes 4 cable entries with blue polyamide glands M20x1.5 and is equipped with 6x2.5mm² blue terminals + 1 earth terminal.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
A21-I1-Z1244+6T2,5+4M20	5A0801

TECHNICAL SPECIFICATIONS	
Marking:	II 2(1)G Ex e [ia] IIC T6 Gb II 2D Ex tb IIIC T80°C
Certificate:	EU-Type Examination Certificate
Housing:	Glass Reinforced Polyester (GRP)
Dimensions:	80x75x55 mm
Operating temperature:	-20°C to +40°C
Terminals:	6 x 2,5mm² + 1 PE
Ingress protection:	IP66
Cable entries:	4xM20x1,5 plastic blue cable glands (7-13 mm)



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GRP EX I JUNCTION BOX - 4 ENTRIES / 4 TERMINALS

Zones 1, 2, 21, 22

ATEX JUNCTION BOXES | ZONES 1, 2 (gas) & 21, 22 (dust)

Ex i junction box for hazardous areas.

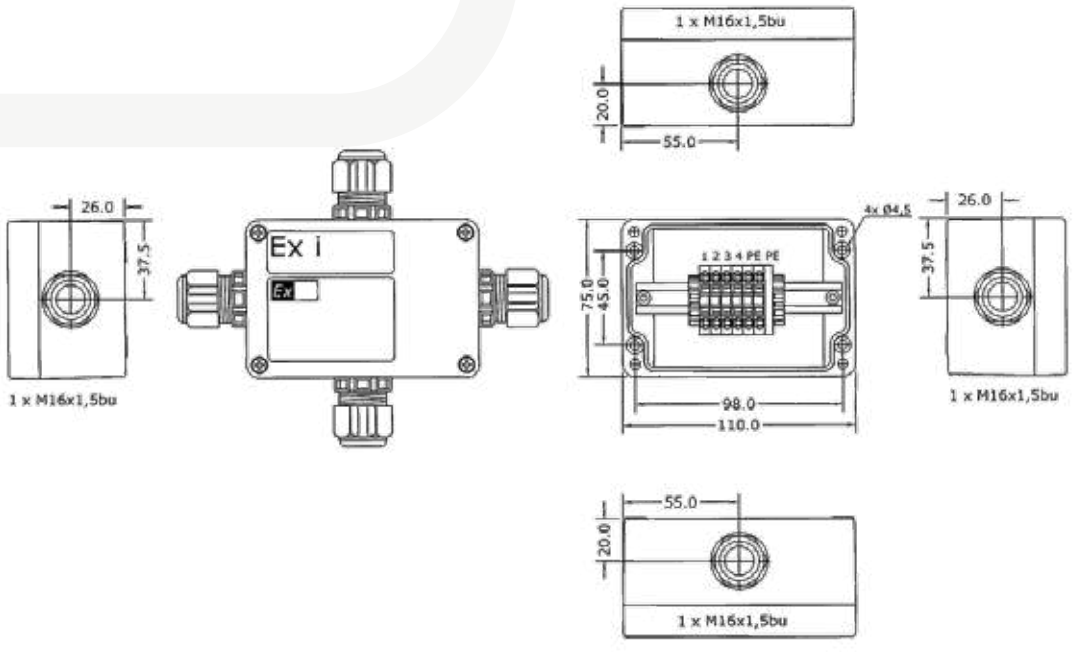
Made of glass fiber reinforced polyester.

The box includes 4 cable entries with blue polyamide glands M20x1.5 and is equipped with 4x2.5mm² blue terminals + 2 earth terminals.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
A21-I1-01106+4T2,5+4M20	5A0804

TECHNICAL SPECIFICATIONS	
Marking:	II 2(1)G Ex eb [ia Ga] IIC T6 Gb II 2D Ex tb [ia Da] IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Glass Reinforced Polyester (GRP)
Dimensions:	110x75x55 mm
Operating temperature:	-20°C to +40°C
Terminals:	4 x 2,5mm² + 2 PE
Ingress protection:	IP66
Cable entries:	4xM20x1,5 plastic blue cable glands (7-13 mm)



GRP EX I JUNCTION BOX - 4 ENTRIES / 10 TERMINALS

Zones 1, 2, 21, 22

ATEX JUNCTION BOXES | **ZONES 1, 2 (gas) & 21, 22 (dust)**

Ex i junction box for hazardous areas.

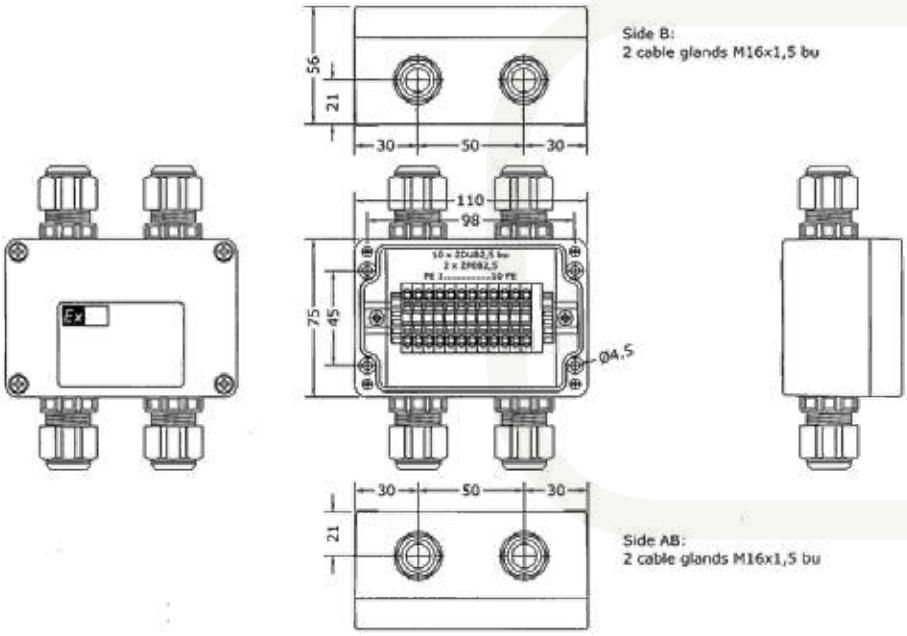
Made of glass fiber reinforced polyester.

The box includes 4 cable entries with blue polyamide glands M16x1.5 and is equipped with 10x2.5mm² blue terminals + 2 earth terminals.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
A21-I1-01106+10T2,5+4M16	5A0815

TECHNICAL SPECIFICATIONS	
Marking:	II 2(1)G Ex eb [ia Ga] IIC T6 Gb II 2(1)D Ex tb [ia Da] IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Glass Reinforced Polyester (GRP)
Dimensions:	110x75x55 mm
Operating temperature:	-20°C to +40°C
Terminals:	10 x 2,5mm² + 2 PE
Ingress protection:	IP65
Cable entries:	4xM16x1,5 plastic blue cable glands (4-9 mm)



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GRP EX I JUNCTION BOX - 5 ENTRIES / 9 TERMINALS

Zones 1, 2, 21, 22

ATEX JUNCTION BOXES | ZONES 1, 2 (gas) & 21, 22 (dust)

Ex i junction box for hazardous areas.

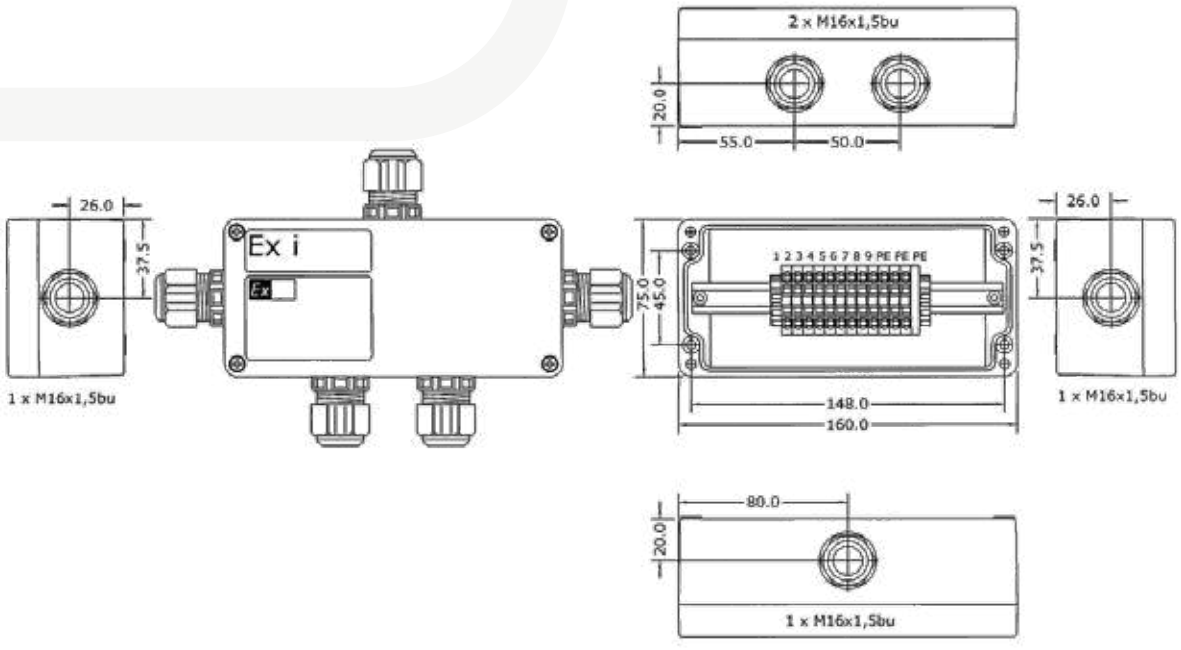
Made of glass fiber reinforced polyester.

The box includes 5 cable entries with blue polyamide glands M20x1.5 and is equipped with 9x2.5mm² blue terminals + 3 earth terminals.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
A21-I1-01606+9T2,5+5M20	5A0805

TECHNICAL SPECIFICATIONS	
Marking:	II 2(1)G Ex eb [ia Ga] IIC T6 Gb II 2D Ex tb [ia Da] IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Glass Reinforced Polyester (GRP)
Dimensions:	160x75x55 mm
Operating temperature:	-20°C to +40°C
Terminals:	9 x 2,5mm² + 3 PE
Ingress protection:	IP66
Cable entries:	5xM20x1,5 plastic blue cable glands (7-13 mm)



GRP EX I JUNCTION BOX - 20 ENTRIES / 36 TERMINALS

Zones 1, 2, 21, 22

ATEX JUNCTION BOXES

ZONES 1, 2 (gas) & 21, 22 (dust)

Ex i junction box for hazardous areas.

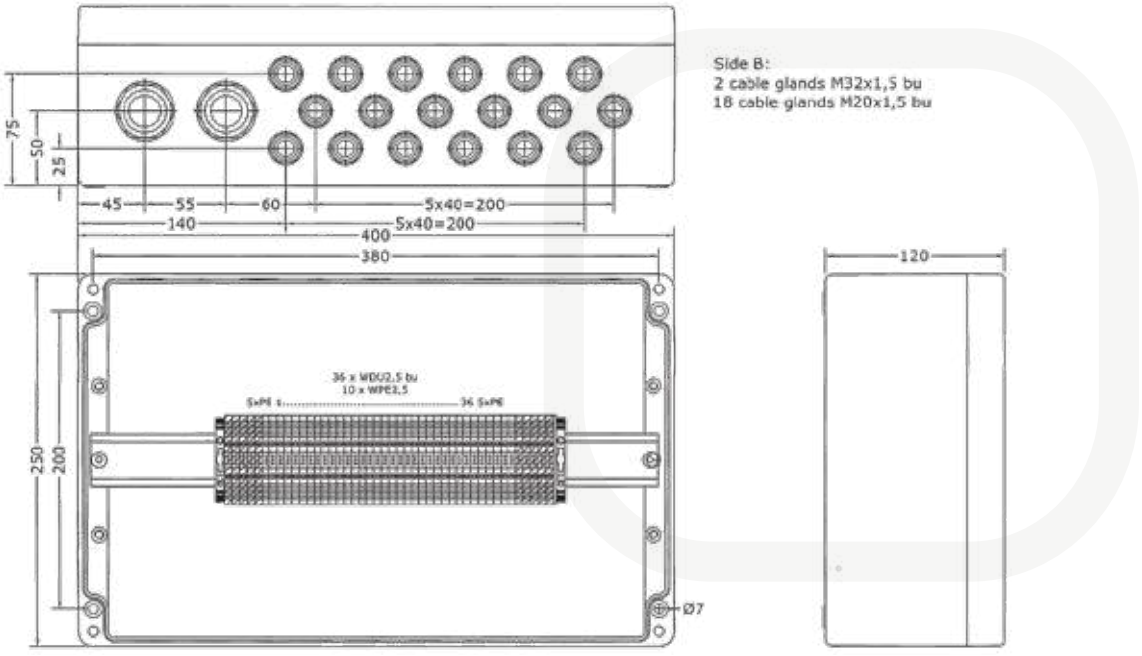
Made of glass fiber reinforced polyester.

The box includes 2 cable entries with blue polyamide glands M32x1.5, 18 entries M20x1,5 and is equipped with 36x2.5mm² blue terminals + 10 earth terminals.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Referencia:**
A21-I1-04012+36T2,5+2M32+18M20	5A0814

TECHNICAL SPECIFICATIONS	
Marking:	II 2(1)G Ex eb [ia Ga] IIC T6 Gb II 2(1)D Ex tb [ia Da] IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Glass Reinforced Polyester (GRP)
Dimensions:	400x250x120 mm
Operating temperature:	-20°C to +40°C
Terminals:	36 x 2,5mm² + 10 PE
Ingress protection:	IP65
Cable entries:	2xM32x1,5 plastic blue cable glands (13-21 mm) 18xM20x1,5 plastic blue cable glands (7-13 mm)



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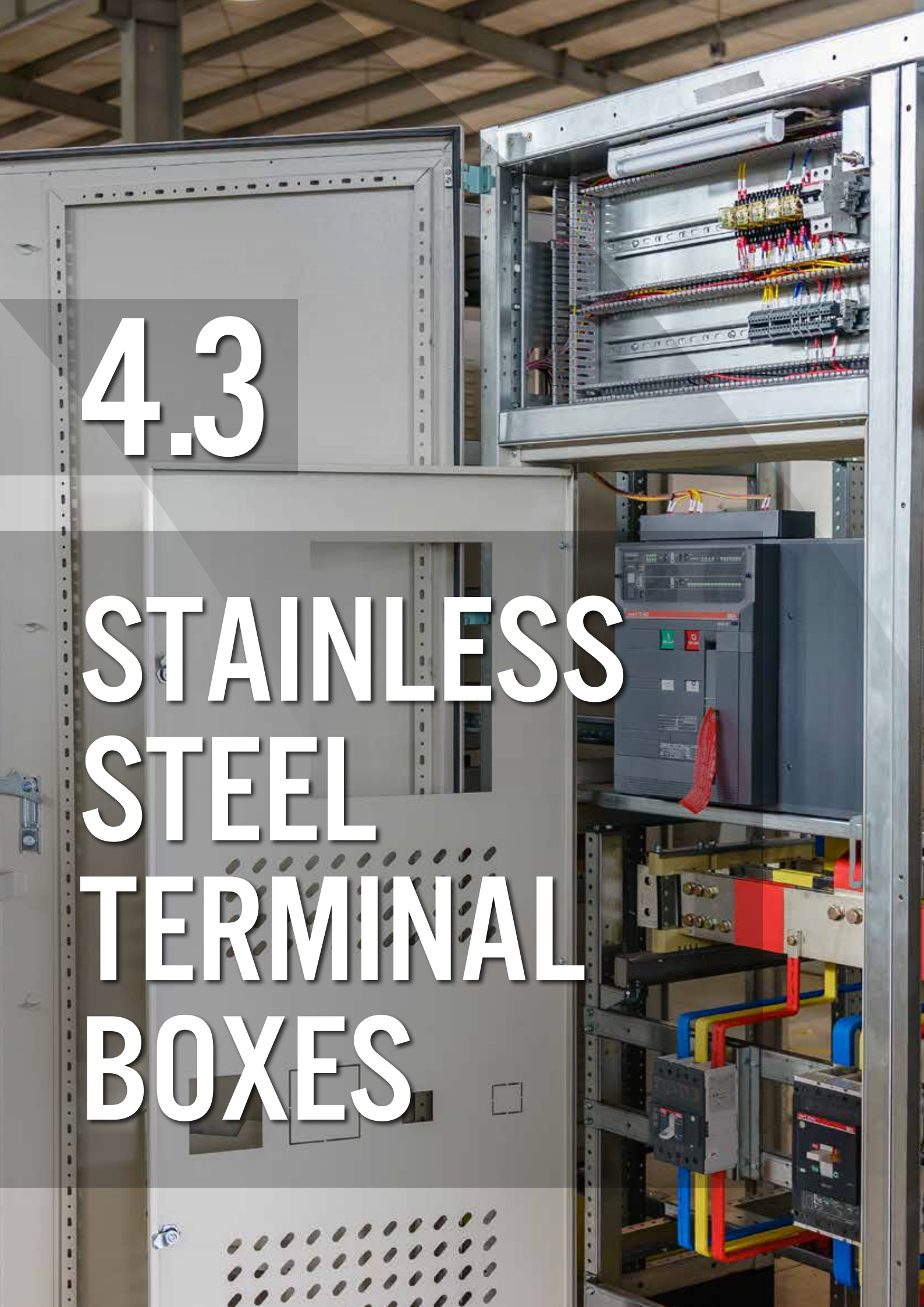


4.3

STAINLESS STEEL TERMINAL BOXES

ATEX JUNCTION BOXES

ZONES 1, 2 (gas) & 21, 22 (dust)

Custom configurable stainless steel ATEX junction boxes for installation in hazardous areas in zones 1, 2, 21 and 22.

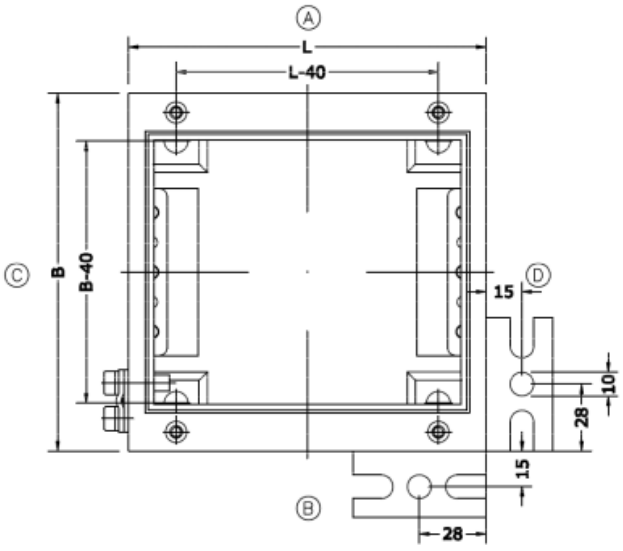
The stainless steel enclosures are build in acordance to the individual request and will be equipped with terminals and cable glands.

EU-Type Examination Certificate

We don't supply empty "U" certified enclosures. These terminal boxes must be configured with the number of terminals and cable entries.

STANDARD SIZES (SMALL BOXES)													
Dimensions:	Maximum No. of terminals / current						Maximum No. of cable glands						
LxBxH	2,5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	35 mm²	M16x1,5 AB/CD	M20x1,5 AB/CD	M25x1,5 AB/CD	M32x1,5 AB/CD	M40x1,5 AB/CD	M50x1,5 AB/CD	M63x1,5 AB/CD
100x100x61 mm	10	0	0	0	0	0	3/2	2/1	1/0	0/0	0/0	0/0	0/0
150x150x81 mm	18	15	10	0	0	0	8/3	5/2	3/1	2/0	0/0	0/0	0/0
200x200x81 mm	25	20	15	12	0	0	12/3	7/2	4/1	3/0	2/0	0/0	0/0
300x200x81 mm	45	35	28	22	0	0	15/3	10/2	7/1	5/0	4/0	0/0	0/0
400x200x121 mm	62	51	38	31	25	0	30/9	27/6	17/3	14/2	7/1	5/1	3/1
300x300x121 mm	90	70	28	22	16	12	23/9	20/6	12/3	10/2	5/3	3/1	2/1

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex e IIC T4/T6 Gb II 2(1)G Ex e[ia] IIC T6 Gb II 2D Ex tb IIIC T80°C
Certificate:	EU-Type Examination Certificate
Operating temperature:	-50°C to +60°C (Depending on the used components and heat disapation)
Material:	Stainless Steel 1.4301. Surface brushed (grain size 240)
Design:	Screwed lid
PE connection:	External, internal on base and lid
Ingress protection:	IP66
Accessories:	Wall mounting brackets



CONFIGURABLE STAINLESS STEEL JUNCTION BOXES

Zones 1, 2, 21, 22

ATEX JUNCTION BOXES

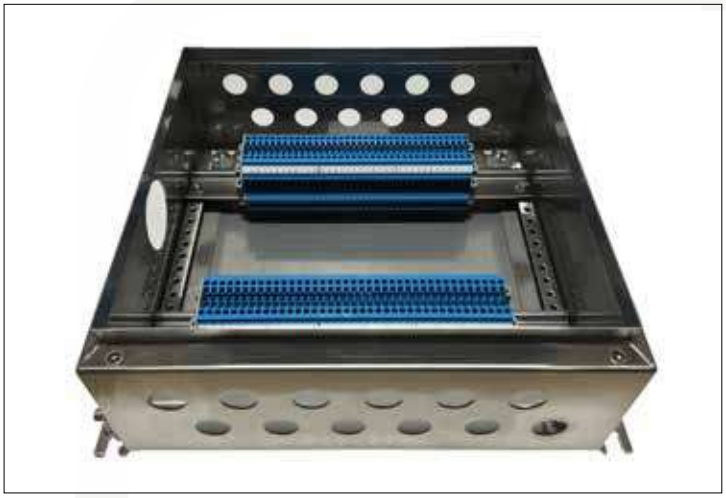
ZONES 1, 2 (gas) & 21, 22 (dust)

Stainless steel ATEX junction boxes ideal for the connection of cables up to 300mm² in hazardous areas in zones 1 and 21.

The stainless steel enclosures are build in acordance to the individual request and will be equipped with terminals and cable glands.

Maximum electrical connection data:
Rated voltage: 1100V
Rated curent: 500A

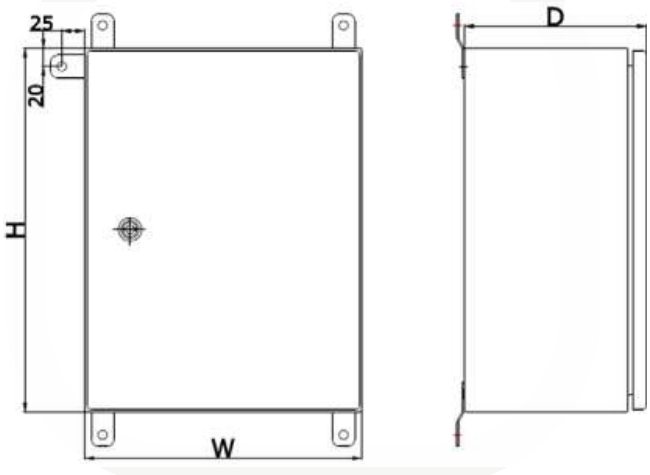
We don't supply empty "U" certified enclosures. These terminal boxes must be configured with the number of terminals and cable entries.



STANDARD SIZES (LARGE BOXES)													
Dimensions:	Maximum No. of terminals / current*						Maximum No. of cable glands						
WxHxD	35 mm²	70 mm²	95 mm²	120 mm²	185 mm²	300 mm²	M16 x1,5	M20 x1,5	M25 x1,5	M32 x1,5	M40 x1,5	M50 x1,5	M63 x1,5
300x300x200 mm	8/90	7/140	-	-	-	-	3/2	2/1	1/0	0/0	0/0	0/0	0/0
400x600x210 mm	18/65	16/100	14/120	13/145	-	-	8/3	5/2	3/1	2/0	0/0	0/0	0/0
600x400x210 mm	20/60	18/95	14/120	10/145	8/230	-	12/3	7/2	4/1	3/0	2/0	0/0	0/0
800x600x210 mm	54/40	32/75	26/120	24/115	10/220	10/285	15/3	10/2	7/1	5/0	4/0	0/0	0/0
1000x800x300 mm	72/40	46/75	36/120	34/115	13/230	13/290	30/9	27/6	17/3	14/2	7/1	5/1	3/1
1200x1000x400 mm	93/40	90/60	48/120	44/115	34/230	17/290	23/9	20/6	12/3	10/2	5/3	3/1	2/1

*Maximum current at Ta = 40°C.

TECHNICAL SPECIFICATIONS	
Marking:	Ex II 2G Ex e IIC T6 Gb Ex II 2(1)G Ex e[ia] IIC T6 Gb Ex II 2D Ex tb IIIC T80°C
Certificate:	EU-Type Examination Certificate
Operating temperature:	-50°C to +60°C (Depending on the used components and heat disapation)
Material:	Stainless Steel 1.4301 (V2A) or 1.4404. Surface brushed (grain size 240)
Lid screws:	Stainless Steel
PE connection:	External, internal on base and lid
Rated voltage:	max. 1100V
Rated curent:	max. 500A
Ingress protection:	IP66
Accessories:	Wall mounting brackets



STAINLESS STEEL JUNCTION BOX - 3 TERMINALS / 5 ENTRIES

Zones 1, 2, 21, 22

ATEX JUNCTION BOXES | ZONES 1, 2 (gas) & 21, 22 (dust)

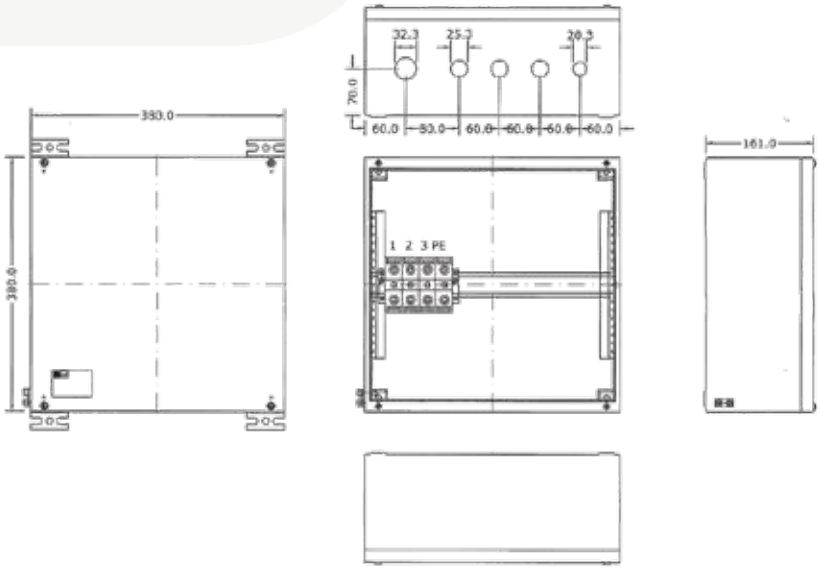
Custom configurable stainless steel ATEX junction box for installation in hazardous areas in zones 1, 2, 21 and 22.

Equipped with 3x 95mm² terminals + 1 earth terminal, and 1 cable entry M32x1.5, 3x M25x1.5 and 1x M20x1.5 on the underside.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
A11-E4-03816+3T95+1M32+3M25+1M20	5A0902

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Material:	Stainless steel 316L
Dimensions:	380x380x161 mm
Design:	Screwed lid
Terminals:	3 xUKH 95mm² + 1xUSLKG PE 95mm². Marked 1, 2, 3, PE
External PE connection:	Yes
Ingress protection:	IP66
Accessories:	Wall mounting brackets
Cable entries:	1xM32x1,5, 3xM25x1,5 and 1xM20x1,5 (cable glands / plugs not included)



STAINLESS STEEL JUNCTION BOX - 30 TERMINALS / 10 ENTRIES

Zones 1, 2, 21, 22

ATEX JUNCTION BOXES

ZONES 1, 2 (gas) & 21, 22 (dust)

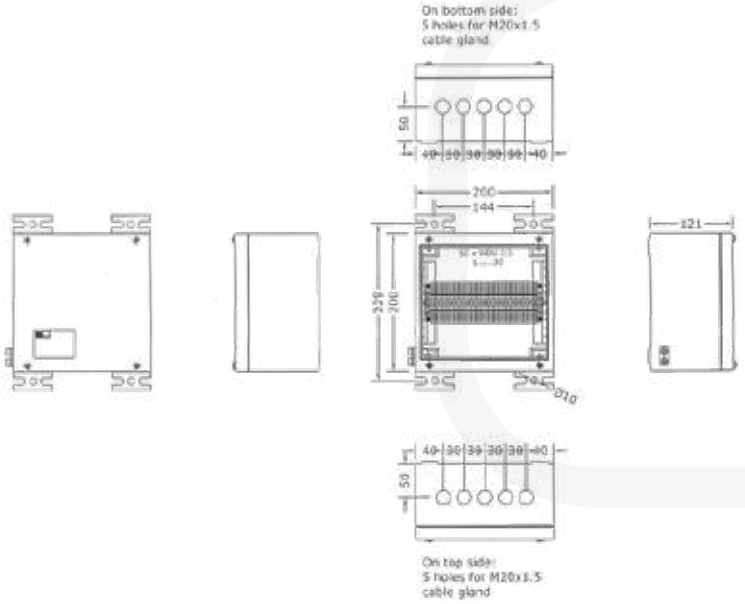
Custom configurable stainless steel ATEX junction box for installation in hazardous areas in zones 1, 2, 21 and 22.

Equipped with 10 2.5mm² terminals and 10 M20x1.5 cable entries, 5 on the upper side and 5 on the lower side.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
A21-E4-02012+30T2,5+10M20	5A0901

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +55°C
Material:	Stainless steel 316L
Dimensions:	200x200x121 mm
Design:	Screwed lid
Terminals:	30x 2,5mm²
PE connection:	External
Ingress protection:	IP66
Accessories:	Wall mounting brackets
Cable entries:	10xM20 (cable glands / plugs not included)



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STAINLESS STEEL JUNCTION BOX - 24 TERMINALS / 13 ENTRIES

Zones 1, 2, 21, 22

ATEX JUNCTION BOXES | ZONES 1, 2 (gas) & 21, 22 (dust)

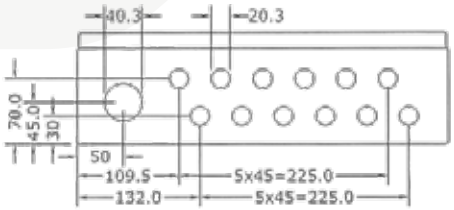
Custom-configurable stainless-steel ATEX junction box designed for installation in hazardous areas classified as Zones 1, 2, 21 and 22.

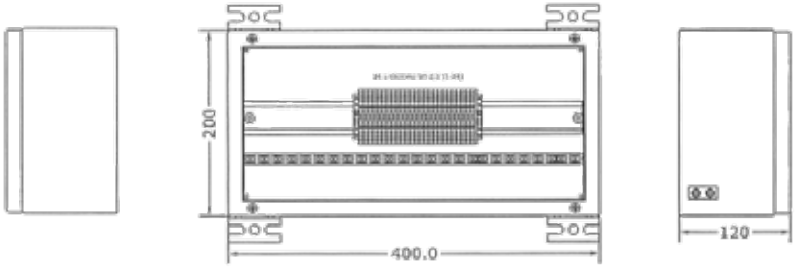
It is fitted with 24 terminals for 2.5 mm² conductors, along with 1x M40x1.5 cable entry and 12x M20x1.5 entries on the underside.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
A21-E4-04012+24T2,5+12M20+1M40	5A0903

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Material:	Stainless steel 316L
Dimensions:	400x200x120 mm
Design:	Screwed lid
Terminals:	24x 2,5mm²
External PE connection:	External
Ingress protection:	IP65
Accessories:	Wall mounting brackets
Cable entries:	1x M40x1,5 and 12x M20x1,5 (cable glands / plugs not included)





4.4 SWITCHES

ATEX SWITCHES

ZONES 1, 2 (gas) & 21, 22 (dust)

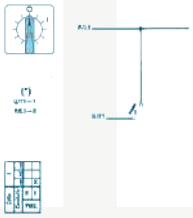
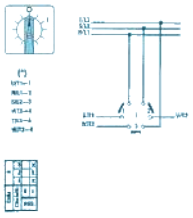
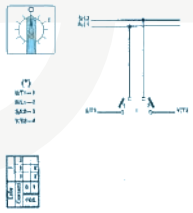
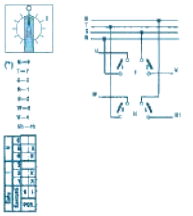
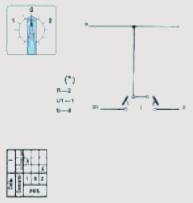
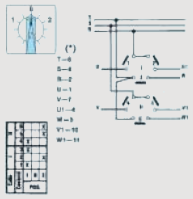
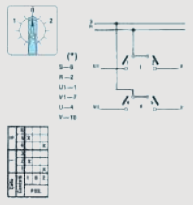
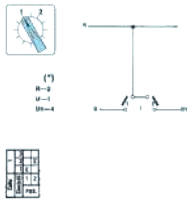
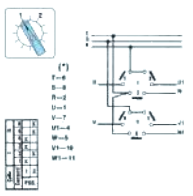
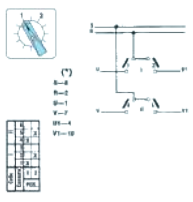
Explosion-proof breakers, selector switches, connecting switches series EFS.

Rotating type, with its knob on the front.

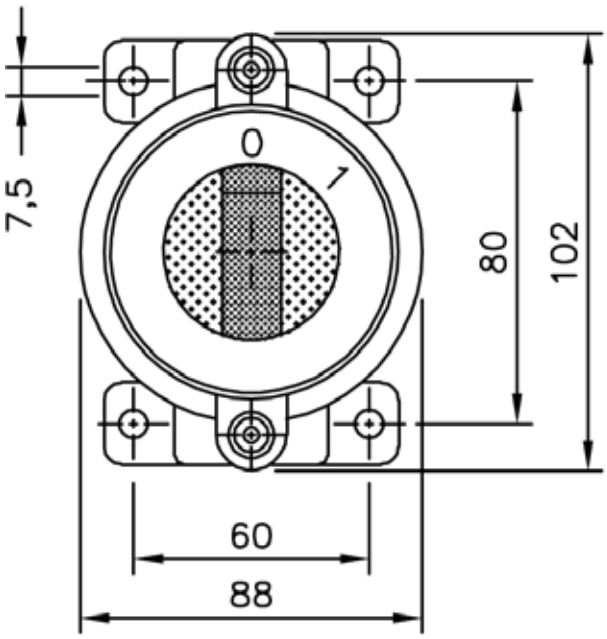
Suitable for currents up to 16A and voltages up to 690 VAC / 660 VDC.

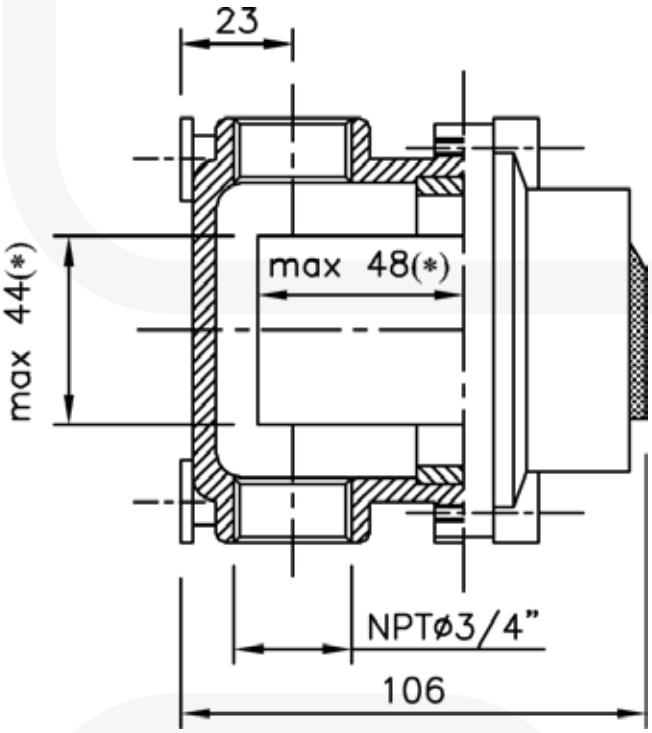
EU-Type Examination Certificate

ITEM REFERENCES

	Designation:	Contacts:	Item No.:		Designation:	Contacts:	Item No.:
	EFS 116 N	1 pole, (0/1) switches	3G0101		EFS 316 N	3 pole, (0/1) switches / 400V / AC3 / 5,5 kW max.	3G0103
	EFS 216 N	2 pole, (0/1) switches	3G0102		EFS 416 N	4 pole, (0/1) switches / 400V / AC3 / 5,5 kW max.	3G0104
	EFS 116/CN	1 pole mains transfer switches (1/0/2)	3G0105		EFS 316/CN	3 pole mains transfer switches (1/0/2)	3G0107
	EFS 216/CN	2 pole mains transfer switches (1/0/2)	3G0106				
	EFS 116/DN	1 pole change-over switches (1/2)	3G0108		EFS 316/DN	3 pole change-over switches (1/2)	3G0110
	EFS 216/DN	2 pole change-over switches (1/2) K3022 AC1 2A AC3/3PH 220V - 5,5kW 300V - 11kW 600V -15kW	3G0109				

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex d IIB T6-T5 Gb (IIC on request) II 2D Ex tb IIIC T85°C-T100°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Aluminium (RAL 7000)
Rated voltage:	Max. 690 VAC / 660 VDC.
Rated current:	Max. 16A
Operating temperature:	-20°C to +40°C
Ingress protection:	IP66/67
Weight:	700 g
Cable entries:	2x3/4" NPT (cable glands not included)





ATEX SWITCHES

ZONES 1, 2 (gas) & 21, 22 (dust)

3 or 4-pole ATEX certified switches suitable for installation in explosive atmospheres.

Manufactured in light aluminum alloy.

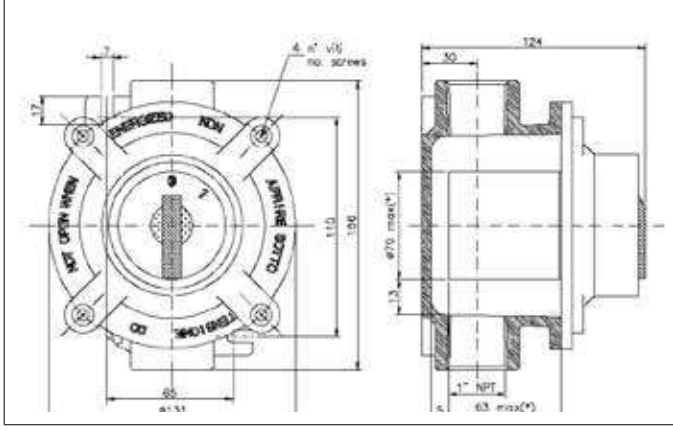
Suitable for currents up to 25A, 32A, 40A or 63A and voltages up to 690 VAC / 660 VDC.

EU-Type Examination Certificate

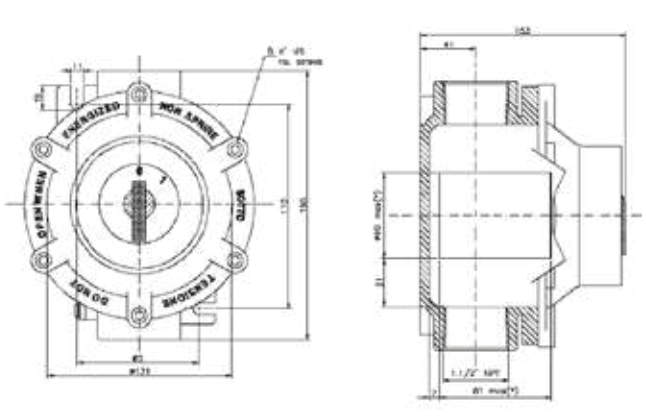
ITEM REFERENCES					
Designation:	Contacts:	I_e/AC1=I_{th2}	kW AC3 (380-440V)	Weight:	Item No.:
EFS 325	3 poles	25A	5,5 kW	1300 g	3G0201
EFS 425	4 poles	25A	5,5 kW	1300 g	3G0202
EFS 332	3 poles	32A	7,5 kW	1300 g	3G0203
EFS 432	4 poles	32A	7,5 kW	1300 g	3G0204
EFS 340	3 poles	40A	15 kW	2300 g	3G0301
EFS 440	4 poles	40A	11 kW	2300 g	3G0302
EFS 363	3 poles	63A	22 kW	2300 g	3G0303
EFS 463	4 poles	63A	22 kW	2300 g	3G0304

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex d IIB T6-T4 Gb (IIC version: on request) II 2D Ex tb IIIC T85°C-T135°C Db
Certificate:	EU-Type Examination Certificate
Material:	Aluminium (RAL 7000)
Operating temperature:	-20°C to +40°C
Ingress protection:	IP66 (IIB version) | IP66/67 (IIC version)
Cable entries:	25/32A - 2x1" NPT (cable glands not included) 40/63A - 2x1.1/2" NPT (cable glands not included)

25A / 32A



40A / 63A



ATEX SWITCHES

ZONES 1, 2 (gas) & 21, 22 (dust)

General-purpose switch designed to operate safely in potentially explosive atmospheres.

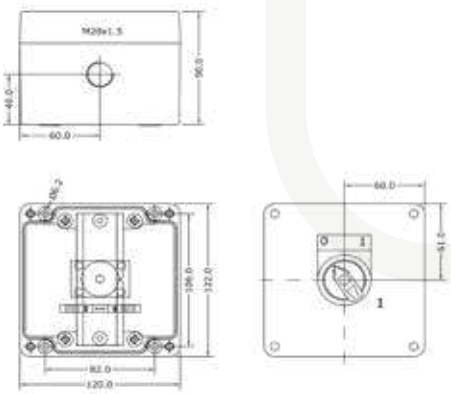
Manufactured from glass-fiber reinforced polyester, it provides high mechanical strength and durability under demanding conditions.

Its ample internal volume allows for comfortable wiring and fast installation. It is supplied with an M20x1.5 brass cable gland, suitable for armoured cables with outside diameters ranging from 13.2 to 20.5 mm.

EU-Type Examination Certificate

ITEM REFERENCES			
Contacts:	Designation:	Weight:	Item No.:
	Switch A21 2NC + Armoured cable gland M20x1,5 brass (13,2-20,5 mm)	1,2 kg	4E0101
	Switch A21 2NO + Armoured cable gland M20x1,5 brass (13,2-20,5 mm)	1,2 kg	4E0102
	Switch A21 1NC+1NO + Armoured cable gland M20x1,5 brass (13,2-20,5 mm)	1,2 kg	4E0103

TECHNICAL SPECIFICATIONS			
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db		
Certificate:	EU-Type Examination Certificate		
Operating temperature:	-20°C to +40°C		
Ingress protection:	IP65		
Material:	Glass fibre reinforced polyester (GRP)		
Nominal isolation voltage:	690 V		
Voltage range:			
400 V	400 V	110 V	24 V
Utilization categories:			
AC-12	AC-15	DC-13	DC-13
Current range:			
16 A	10 A	0,5 A	1 A
Conventional thermal current:	16 A/+40 °C, 11 A/+60 °C		
Connection:	Terminals 2,5 mm^2		
Operating cycle:	10^6 commutations		



PADLOCKABLE LOAD BREAK SWITCH FOR 5,5KW MOTORS

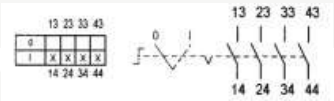
Zones 1, 2, 21, 22

ATEX SWITCHES | ZONES 1, 2 (gas) & 21, 22 (dust)

4-pole ATEX padlockable 0/1 or 0/1/2/3 disconnector with AC3 breaking capacity up to 5.5 kW at 400V.

Includes a brass plate and 2 or 3 brass or nickel-plated brass M20x1.5 cable glands for installation with armoured cables, or 2 or 3 polyamide cable glands for non-armoured cables.

EU-Type Examination Certificate

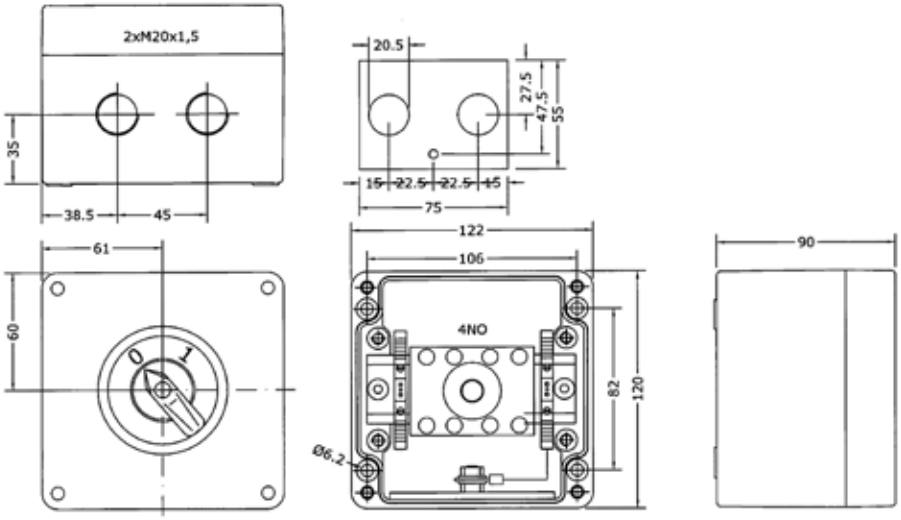
ITEM REFERENCES			
Contacts:	Designation:	Weight:	Item No.:
	0-1 Load break switch A21 Series + 2 brass cable glands for armoured cable M20x1,5 (13,2-20,5 mm)	1,5 kg	4E0201
	0-1 Load break switch A21 Series + 3 brass cable glands for armoured cable M20x1,5 (13,2-20,5 mm)	1,5 kg	4E0202
	0-1 Load break switch A21 Series + 2 plastic cable glands for non-armoured cable M20x1,5 (7-13 mm)	1 kg	4E0203
	0-1 Load break switch A21 Series + 3 plastic cable glands for non-armoured cable M20x1,5 (7-13 mm)	1 kg	4E0204
	0-1-2-3 Load break switch A21 Series + 2 brass cable glands for armoured cable M20x1,5 (13,2-20,5 mm)	1,5 kg	4E0205
	0-1-2-3 Load break switch A21 Series + 2 Non-armoured cable glands M20x1,5 (7-13 mm)	1 kg	4E0206

TECHNICAL SPECIFICATIONS		
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db	
Certificate:	EU-Type Examination Certificate	
Operating temperature:	-20°C a +40°C	
Ingress protection:	IP65	
Material:	Glass fibre reinforced polyester (GRP)	
Breaking capacity:		
P/AC-3/AC-23	AC-3	AC-23
230V	3 ph/3 kW	1 ph/2,2 kW
400V	3 ph/5,5 kW	1 ph/3 kW
I_e=AC-23/400 V/10 A		
Utilization categories:		
AC-15	400 V	10 A
AC-12	400 V	16 A
DC-13	24 V	1 A
Nominal isolation voltage:	U_i=690V | U_e=450V	
Nominal pulse voltage:	U_{imp}=6 kV	
Rated short-circuit current (400V):	I_e=4 kA	
Short-circuit current:	max. 16A	
Connection:	Terminals 2,5 mm^2	

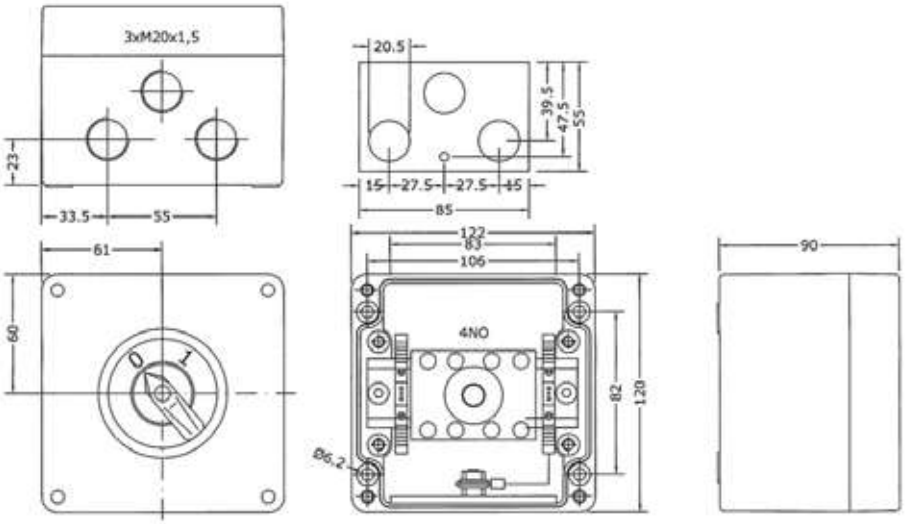
PADLOCKABLE LOAD BREAK SWITCH FOR 5,5KW MOTORS

Zones 1, 2, 21, 22

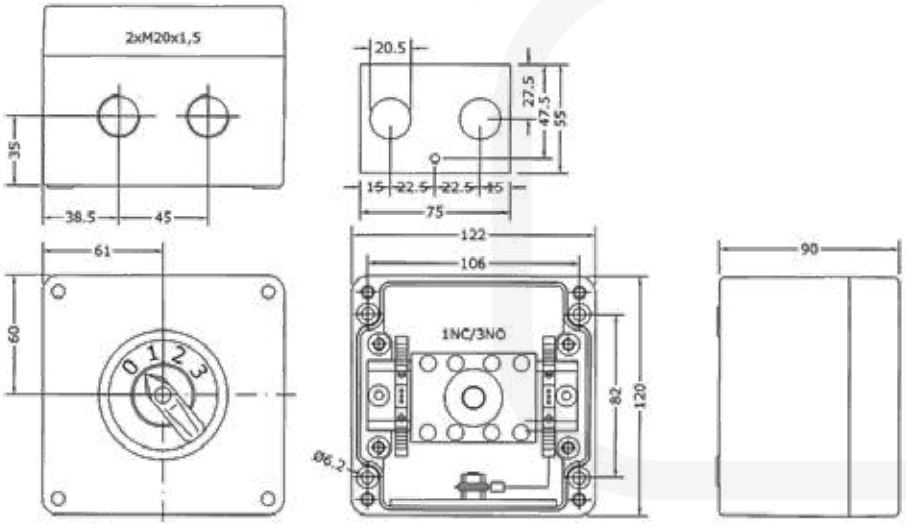
ITEM No. 4E0201-4E0203



ITEM No. 4E0202-4E0204



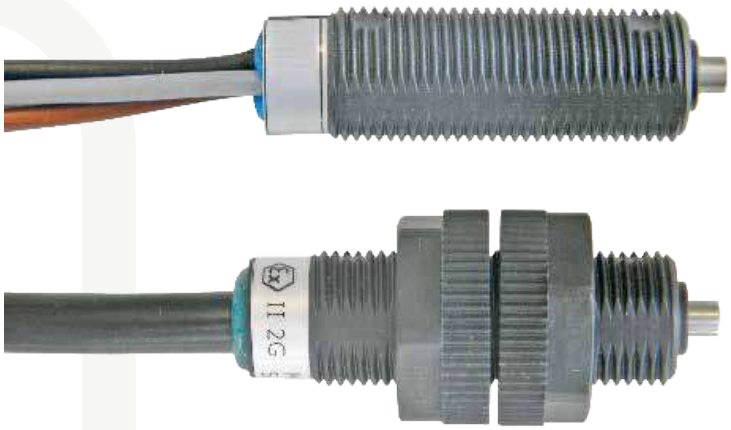
ITEM No. 4E0205-4E0206



EX D MICROSWITCH M12 TYPE AS1

Zones 1, 2

ATEX LIMIT SWITCHES | **ZONES 1, 2 (gas)**



The cylindrical M12 microswitches are used in potential explosive athmospheres zone 1/2, wherever the switching status must be recorded accurately without using an additional intrinsically safe amplifier.

Because of the goldplated contacts, the M12 microswitches can also directly connected to intrinsically safe circuits. Due to the cylindrical design, they can be precisely adjusted by the M12x1 fine thread or can be installed in the usual mounting kits for inductive proximity switches of the size M12.

EU-Type Examination Certificate

ITEM REFERENCES			
Designation:		Wire / Cable Lenght:	Item No.:
For use installed inside separate certified enclosures with single cores; 3x 0,5 mm²			
	AS1-A7-500028	Single wires 14 cm	500028
	AS1-A7-500024	Single wires 16 cm	500024
	AS1-A7-500025	Single wires 26 cm	500025
	AS1-A7-500026	Single wires 1 m	500026
For direct installation on machines with cable 3 x 0,5 mm²			
	AS1-L7-500027	Cable 3 m	500027
	AS1-L7-500030	Cable 5 m	500030
	AS1-L7-500031	Cable 10 m	500031

TECHNICAL SPECIFICATIONS				
Marking:	II 2G Ex db IIC T6 Gb			
Certificate:	EU-Type Examination Certificate			Contacts:
Material:	Glass fiber reinforced polyamide			1 = brown "C"
Switch contact:	1 Changeover			2 = black "NC"
Mechanical life time:	200.000 operations			4 = grey "NO"
Operating temperature:	up to 4 A: -20°C to +60°C from 4 to 5 A: -20°C to +40°C			
Design:	Cylindrial design M12x1. Length 38 mm (without actuator)			
Variants:	with single core 3 x 0,5 mm² with cable 3 x 0,5 mm²			
Ingress protection:	min. IP54			
CONTACT ELEMENT				
Switching voltage AC 250 V	SWITCHING CURRENT			
	5 A / AC-12	4 A / AC-12	1 A / AC-13/15	
Switching voltage DC 24 V	SWITCHING CURRENT			
	5 A / DC-12	4 A / DC-12	0,6 A / DC-13	
Operating force:	1,7 N			
Electr. life time:	2 x 10^6			
Contact:	Goldplated silver			
Switching frequency:	max. 5/s			
Vibration resistance:	10g (500 Hz) (EN60068-1-6)			

4.5 CONTROL STATIONS

ATEX CONTROL STATIONS

ZONES 1, 2 (gas) & 21, 22 (dust)

These polyester local control boxes are used in hazardous areas on machines and in plants to control processes and display states. The robust enclosure made of glass fiber reinforced polyester has good chemical resistance and has proven itself for years in industrial use indoors and outdoors. They are certified for the use in hazardous areas of Zones 1/2 and 21/22.

These local control boxes are equipped with push button, selector switch, key switch, emergency stop button, potentiometer, indicator light and illuminated button according to customer specifications.

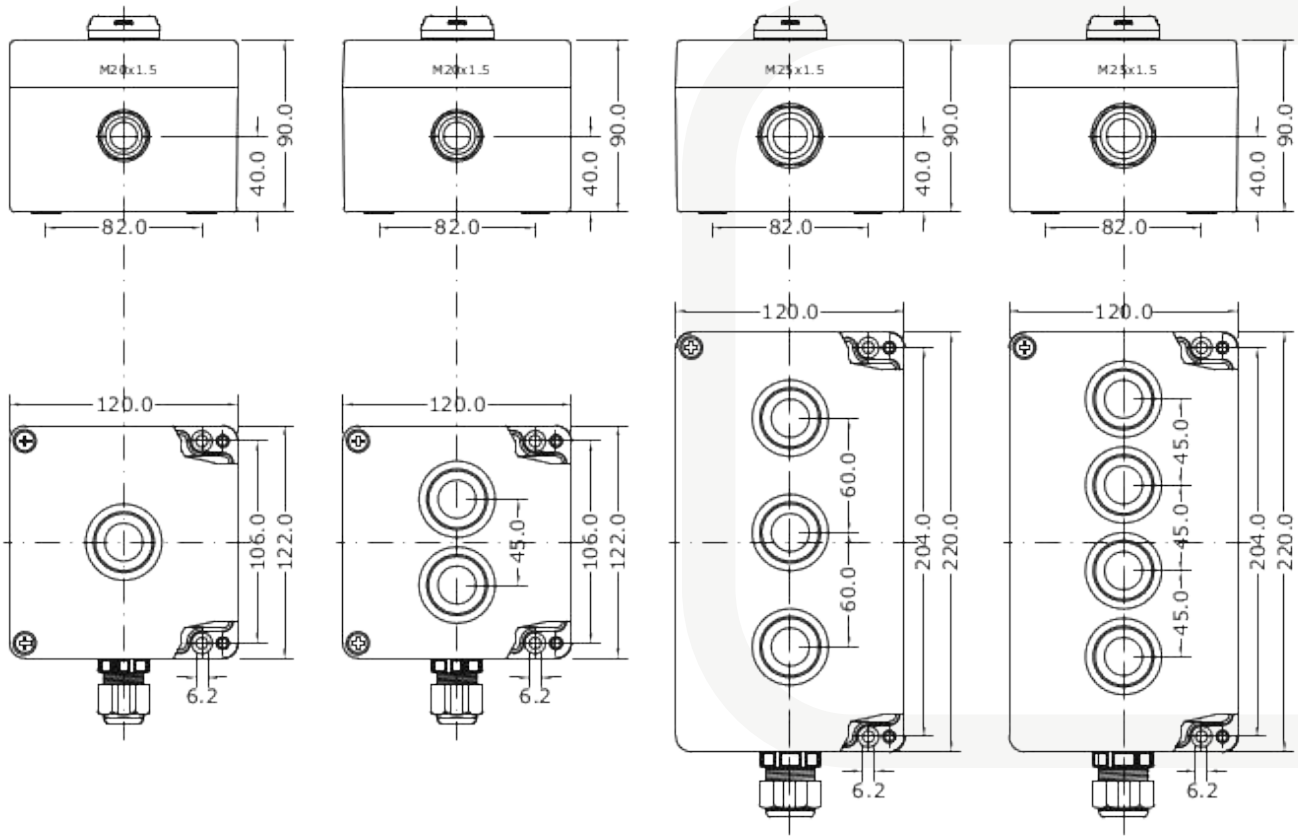
Empty enclosures or loose parts with Ex component certificate and suffix 'U' are not supplied (see standard EN60079-0 section 13.5 Ex component certificate).

EU-Type Examination Certificate

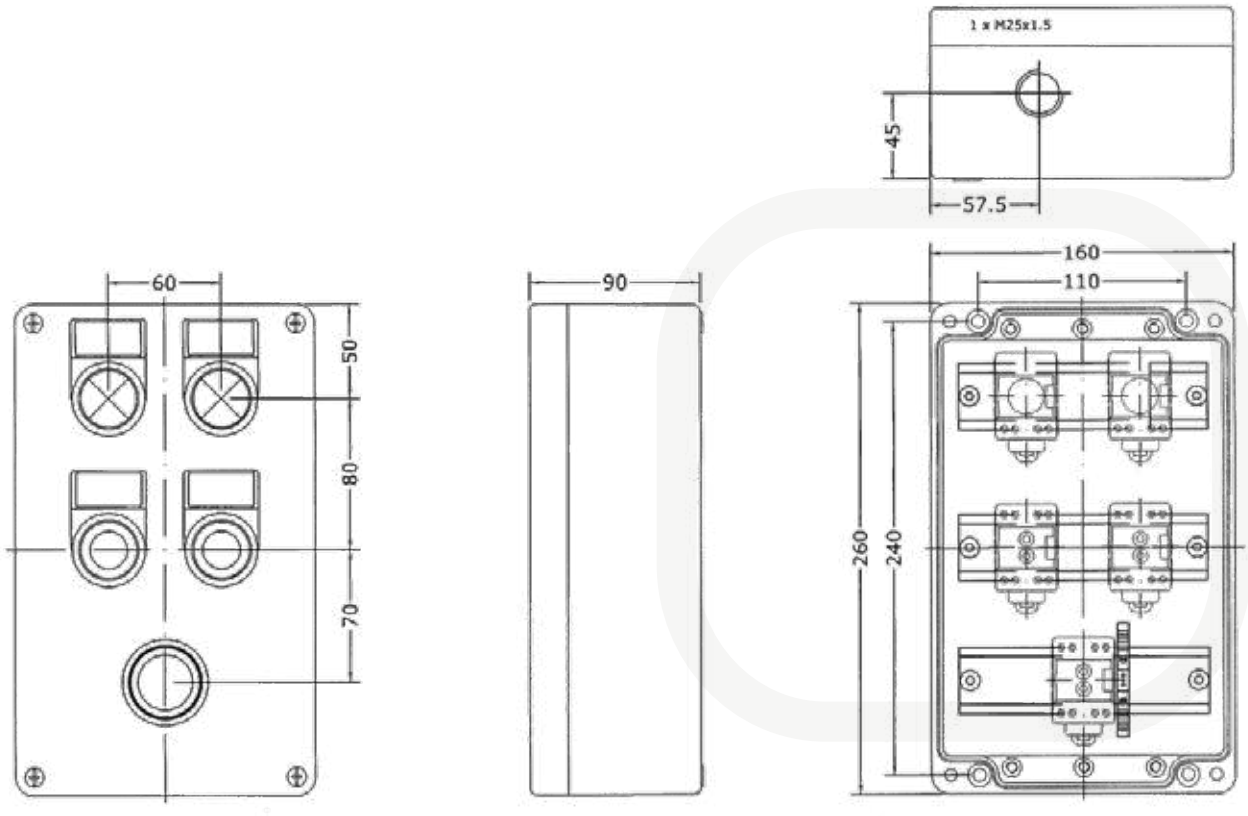
ITEM REFERENCES	
Designation:	**Item No.:**
Single device enclosure	A21-E1-01209 (1)
Double device enclosure	A21-E1-01209 (2)
Triple device enclosure	A21-E1-02209 (3)
Four device enclosure	A21-E1-02209 (4)
Five device enclosure	A21-E1-02609 (5)

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Ingress protection:	IP65
Material:	Glass fibre reinforced polyester (GRP)
Sealing:	Silicone
Torque:	2 - 2,5 Nm
Operating voltage:	max. 230 V
Rated current:	max. 5 A
Cross connection:	max. 2.5 mm²

1 TO 4 ELEMENTS DIMENSIONS



5 ELEMENTS DIMENSIONS



PUSHBUTTON SELECTION TABLE		
Element:	**Designation:**	**Item No.:**
	Pushbutton [momentary] 1NO+1NC Colour: white (bw), black (bb), red (br), green (bg)	bw 1NO+1NC bb 1NO+1NC br 1NO+1NC bg 1NO+1NC
	Pushbutton [momentary] 2NC Colour: white (bw), black (bb), red (br), green (bg)	bw 2NC bb 2NC br 2NC bg 2NC
	Pushbutton [momentary] 2NO Colour: white (bw), black (bb), red (br), green (bg)	bw 2NO bb 2NO br 2NO bg 2NO

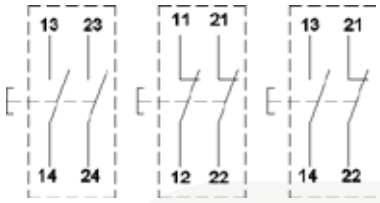
DOUBLE PUSHBUTTON SELECTION TABLE		
Element:	**Designation:**	**Item No.:**
	Double Pushbutton [momentary] 1NO+1NC Colour: white (bw), black (bb), red (br), green (bg)	d-bw 1NO+1NC d-bb 1NO+1NC d-br 1NO+1NC d-bg 1NO+1NC

SELECTOR SWITCH SELECTION TABLE		
Element:	**Designation:**	**Item No.:**
	Selector switch I-0 (2w) 1NO+1NC Selector switch I-0-II (3wl) [I+II latching] 1NO+1NC Selector switch I-0-II (3wm) [I+II momentary] 1NO+1NC Selector switch I-0-II (3wem) [I latching, II momentary] 1NO+1NC Selector switch I-0-II (3wme) [I momentary, II latching] 1NO+1NC	2w 1NO+1NC 3wl 1NO+1NC 3wm 1NO+1NC 3wem 1NO+1NC 3wme 1NO+1NC
	Selector switch I-0 (2w) 2NC Selector switch I-0-II (3wl) [I+II latching] 2NC Selector switch I-0-II (3wm) [I+II momentary] 2NC Selector switch I-0-II (3wem) [I latching, II momentary] 2NC Selector switch I-0-II (3wme) [I momentary, II latching] 2NC	2w 2NC 3wl 2NC 3wm 2NC 3wem 2NC 3wme 2NC
	Selector switch I-0 (2w) 2NO Selector switch I-0-II (3wl) [I+II latching] 2NO Selector switch I-0-II (3wm) [I+II momentary] 2NO Selector switch I-0-II (3wem) [I latching, II momentary] 2NO Selector switch I-0-II (3wme) [I momentary, II latching] 2NO	2w 2NO 3wl 2NO 3wm 2NO 3wem 2NO 3wme 2NO

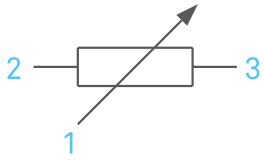
KEY SELECTOR SWITCH SELECTION TABLE		
Element:	**Designation:**	**Item No.:**
	Selector switch I-0 (k-2wl) [I-0 latching, I-0 key withdrawable] 1NO+1NC Selector switch I-0 (k-2wl0) [I-0 latching, 0 key withdrawable] 1NO+1NC Selector switch I-0 (k-2wm0) [I-0 spring return, 0 key withdrawable] 1NO+1NC Selector switch I-0-II (k-3wl) [I-0-II latching, I-0-II key withdrawable] 1NO+1NC Selector switch I-0-II (k-3wl0) [I-0-II latching, 0 key withdrawable] 1NO+1NC Selector switch I-0-II (k-3wm0) [I-0-II spring return, 0 key withdrawable] 1NO+1NC	k-2wl 1NO+1NC k-2wl0 1NO+1NC k-2wm0 1NO+1NC k-3wl 1NO+1NC k-3wl0 1NO+1NC k-3wm0 1NO+1NC
	Selector switch I-0 (k-2wl) [I-0 latching, I-0 key withdrawable] 2NC Selector switch I-0 (k-2wl0) [I-0 latching, 0 key withdrawable] 2NC Selector switch I-0 (k-2wm0) [I-0 spring return, 0 key withdrawable] 2NC Selector switch I-0-II (k-3wl) [I-0-II latching, I-0-II key withdrawable] 2NC Selector switch I-0-II (k-3wl0) [I-0-II latching, 0 key withdrawable] 2NC Selector switch I-0-II (k-3wm0) [I-0-II spring return, 0 key withdrawable] 2NC	k-2wl 2NC k-2wl0 2NC k-2wm0 2NC k-3wl 2NC k-3wl0 2NC k-3wm0 2NC
	Selector switch I-0 (k-2wl) [I-0 latching, I-0 key withdrawable] 2NO Selector switch I-0 (k-2wl0) [I-0 latching, 0 key withdrawable] 2NO Selector switch I-0 (k-2wm0) [I-0 spring return, 0 key withdrawable] 2NO Selector switch I-0-II (k-3wl) [I-0-II latching, I-0-II key withdrawable] 2NO Selector switch I-0-II (k-3wl0) [I-0-II latching, 0 key withdrawable] 2NO Selector switch I-0-II (k-3wm0) [I-0-II spring return, 0 key withdrawable] 2NO	k-2wl 2NO k-2wl0 2NO k-2wm0 2NO k-3wl 2NO k-3wl0 2NO k-3wm0 2NO

MUSHROOM PUSHBUTTON SELECTION TABLE (MOMENTARY)		
Element:	**Designation:**	**Item No.:**
	Mushroom pushbutton [momentary] 1NO+1NC Colour: black	bm 1NO+1NC
	Mushroom pushbutton [momentary] 2NC Colour: black	bm 2NC
	Mushroom pushbutton [momentary] 2NO Colour: black	bm 2NO

EMERGENCY STOP PUSHBUTTON SELECTION TABLE		
Element:	**Designation:**	**Item No.:**
	Emergency stop pull to release (ep) 1NO+1NC Emergency stop twist to release (et) 1NO+1NC	ep 1NO+1NC et 1NO+1NC
	Emergency stop pull to release (ep) 2NC Emergency stop twist to release (et) 2NC	ep 2NC et 2NC
	Emergency stop pull to release (ep) 2NO Emergency stop twist to release (et) 2NO	ep 2NO et 2NO

INTERNAL CONTACT MODULE FOR PUSSBUTTON, EMERGENCY STOP AND SELECTOR SWITCH			
			
Marking:	II 2G Ex db eb IIC Gb I M2 Ex db eb I Mb		
Certificate:	EU-Type Examination Certificate		
Operating temperature:	-55°C to +60°C		
Ingress protection:	IP20 according to EN 60529		
Nominal isolation voltage:	690 V		
Rated voltage:			
400 V	400 V	110 V	60 V
Utilization categories:			
AC-12	AC-15	DC-13	DC-13
Rated operating currents:			
16 A	10 A	1 A	2 A
Conventional thermal current:	16 A/+40 °C, 11 A/+60 °C		
Connection:	Terminals 2,5 mm^2		
Mechanical life:	10^6 switching cycles		

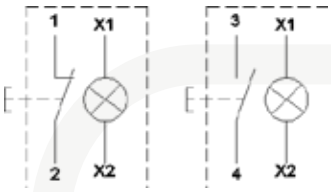
POTENTIOMETER SELECTION TABLE		
Element:	**Designation:**	**Item No.:**
	Potentiometer Colour: black	pb

INTERNAL CONTACT MODULE FOR POTENTIOMETER	
	
Marking:	II 2G Ex db eb IIC Gb I M2 Ex db eb I Mb
Certificate:	EU-Type Examination Certificate
Operating temperature:	-55°C to +85°C
Ingress protection:	IP20 according to EN 60529
Rated voltage:	250 V
Rated insulation voltage:	250 V
Rated power dissipation:	Up to 1W
Resistance:	1 kΩ, 10 kΩ
Rotation:	Mechanical 285° to 5° / Electrical approx. 250°
Rated torque:	0.4 - 0.7 Nm
Connection:	Terminals 0.75 mm^2 - 2.5 mm^2
Mechanical life:	25000 cycles

PILOT LIGHT SELECTION TABLE		
Element:	**Designation:**	**Item No.:**
	Pilot light Colours: white (sw), red (sr), green (sg), blue (sb), yellow (sy)	sw sr sg sb sy

INTERNAL MODULE FOR PILOT LIGHTS	
Marking:	II 2G Ex db eb IIC Gb I M2 Ex db eb I Mb
Certificate:	EU-Type Examination Certificate
Operating temperature:	-55 °C to +85 °C
Ingress protection:	IP20 according to EN 60529
Rated voltage:	AC/DC 12...230V
Working voltage:	250 V
Rated insulation voltage:	300 V
Power consumption:	< 1 W
Lamp:	LED (red, green, yellow, white, blue)
Connection:	Terminals 0.75 mm^2 - 2.5 mm^2
Mechanical life:	10^5 running hours

ILLUMINATED PUSHBUTTON SELECTION TABLE		
Element:	Designation:	Item No.:
	Illuminated pushbutton [momentary] 1NO Colours: white (sw), red (sr), green (sg), blue (sb), yellow (sy)	sw+1NO sr+1NO sg+1NO sb+1NO sy+1NO
	Illuminated pushbutton [momentary] 1NC Colours: white (sw), red (sr), green (sg), blue (sb), yellow (sy)	sw+1NC sr+1NC sg+1NC sb+1NC sy+1NC

INTERNAL MODULE FOR ILLUMINATED PUSHBUTTON	
	
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Certificate:	EU-Type Examination Certificate
Operating temperature:	-55 °C to +85 °C
Ingress protection:	IP20 according to EN 60529
Rated voltage:	AC/DC 12...230V
Working voltage:	250 V
Rated insulation voltage:	300 V
Utilization categories:	AC-15 - 1 A/230 V | DC-13 - 0.25 A/24 V
Power consumption:	< 1 W
Lamp:	LED (red, green, yellow, white, blue)
Connection:	Terminals 0.75 mm^2 - 2.5 mm^2
Electrical/Mechanical life:	10^5 running hours / 10^5 switching cycles

ATEX CONTROL STATIONS

ZONES 1, 2 (gas) & 21, 22 (dust)

Ex e Pushbuttton made of glass fibre reinforced polyester for application in hazardous areas.
Tags: white (bw), black (bb), red (br) or green (bg).

Can be supplied with M20 cable glands for armoured or non-armoured cable.

EU-Type Examination Certificate

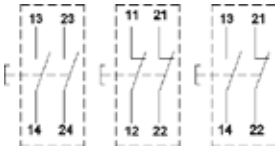
ITEM REFERENCES

Designation:		Item No.:
	Pushbutton 1NO+1NC - M20 Plastic cable gland	3J0601
	Pushbutton 2NC - M20 Plastic cable gland	3J0602
	Pushbutton 2NO - M20 Plastic cable gland	3J0603
	Pushbutton 1NO+1NC - M20 Brass Cable Gland	3J0604
	Pushbutton 2NC - M20 Brass Cable Gland	3J0605
	Pushbutton 2NO - M20 Brass Cable Gland	3J0606
	Pushbutton 1NO+1NC - M20 Nickel-Plated Brass Cable Gland	3J0607
	Pushbutton 2NC - M20 Nickel-Plated Brass Cable Gland	3J0608
	Pushbutton 2NO - M20 Nickel-Plated Brass Cable Gland	3J0609

TECHNICAL SPECIFICATIONS

Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Ingress protection:	IP65
Material:	Glass fibre reinforced polyester (GRP)
Cable entries:	1xM20x1,5

INTERNAL CONTACT MODULE



Marking:	II 2G Ex de IIC Gb I M2 Ex de I Mb
Certificate:	EU-Type Examination Certificate
Operating temperature:	-55°C to +60°C
Ingress protection:	IP20
Nominal isolation voltage:	690 V

Voltage range:			
400 V	400 V	110 V	24 V
Utilization categories:			
AC-12	AC-15	DC-13	DC-13
Current range:			
16 A	10 A	0,5 A	1 A

ATEX CONTROL STATIONS

ZONES 1, 2 (gas) & 21, 22 (dust)

Ex i control stations equipped with a mushroom pushbutton, made of glass-fibre reinforced polyester for use in explosive atmospheres, exclusively in intrinsically safe circuits.

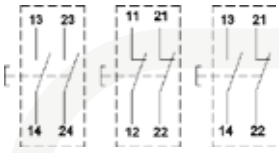
Label is optional.

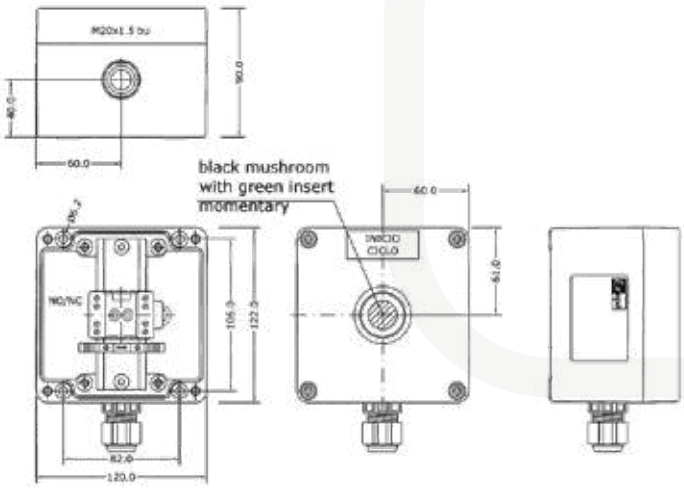
EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
Ex i Pushbutton 1NO+1NC	3J0114
Ex i Pushbutton 2NC	3J0115
Ex i Pushbutton 2NO	3J0116

TECHNICAL SPECIFICATIONS	
Marking:	II 2(1)G Ex db eb ib [ia Ga] IIC T6 Gb II 2(1)D Ex tb [ia Da] IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Ingress protection:	IP65
Material:	Glass fibre reinforced polyester (GRP)
Cable entries:	1xM20x1,5 Blue plastic cable gland (4-13mm)

INTERNAL CONTACT MODULE





ATEX CONTROL STATIONS

ZONES 1, 2 (gas) & 21, 22 (dust)

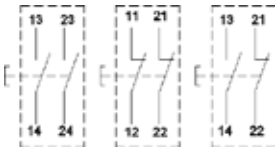
Pushbutton panels equipped with a mushroom type momentary pushbutton, made of glass-fibre reinforced polyester for use in explosive atmospheres.

Can be supplied with M20 cable glands for armoured or non-armoured cable.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
Mushroom type momentary push button 1NO+1NC - M20 Plastic cable gland	3J0117
Mushroom type momentary push button 2NC - M20 Plastic cable gland	3J0118
Mushroom type momentary push button 2NO - M20 Plastic cable gland	3J0119
Mushroom type momentary push button 1NO+1NC - M20 Brass Cable Gland	3J0120
Mushroom type momentary push button 2NC - M20 Brass Cable Gland	3J0121
Mushroom type momentary push button 2NO - M20 Brass Cable Gland	3J0122
Mushroom type momentary push button 1NO+1NC - M20 Nickel-Plated Brass Cable Gland	3J0123
Mushroom type momentary push button 2NC - M20 Nickel-Plated Brass Cable Gland	3J0124
Mushroom type momentary push button 2NO - M20 Nickel-Plated Brass Cable Gland	3J0125

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Ingress protection:	IP65
Material:	Glass fibre reinforced polyester (GRP)
Colour:	Black
Cable entries:	1xM20x1,5

INTERNAL CONTACT MODULE			
			
Marking:	II 2G Ex de IIC Gb I M2 Ex de I Mb		
Certificate:	EU-Type Examination Certificate		
Operating temperature:	-55°C to +60°C		
Ingress protection:	IP20		
Nominal isolation voltage:	690 V		
Voltage range:			
400 V	400 V	110 V	24 V
Utilization categories:			
AC-12	AC-15	DC-13	DC-13
Current range:			
16 A	10 A	0,5 A	1 A

MUSHROOM TYPE LATCHING PUSH BUTTON

Zones 1, 2, 21, 22

ATEX CONTROL STATIONS

ZONES 1, 2 (gas) & 21, 22 (dust)

Pushbutton panels equipped with a mushroom type latching pushbutton, made of glass-fibre reinforced polyester for use in explosive atmospheres.

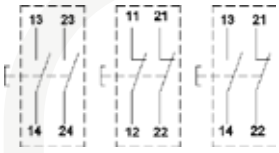
Can be supplied with M20 cable glands for armoured or non-armoured cable.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
Mushroom type latching push button 1NO+1NC - M20 Plastic cable gland	3J0126
Mushroom type latching push button 2NC - M20 Plastic cable gland	3J0127
Mushroom type latching push button 2NO - M20 Plastic cable gland	3J0128
Mushroom type latching push button 1NO+1NC - M20 Brass Cable Gland	3J0129
Mushroom type latching push button 2NC - M20 Brass Cable Gland	3J0130
Mushroom type latching push button 2NO - M20 Brass Cable Gland	3J0131
Mushroom type latching push button 1NO+1NC - M20 Nickel-Plated Brass Cable Gland	3J0132
Mushroom type latching push button 2NC - M20 Nickel-Plated Brass Cable Gland	3J0133
Mushroom type latching push button 2NO - M20 Nickel-Plated Brass Cable Gland	3J0134

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Ingress protection:	IP65
Material:	Glass fibre reinforced polyester (GRP)
Colour:	Black
Cable entries:	1xM20x1,5

INTERNAL CONTACT MODULE



Marking:	II 2G Ex de IIC Gb I M2 Ex de I Mb		
Certificate:	EU-Type Examination Certificate		
Operating temperature:	-55°C to +60°C		
Ingress protection:	IP20		
Nominal isolation voltage:	690 V		
Voltage range:			
400 V	400 V	110 V	24 V
Utilization categories:			
AC-12	AC-15	DC-13	DC-13
Current range:			
16 A	10 A	0,5 A	1 A

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SINGLE INDICATOR LIGHT

Zones 1, 2, 21, 22

ATEX CONTROL STATIONS

ZONES 1, 2 (gas) & 21, 22 (dust)

Ex e indicator lights made of glass fibre reinforced polyester for application in hazardous areas.
Colours: White (sw), Red (sr), Green (sg), Blue (sb), Yellow (sy)

Can be supplied with M20 cable glands for armored or non-armored cable.

EU-Type Examination Certificate

ITEM REFERENCES

Designation:		Cable glands:	Item No.:
	Indicator light - WHITE	M20 Plastic cable gland	3J0801
	Indicator light - RED		3J0802
	Indicator light - GREEN		3J0803
	Indicator light - BLUE		3J0804
	Indicator light - YELLOW		3J0805
	Indicator light - WHITE	M20 Brass Cable Gland	3J0806
	Indicator light - RED		3J0807
	Indicator light - GREEN		3J0808
	Indicator light - BLUE		3J0809
	Indicator light - YELLOW		3J0810
	Indicator light - WHITE	M20 Nickel-Plated Brass Cable Gland	3J0811
	Indicator light - RED		3J0812
	Indicator light - GREEN		3J0813
	Indicator light - BLUE		3J0814
	Indicator light - YELLOW		3J0815

TECHNICAL SPECIFICATIONS

Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Ingress protection:	IP65
Material:	Glass fibre reinforced polyester (GRP)
Cable entries:	1xM20x1,5

INTERNAL MODULE FOR INDICATOR LIGHTS

Marking:	II 2G Ex de IIC Gb I M2 Ex de I Mb
Certificate:	EU-Type Examination Certificate
Operating temperature:	-55 °C to +50 °C / +60 °C (AC/DC 12V to 24V)
Ingress protection:	IP20
Nominal isolation voltage:	300 V
Voltage range:	AC 12 V to 250 V ($T_a \leq +50°C$) / DC 12 V to 60 V ($T_a \leq +50°C$) / AC/DC 12 V to 24 V ($T_a \leq +60°C$)
Power:	< 1 W
Lamp:	LED (Red, Green, Yellow, White, Blue)
Connection:	Terminals 2,5 mm^2
Operating cycle:	$>10^5$ hours

2 WAY SELECTOR SWITCH 0-I

Zones 1, 2, 21, 22

ATEX CONTROL STATIONS

ZONES 1, 2 (gas) & 21, 22 (dust)

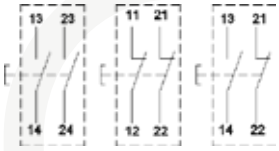
Ex e 2 way Selector Switch made of glass fibre reinforced polyester for application in hazardous areas.

Can be supplied with M20 cable glands for armored or non-armored cable.

EU-Type Examination Certificate

ITEM REFERENCES		
Designation:		Item No.:
	2 Way Selector Switch 0-I (latching I) 2NC - M20 Brass Cable Gland	4E0101
	2 Way Selector Switch 0-I (latching I) 2NO - M20 Brass Cable Gland	4E0102
	2 Way Selector Switch 0-I (latching I) 1NO+1NC - M20 Brass Cable Gland	4E0103
	2 Way Selector Switch 0-I (latching I) 2NC - M20 Nickel-Plated Brass Cable Gland	4E0104
	2 Way Selector Switch 0-I (latching I) 2NO - M20 Nickel-Plated Brass Cable Gland	4E0105
	2 Way Selector Switch 0-I (latching I) 1NO+1NC - M20 Nickel-Plated Brass Cable Gland	4E0106
	2 Way Selector Switch 0-I (latching I) 2NC - M20 Plastic cable gland	4E0107
	2 Way Selector Switch 0-I (latching I) 2NO - M20 Plastic cable gland	4E0108
	2 Way Selector Switch 0-I (latching I) 1NO+1NC - M20 Plastic cable gland	4E0109

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Ingress protection:	IP65
Material:	Glass fibre reinforced polyester (GRP)
Cable entries:	1x M20x1,5

INTERNAL CONTACT MODULE			
			
Marking:	II 2G Ex de IIC Gb I M2 Ex de I Mb		
Certificate:	EU-Type Examination Certificate		
Operating temperature:	-55°C to +60°C		
Ingress protection:	IP20		
Nominal isolation voltage:	690 V		
Voltage range:			
400 V	400 V	110 V	24 V
Utilization categories:			
AC-12	AC-15	DC-13	DC-13
Current range:			
16 A	10 A	0,5 A	1 A

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3 WAY SELECTOR SWITCH I-0-II

Zones 1, 2, 21, 22

ATEX CONTROL STATIONS | ZONES 1, 2 (gas) & 21, 22 (dust)

Ex e 3 way Selector Switch made of glass fibre reinforced polyester for application in hazardous areas.

Can be supplied with M20 cable glands for armored or non-armored cable.

EU-Type Examination Certificate

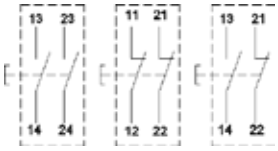
ITEM REFERENCES

Designation:		Item No.:
	3 Way Selector Switch I-0-II (latching I+II) 1NO+1NC - M20 Plastic cable gland	3J0701
	3 Way Selector Switch I-0-II (latching I+II) 2NC - M20 Plastic cable gland	3J0702
	3 Way Selector Switch I-0-II (latching I+II) 2NO - M20 Plastic cable gland	3J0703
	3 Way Selector Switch I-0-II (latching I+II) 1NO+1NC - M20 Brass Cable Gland	3J0704
	3 Way Selector Switch I-0-II (latching I+II) 2NC - M20 Brass Cable Gland	3J0705
	3 Way Selector Switch I-0-II (latching I+II) 2NO - M20 Brass Cable Gland	3J0706
	3 Way Selector Switch I-0-II (latching I+II) 1NO+1NC - M20 Nickel-Plated Brass Cable Gland	3J0707
	3 Way Selector Switch I-0-II (latching I+II) 2NC - M20 Nickel-Plated Brass Cable Gland	3J0708
	3 Way Selector Switch I-0-II (latching I+II) 2NO - M20 Nickel-Plated Brass Cable Gland	3J0709

TECHNICAL SPECIFICATIONS

Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Ingress protection:	IP65
Material:	Glass fibre reinforced polyester (GRP)
Cable entries:	1x M20x1,5

INTERNAL CONTACT MODULE



Marking:	II 2G Ex de IIC Gb I M2 Ex de I Mb
Certificate:	EU-Type Examination Certificate
Operating temperature:	-55°C to +60°C
Ingress protection:	IP20
Nominal isolation voltage:	690 V

Voltage range:			
400 V	400 V	110 V	24 V
Utilization categories:			
AC-12	AC-15	DC-13	DC-13
Current range:			
16 A	10 A	0,5 A	1 A

EX E, GRP EMERGENCY STOP - ARMOURED CABLE

Zones 1, 2, 21, 22

ATEX CONTROL STATIONS

ZONES 1, 2 (gas) & 21, 22 (dust)

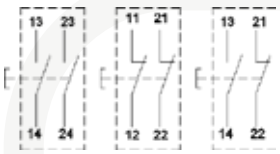
Ex e Emergency Stop mushroom button made of glass fibre reinforced polyester for application in hazardous areas.

Equipped with M20 brass or nickel-plated brass cable glands for installation with armoured cable.

EU-Type Examination Certificate

ITEM REFERENCES		
Designation:		Item No.:
	Emergency Mushroom Button (e) 1NO+1NC - M20 Brass Cable Gland	3J0101
	Emergency Mushroom Button (e) 2NC - M20 Brass Cable Gland	3J0102
	Emergency Mushroom Button (e) 2NO - M20 Brass Cable Gland	3J0103
	Emergency Mushroom Button (e) 1NO+1NC - M20 Nickel-Plated Brass Cable Gland	3J0104
	Emergency Mushroom Button (e) 2NC - M20 Nickel-Plated Brass Cable Gland	3J0105
	Emergency Mushroom Button (e) 2NO - M20 Nickel-Plated Brass Cable Gland	3J0106

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Ingress protection:	IP65
Material:	Glass fibre reinforced polyester (GRP)
Cable entries:	1xM20x1,5 Brass or nickel-plated brass cable gland (13,2-20,5 mm)

INTERNAL CONTACT MODULE			
			
Marking:	II 2G Ex de IIC Gb I M2 Ex de I Mb		
Certificate:	EU-Type Examination Certificate		
Operating temperature:	-55°C to +60°C		
Ingress protection:	IP20		
Nominal isolation voltage:	690 V		
Voltage range:			
400 V	400 V	110 V	24 V
Utilization categories:			
AC-12	AC-15	DC-13	DC-13
Current range:			
16 A	10 A	0,5 A	1 A

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ATEX CONTROL STATIONS

ZONES 1, 2 (gas) & 21, 22 (dust)

Ex e Emergency Stop mushroom button with protection hood made of glass fibre reinforced polyester for application in hazardous areas.

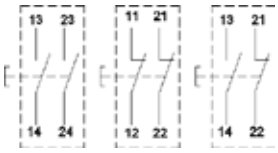
Equipped with M20 brass or nickel-plated brass cable glands for installation with armoured cable.

EU-Type Examination Certificate

ITEM REFERENCES

Designation:		Item No.:
	Emergency Mushroom Button w/ Protection Hood 1NO+1NC - M20 Brass Cable Gland	3J0107
	Emergency Mushroom Button w/ Protection Hood 2NC - M20 Brass Cable Gland	3J0108
	Emergency Mushroom Button w/ Protection Hood 2NO - M20 Brass Cable Gland	3J0109
	Emergency Mushroom Button w/ Protection Hood 1NO+1NC - M20 Nickel-Plated Brass Cable Gland	3J0110
	Emergency Mushroom Button w/ Protection Hood 2NC - M20 Nickel-Plated Brass Cable Gland	3J0111
	Emergency Mushroom Button w/ Protection Hood 2NO - M20 Nickel-Plated Brass Cable Gland	3J0112

INTERNAL CONTACT MODULE

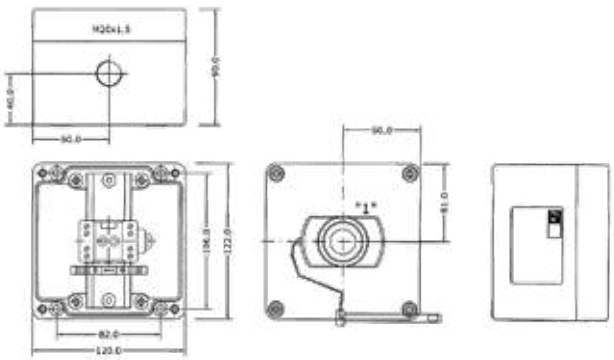


Marking:	II 2G Ex de IIC Gb I M2 Ex de I Mb
Certificate:	EU-Type Examination Certificate
Operating temperature:	-55°C to +60°C
Ingress protection:	IP20
Nominal isolation voltage:	690 V

Voltage range:			
400 V	400 V	110 V	24 V
Utilization categories:			
AC-12	AC-15	DC-13	DC-13
Current range:			
16 A	10 A	0,5 A	1 A

TECHNICAL SPECIFICATIONS

Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Ingress protection:	IP65
Material:	Glass fibre reinforced polyester (GRP)
Cable entries:	1xM20x1,5 Brass or nickel-plated brass cable gland (13,2-20,5 mm)



EX E, GRP EMERGENCY STOP - NON ARMOURED CABLE

Zones 1, 2, 21, 22

ATEX CONTROL STATIONS | ZONES 1, 2 (gas) & 21, 22 (dust)

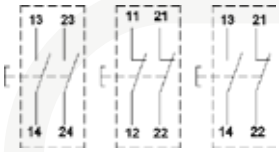
Ex e Emergency Stop mushroom button made of glass fibre reinforced polyester for application in hazardous areas.

Equipped with M20 polyamide cable glands for installation with unarmoured cable.

EU-Type Examination Certificate

ITEM REFERENCES		
Designation:		Item No.:
	Emergency Mushroom Button (e) 1NO+1NC - M20 Plastic cable gland	3J0201
	Emergency Mushroom Button (e) 2NC - M20 Plastic cable gland	3J0202
	Emergency Mushroom Button (e) 2NO - M20 Plastic cable gland	3J0203

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Ingress protection:	IP65
Material:	Glass fibre reinforced polyester (GRP)
Cable entries:	1xM20x1,5 Plastic cable gland (7 - 13 mm)

INTERNAL CONTACT MODULE			
			
Marking:	II 2G Ex de IIC Gb I M2 Ex de I Mb		
Certificate:	EU-Type Examination Certificate		
Operating temperature:	-55°C to +60°C		
Ingress protection:	IP20		
Nominal isolation voltage:	690 V		
Voltage range:			
400 V	400 V	110 V	24 V
Utilization categories:			
AC-12	AC-15	DC-13	DC-13
Current range:			
16 A	10 A	0,5 A	1 A

ATEX CONTROL STATIONS

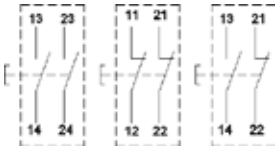
ZONES 1, 2 (gas) & 21, 22 (dust)

Ex e Emergency Stop mushroom button with protection hood made of glass fibre reinforced polyester for application in hazardous areas.

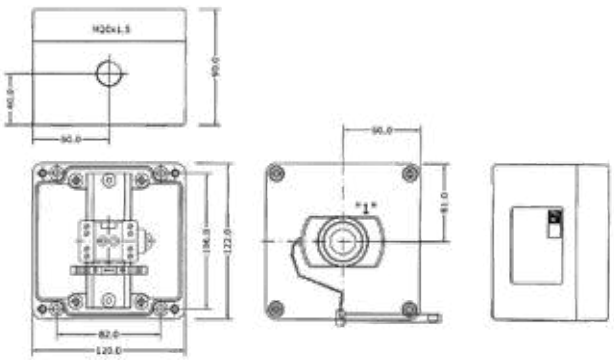
Equipped with M20 brass or nickel-plated brass cable glands for installation with unarmoured cable.

EU-Type Examination Certificate

ITEM REFERENCES		
Designation:		Item No.:
	Emergency Mushroom Button w/ Protection Hood 1NO+1NC - M20 Plastic cable gland	3J0204
	Emergency Mushroom Button w/ Protection Hood 2NC - M20 Plastic cable gland	3J0205
	Emergency Mushroom Button w/ Protection Hood 2NO - M20 Plastic cable gland	3J0206

INTERNAL CONTACT MODULE			
			
Marking:	II 2G Ex de IIC Gb I M2 Ex de I Mb		
Certificate:	EU-Type Examination Certificate		
Operating temperature:	-55°C to +60°C		
Ingress protection:	IP20		
Nominal isolation voltage:	690 V		
Voltage range:			
400 V	400 V	110 V	24 V
Utilization categories:			
AC-12	AC-15	DC-13	DC-13
Current range:			
16 A	10 A	0,5 A	1 A

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Ingress protection:	IP65
Material:	Glass fibre reinforced polyester (GRP)
Cable entries:	1xM20x1,5 Plastic cable gland (7 - 13 mm)



ATEX CONTROL STATIONS

ZONES 1, 2 (gas) & 21, 22 (dust)

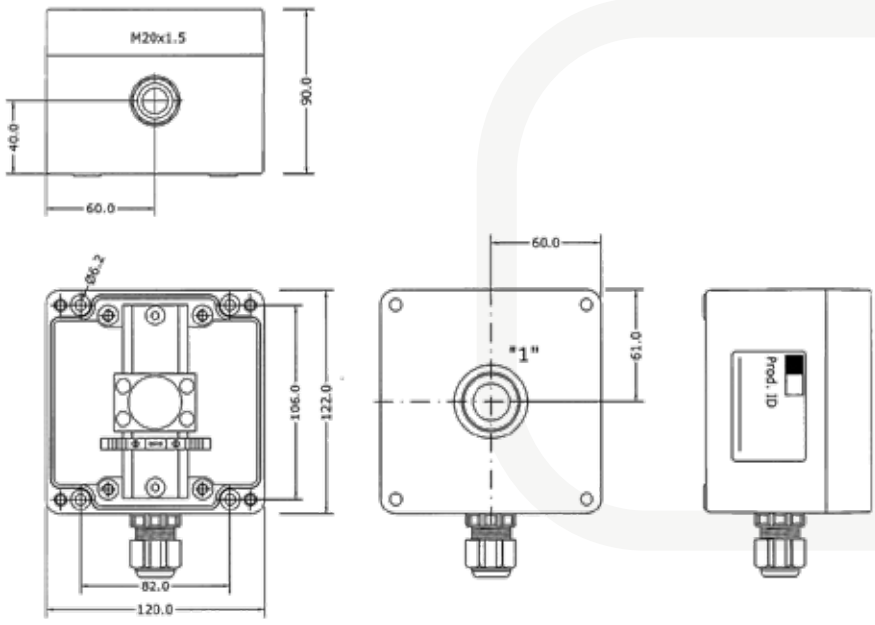
Emergency stop pushbuttons made of glass-fibre reinforced polyester for use in explosive atmospheres, suitable for ambient temperatures of +60°C.

Fitted with polyamide, brass or nickel-plated brass M20 cable glands for installation with armoured or non-armoured cable.

EU-Type Examination Certificate

ITEM REFERENCES		
Designation:		Item No.:
	Emergency Stop +60 2NC - M20 Plastic cable gland	3J0140
	Emergency Stop +60 2NC - M20 Brass cable gland	3J0141
	Emergency Stop +60 2NC - M20 Nickel-plated brass cable gland	3J0142

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T85°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +60°C
Ingress protection:	IP65
Material:	Glass fibre reinforced polyester (GRP)
Cable entries:	1xM20x1,5



4-POLE GRP EMERGENCY STOP

Zones 1, 2, 21, 22

ATEX CONTROL STATIONS | ZONES 1, 2 (gas) & 21, 22 (dust)

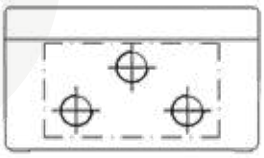
4-pole Ex e emergency mushroom made of glass fibre reinforced polyester for application in hazardous areas.

Supplied with 3 M20 entries for armoured or non-armoured cable.

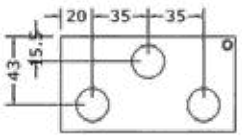
EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
4-Pole Emergency Stop	3J0113

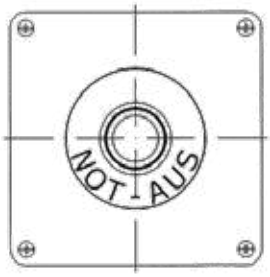
TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Ingress protection:	IP65
External electrical devices:	4-pole Emergency stop mushroom 4NC
Internal mounting plate:	2 PE terminals WPE4
Material:	Glass fibre reinforced polyester (GRP)
Cable entries:	3xM20x1,5 (cable glands / plugs not included)

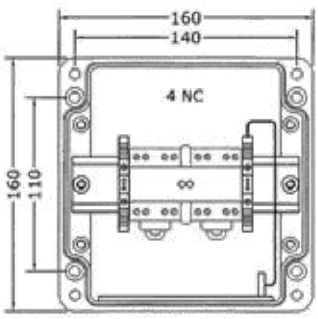


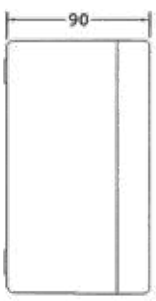
Side B:
3 tapped holes M20x1,5



earth plate 110x60x3mm with
3 holes Ø20.5mm







ATEX CONTROL STATIONS

ZONES 1, 2 (gas) & 21, 22 (dust)

Ex e Potentiometer made of glass fibre reinforced polyester for application in hazardous areas.

Can be supplied with M20 cable glands for armored or non-armored cable.

EU-Type Examination Certificate

ITEM REFERENCES

Designation:			Item No.:
	Potentiometer 1 kOhm (scale 0...10)	M20 Plastic cable gland	3J0901
	Potentiometer 10 kOhm (scale 0...10)		3J0904
	Potentiometer 1 kOhm (scale 0...10)	M20 Brass Cable Gland	3J0905
	Potentiometer 10 kOhm (scale 0...10)		3J0908
	Potentiometer 1 kOhm (scale 0...10)	M20 Nickel-Plated Brass Cable Gland	3J0909
	Potentiometer 10 kOhm (scale 0...10)		3J0912

TECHNICAL SPECIFICATIONS

Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Ingress protection:	IP65
Material:	Glass fibre reinforced polyester (GRP)
Cable entries:	1xM20x1,5

INTERNAL CONTACT MODULE

Marking:	II 2G Ex de IIC I M2 Ex de I	Rotation:	mech. 285° -5° electr. about approx. 250°
Certificate:	EU-Type Examination Certificate	Rated output:	max. 1 W at T_a < +40 °C
Operating temperature:	-55°C to +60°C	Resistor material:	carbon film on ceramics
Ingress protection:	IP20	Torque (beginning):	0.5 to 1.5 Ncm
Rated insulation voltage:	500 V	Torque (end stop):	≥ 100 Ncm
Max. rated voltage:	AC/DC 320 V	Enclosure material:	thermoplastic
Resistance:	1 kΩ to 10 kΩ	Connection:	Double terminals 2 x 2.5 mm²
Curve shape:	linear	Mechanical life:	25000 sinusoidal cycles
Resistance tolerance:	± 20 %	Weight:	approx. 71 g

START-STOP CONTROL STATION - ARMOURED CABLE

Zones 1, 2, 21, 22

ATEX CONTROL STATIONS | ZONES 1, 2 (gas) & 21, 22 (dust)

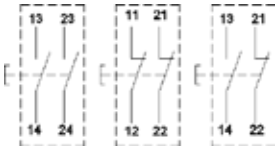
Start-Stop Control Station made of glass fibre reinforced polyester for application in hazardous areas.

Equipped with M20 brass or nickel-plated brass cable glands for installation with armoured cable.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
START 2NO (GREEN) - STOP 2NC (RED) Control Station - Brass Cable Gland	3J0308
START 2NO (GREEN) - STOP 2NC (RED) Control Station - Nickel Plated Brass Cable Gland	3J0309
START 1NO+1NC (GREEN) - STOP 1NO+1NC (RED) Control Station - Brass Cable Gland	3J0310
START 1NO+1NC (GREEN) - STOP 1NO+1NC (RED) Control Station - Nickel Plated Brass Cable Gland	3J0311

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Ingress protection:	IP65
Material:	Glass fibre reinforced polyester (GRP)
Cable entries:	1xM20x1,5 Brass or nickel-plated brass cable gland (13,2-20,5 mm)

INTERNAL CONTACT MODULE			
			
Marking:	II 2G Ex de IIC Gb I M2 Ex de I Mb		
Certificate:	EU-Type Examination Certificate		
Operating temperature:	-55°C to +60°C		
Ingress protection:	IP20		
Nominal isolation voltage:	690 V		
Voltage range:			
400 V	400 V	110 V	24 V
Utilization categories:			
AC-12	AC-15	DC-13	DC-13
Current range:			
16 A	10 A	0,5 A	1 A

START-STOP CONTROL STATION - NON ARMOURED CABLE

Zones 1, 2, 21, 22

ATEX CONTROL STATIONS

ZONES 1, 2 (gas) & 21, 22 (dust)

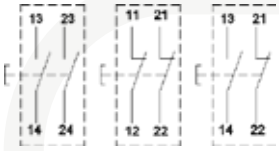
Start-Stop Control Station made of glass fibre reinforced polyester for application in hazardous areas.

Equipped with M20 polyamide cable glands for installation with unarmoured cable.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
START 2NO (GREEN) - STOP 2NC (RED) Control Station - Plastic Cable Gland	3J0306
START 1NO+1NC (GREEN) - STOP 1NO+1NC (RED) Control Station - Plastic Cable Gland	3J0307

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Ingress protection:	IP65
Material:	Glass fibre reinforced polyester (GRP)
Cable entries:	1xM20x1,5 Plastic cable gland (7 - 13 mm)

INTERNAL CONTACT MODULE			
			
Marking:	II 2G Ex de IIC Gb I M2 Ex de I Mb		
Certificate:	EU-Type Examination Certificate		
Operating temperature:	-55°C to +60°C		
Ingress protection:	IP20		
Nominal isolation voltage:	690 V		
Voltage range:			
400 V	400 V	110 V	24 V
Utilization categories:			
AC-12	AC-15	DC-13	DC-13
Current range:			
16 A	10 A	0,5 A	1 A

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ATEX CONTROL STATIONS

ZONES 1, 2 (gas) & 21, 22 (dust)

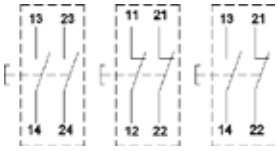
Start-Emergency Stop Control Station made of glass fibre reinforced polyester for application in hazardous areas.

Equipped with M20 polyamide cable glands for installation with unarmoured cable, or M20 brass or nickel-plated brass cable glands for installation with armoured cable.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
START 2NO (GREEN) - EMERGENCY STOP 2NC Control Station - Plastic Cable Gland	3J1201
START 2NO (GREEN) - EMERGENCY STOP 2NC Control Station - Brass Cable Gland	3J1202
START 2NO (GREEN) - EMERGENCY STOP 2NC Control Station - Nickel Plated Brass Cable Gland	3J1203

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Ingress protection:	IP65
Material:	Glass fibre reinforced polyester (GRP)
Cable entries:	1xM20x1,5

INTERNAL CONTACT MODULE			
			
Marking:	II 2G Ex de IIC Gb I M2 Ex de I Mb		
Certificate:	EU-Type Examination Certificate		
Operating temperature:	-55°C to +60°C		
Ingress protection:	IP20		
Nominal isolation voltage:	690 V		
Voltage range:			
400 V	400 V	110 V	24 V
Utilization categories:			
AC-12	AC-15	DC-13	DC-13
Current range:			
16 A	10 A	0,5 A	1 A

2 SELECTOR SWITCH CONTROL STATION

Zones 1, 2, 21, 22

ATEX CONTROL STATIONS

ZONES 1, 2 (gas) & 21, 22 (dust)

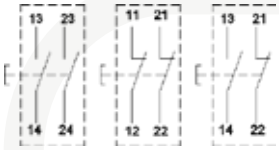
Control stations equipped with 2 0-I selector switches for hazardous areas, made of glass-fibre reinforced polyester for use in explosive atmospheres.

Fitted with M20 brass or nickel-plated brass cable glands for armoured cable or polyamide cable glands for installation with non-armoured cable.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
2 Selector Switch Control Station - Brass Cable Gland	3J1101
2 Selector Switch Control Station - Nickel Plated Brass Cable Gland	3J1102
2 Selector Switch Control Station - Plastic Cable Gland	3J1103

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Ingress protection:	IP65
Material:	Glass fibre reinforced polyester (GRP)
Cable entries:	1xM20x1,5

INTERNAL CONTACT MODULE			
			
Marking:	II 2G Ex de IIC Gb I M2 Ex de I Mb		
Certificate:	EU-Type Examination Certificate		
Operating temperature:	-55°C to +60°C		
Ingress protection:	IP20		
Nominal isolation voltage:	690 V		
Voltage range:			
400 V	400 V	110 V	24 V
Utilization categories:			
AC-12	AC-15	DC-13	DC-13
Current range:			
16 A	10 A	0,5 A	1 A

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ATEX CONTROL STATIONS | ZONES 1, 2 (gas) & 21, 22 (dust)

Compact Start-Stop-Emergency Control Station made of glass fibre reinforced polyester for application in hazardous areas.

Equipped with M20 brass or nickel-plated brass cable glands for installation with armoured cable.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
START-STOP (GREEN-RED) 1NO+1NC - EMERGENCY STOP 2NC Control Station - Brass Cable Gland	3J0304
START-STOP (GREEN-RED) 1NO+1NC - EMERGENCY STOP 2NC Control Station - Nickel Plated Brass Cable Gland	3J0305

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Ingress protection:	IP65
Material:	Glass fibre reinforced polyester (GRP)
Cable entries:	1xM20x1,5 Brass or nickel-plated brass cable gland (13,2-20,5 mm)

INTERNAL CONTACT MODULE			
Marking:	II 2G Ex de IIC Gb I M2 Ex de I Mb		
Certificate:	EU-Type Examination Certificate		
Operating temperature:	-55°C to +60°C		
Ingress protection:	IP20		
Nominal isolation voltage:	690 V		
Voltage range:			
400 V	400 V	110 V	24 V
Utilization categories:			
AC-12	AC-15	DC-13	DC-13
Current range:			
16 A	10 A	0,5 A	1 A

COMPACT S-S-E CONTROL STATION - NON ARMOURED CABLE

Zones 1, 2, 21, 22

ATEX CONTROL STATIONS | ZONES 1, 2 (gas) & 21, 22 (dust)

Compact Start-Stop-Emergency Control Station made of glass fibre reinforced polyester for application in hazardous areas.

Equipped with M20 polyamide cable glands for installation with unarmoured cable.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
START-STOP (GREEN-RED) 1NO+1NC - EMERGENCY STOP 2NC Control Station - Plastic Cable Gland	3J0303

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Ingress protection:	IP65
Material:	Glass fibre reinforced polyester (GRP)
Cable entries:	1xM20x1,5 Plastic cable gland (7 - 13 mm)

INTERNAL CONTACT MODULE			
Marking:	II 2G Ex de IIC Gb I M2 Ex de I Mb		
Certificate:	EU-Type Examination Certificate		
Operating temperature:	-55°C to +60°C		
Ingress protection:	IP20		
Nominal isolation voltage:	690 V		
Voltage range:			
400 V	400 V	110 V	24 V
Utilization categories:			
AC-12	AC-15	DC-13	DC-13
Current range:			
16 A	10 A	0,5 A	1 A

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ATEX CONTROL STATIONS

ZONES 1, 2 (gas) & 21, 22 (dust)

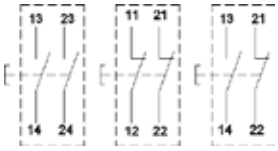
Start-Stop-Emergency Control Station made of glass fibre reinforced polyester for application in hazardous areas.

Equipped with M25 brass or nickel-plated brass cable glands for installation with armoured cable.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
START 2NO (GREEN) - STOP 2NC (RED) - EMERGENCY STOP 2NC Control Station - Brass Cable Gland	3J0401
START 2NO (GREEN) - STOP 2NC (RED) - EMERGENCY STOP 2NC Control Station - Nickel Plated Brass Cable Gland	3J0402
START 1NO+1NC (GREEN) - STOP 1NO+1NC (RED) - EMERGENCY STOP 2NC Control Station - Brass Cable Gland	3J0403
START 1NO+1NC (GREEN) - STOP 1NO+1NC (RED) - EMERGENCY STOP 2NC Control Station - Nickel Plated Brass Cable Gland	3J0404

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Ingress protection:	IP65
Material:	Glass fibre reinforced polyester (GRP)
Cable entries:	1xM25x1,5 Brass or nickel-plated brass cable gland (13,2-20,5 mm)

INTERNAL CONTACT MODULE			
			
Marking:	II 2G Ex de IIC Gb I M2 Ex de I Mb		
Certificate:	EU-Type Examination Certificate		
Operating temperature:	-55°C to +60°C		
Ingress protection:	IP20		
Nominal isolation voltage:	690 V		
Voltage range:			
400 V	400 V	110 V	24 V
Utilization categories:			
AC-12	AC-15	DC-13	DC-13
Current range:			
16 A	10 A	0,5 A	1 A

START-STOP-EMERGENCY CONTROL STATION - NON ARMOURED CABLE

Zones 1, 2, 21, 22

ATEX CONTROL STATIONS

ZONES 1, 2 (gas) & 21, 22 (dust)

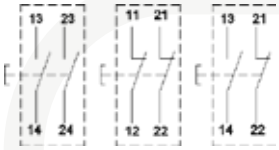
Start-Stop-Emergency Control Station made of glass fibre reinforced polyester for application in hazardous areas.

Equipped with M25 polyamide cable glands for installation with unarmoured cable.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
START 2NO (GREEN) - STOP 2NC (RED) - EMERGENCY STOP 2NC Control Station - Plastic Cable Gland	3J0301
START 1NO+1NC (GREEN) - STOP 1NO+1NC (RED) - EMERGENCY STOP 2NC Control Station - Plastic Cable Gland	3J0302

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Ingress protection:	IP65
Material:	Glass fibre reinforced polyester (GRP)
Cable entries:	1xM25x1,5 Plastic cable gland (10 - 17 mm)

INTERNAL CONTACT MODULE			
			
Marking:	II 2G Ex de IIC Gb I M2 Ex de I Mb		
Certificate:	EU-Type Examination Certificate		
Operating temperature:	-55°C to +60°C		
Ingress protection:	IP20		
Nominal isolation voltage:	690 V		
Voltage range:			
400 V	400 V	110 V	24 V
Utilization categories:			
AC-12	AC-15	DC-13	DC-13
Current range:			
16 A	10 A	0,5 A	1 A

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DOUBLE PUSHBUTTONS-EMERGENCY CONTROL STATION

Zones 1, 2, 21, 22

ATEX CONTROL STATIONS

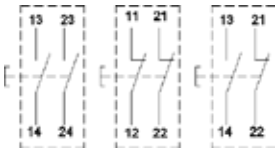
ZONES 1, 2 (gas) & 21, 22 (dust)

ATEX-certified control panels equipped with 2 double pushbuttons and an emergency stop button, certified for use in hazardous areas, made of glass-fibre reinforced polyester for use in explosive atmospheres.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
2 Double Pushbutton 1NO+1NC (GREEN-RED) - Emergency Stop 2NC Plastic cable gland M25 (10-17mm)	3J0135
2 Double Pushbutton 1NO+1NC (GREEN-RED) - Emergency Stop 2NC Brass Cable Gland M25 (13,2-20,5mm)	3J0136
2 Double Pushbutton 1NO+1NC (GREEN-RED) - Emergency Stop 2NC Brass Cable Gland M25 (17-26mm)	3J0137
2 Double Pushbutton 1NO+1NC (GREEN-RED) - Emergency Stop 2NC Nickel-plated Brass Cable Gland M25 (13,2-20,5mm)	3J0138
2 Double Pushbutton 1NO+1NC (GREEN-RED) - Emergency Stop 2NC Nickel-plated Brass Cable Gland M25 (17-26mm)	3J0139

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Ingress protection:	IP65
Material:	Glass fibre reinforced polyester (GRP)
Dimensions:	220x120x90mm
Cable entries::	1xM25x1,5

INTERNAL CONTACT MODULE			
			
Marking:	II 2G Ex de IIC Gb I M2 Ex de I Mb		
Certificate:	EU-Type Examination Certificate		
Operating temperature:	-55°C to +60°C		
Ingress protection:	IP20		
Nominal isolation voltage:	690 V		
Voltage range:			
400 V	400 V	110 V	24 V
Utilization categories:			
AC-12	AC-15	DC-13	DC-13
Current range:			
16 A	10 A	0,5 A	1 A

ATEX CONTROL STATIONS

ZONES 1, 2 (gas) & 21, 22 (dust)

ATEX-certified control panels equipped with 3 pilot lights, made of glass-fibre reinforced polyester for use in explosive atmospheres.

Available colours: White (sw), Red (sr), Green (sg), Blue (sb), Yellow (sy)

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
3 Indicator Lights Control Station - M25 Brass Cable Gland (13,2 - 20,5 mm)	3J0610
3 Indicator Lights Control Station - M25 Nickel Plated Brass Cable Gland (13,2 - 20,5 mm)	3J0611
3 Indicator Lights Control Station - M25 Plastic Cable Gland (10 - 17 mm)	3J0612

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Ingress protection:	IP65
Material:	Glass fibre reinforced polyester (GRP)
Cable entries:	1xM25x1,5

INTERNAL MODULE FOR INDICATOR LIGHTS	
Marking:	II 2G Ex de IIC Gb I M2 Ex de I Mb
Certificate:	EU-Type Examination Certificate
Operating temperature:	-55 °C to +50 °C / +60 °C (AC/DC 12V to 24V)
Ingress protection:	IP20
Nominal isolation voltage:	300 V
Voltage range:	AC 12 V to 250 V ($T_a \leq +50°C$) DC 12 V to 60 V ($T_a \leq +50°C$) AC/DC 12 V to 24 V ($T_a \leq +60°C$)
Power:	< 1 W
Lamp:	LED (Red, Green, Yellow, White, Blue)
Connection:	Terminals 2,5 mm^2
Operating cycle:	>10^5 hours

ATEX CONTROL STATIONS

ZONES 1, 2 (gas) & 21, 22 (dust)

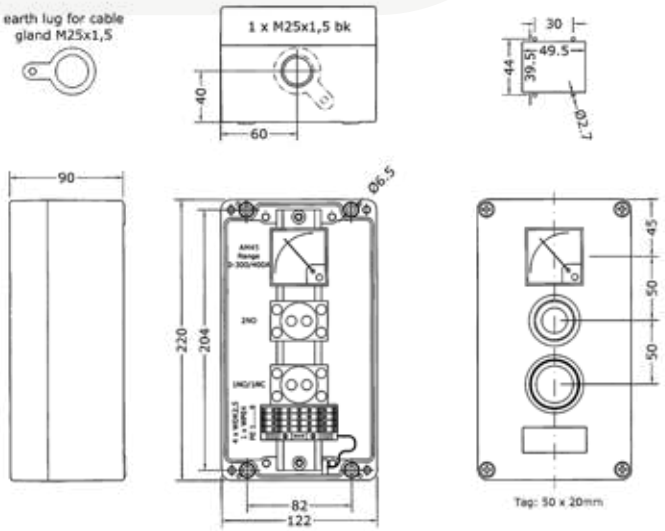
ATEX certified Control Panel equipped with an Ammeter, a Start pushbutton and an Emergency Mushroom.

With brass or nickel-plated brass M25 cable gland for installation with armoured cable or polyamide M25 cable gland for unarmoured cable.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
AMMETER - START 2NO - EMERGENCY STOP 2NC Control Station - Brass Cable Gland	3J0501
AMMETER - START 2NO - EMERGENCY STOP 2NC Control Station - Nickel-plated Brass Cable Gland	3J0502
AMMETER - START 2NO - EMERGENCY STOP 2NC Control Station - Plastic Cable Gland	3J0503

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Dimensions:	220x122x90 mm
Material:	Glass fibre reinforced polyester (GRP)
Ingress protection:	IP65
Operating temperature:	-20°C to +40°C
Ammeter:	Range 0-300A / Full scale 450A / Current transformet 300/1A
Terminals:	8 x 2,5 mm² (1-8) + 1 x PE
Cable entries:	1xM25x1,5 Armoured Cable (14-20,5 mm) | Non-Armoured Cable (10 - 17 mm)



CONTROL STATION EQUIPPED WITH POTENTIOMETER

Zones 1, 2, 21, 22

ATEX CONTROL STATIONS

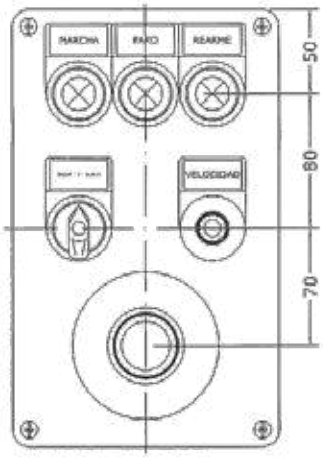
ZONES 1, 2 (gas) & 21, 22 (dust)

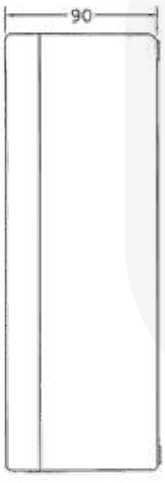
Ex e control station equipped with 3 illuminated pushbuttons, 1 3-position selector switch, a potentiometer and an emergency stop.

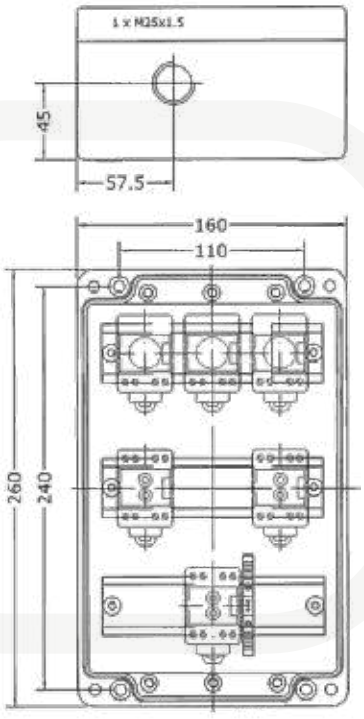
EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
LCP A21-E1-02609 3 IPB 1 P 1 3-SW 1ES	3S0101

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Ingress protection:	IP65
Material:	Glass fibre reinforced polyester (GRP)
Dimensions:	260x160x90 mm
Cable entries::	1xM25x1,5 (cable gland not included)







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ATEX CONTROL STATIONS

ZONES 1, 2 (gas) & 21, 22 (dust)

The ATEX XAWP pendant control stations are suitable for all types of industry and primarily used on cranes.

The XAWP range is available with 2, 4, 6 or 8 pushbuttons with up to three contact blocks per operator. Custom double XAWP assemblies can be delivered to provide 12 or 16 way pendant control stations. The XAWP also features an optional double-step actuation mode for dual speed control.

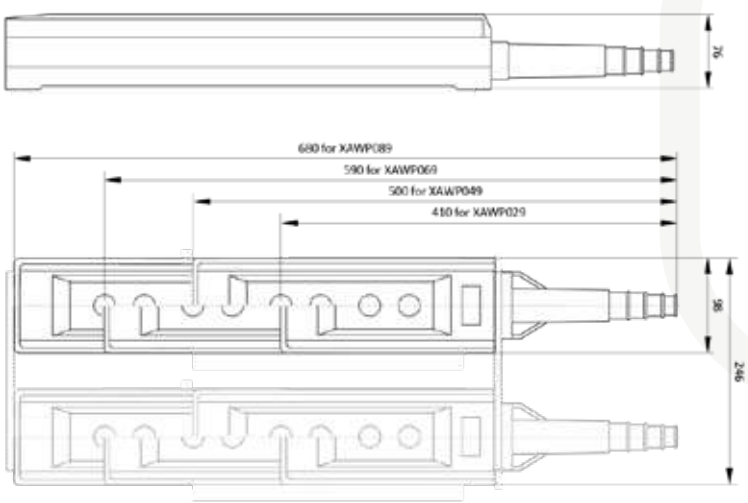
EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
2-element pendant station	XAWP029
4-element pendant station	XAWP049
6-element pendant station	XAWP069
8-element pendant station	XAWP089
12-element pendant station	XAWP069D
16-element pendant station	XAWP089D

TECHNICAL SPECIFICATIONS		
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T85°C Db IP65	
Certificate:	EU-Type Examination Certificate	
Operating temperature:	-20°C to +60°C	
Ingress protection:	IP65 according to EN/IEC 60529	
Material:	Glass fibre reinforced polyester (GRP)	
Features of the contact block:	Ith = 10 A; U_i = 415 V	
	AC	U_e = 380 V; I_e = 1,9 A or U_e = 240 V; I_e = 3 A or U_e = 120 V; I_e = 6 A
	DC	U_e = 250 V; I_e = 0,27 A or U_e = 125 V; I_e = 0,55 A or U_e = 24 V; I_e = 2,87 A
Features of the LED pilot light:	Rated voltage: 24...254 V AC/DC Maximal current: 2...10 mA	
Mechanical endurance:	Head: 5 million operations - Contact block: 1 million operations	
Cable entries:	For cable Ø 10 to Ø 22 mm	

OPERATORS		
Pushbuttons	White	XAWP9411
	Black	XAWP9412
	Green	XAWP9413
	Red	XAWP9414
Pilot lights	White	XLW5AV013-XAWP
(24V ... 254V AC-DC)	Green	XLW5AV033-XAWP
	Red	XLW5AV043-XAWP
	Yellow	XLW5AV053-XAWP
	Blue	XLW5AV063-XAWP
Selector switch + contact	2 fixed positions - Black	XBW5AD21
	3 fixed positions - Black	XBW5AD33
Emergency Mushroom head (Ø 40)	Red	XBW5AS844-XAWP
Emergency Mushroom head (Ø 30)	Red	XBW5AS834-XAWP

ARROW FOR DOUBLE STEP PUSHBUTTON		ARROW FOR SINGLE STEP PUSHBUTTON	
Type:	Item No.:	Type:	Item No.:
UP	ZBWY4953	UP	ZBWY4951
DOWN	ZBWY2956	DOWN	ZBWY2954
RIGHT	ZBWY4903	RIGHT	ZBWY4901
LEFT	ZBWY2906	LEFT	ZBWY2904
FORWARD	ZBWY4965	FORWARD	ZBWAY4963
REVERSE	ZBWY2968	REVERSE	ZBWY2966
		FAST UP	ZBWY4952
		FAST DOWN	ZBWY2955
		FAST RIGHT	ZBWY4902
		FAST LEFT	ZBWY2905
		FAST FORWARD	ZBWY4964
		FAST REVERSE	ZBWY2967
		I	ZBWAY4980
		O	ZBWAY2931
		O - I	ZBWY2178
		I - II	ZBWY2179
		I - O - II	ZBWY2186
		EMERGENCY STOP	ZBWY2330



6-ELEMENT PENDANT STATIONS

Zones 1, 2, 21, 22

ATEX CONTROL STATIONS

ZONES 1, 2 (gas) & 21, 22 (dust)

The ATEX XAWP pendant control stations are suitable for all types of industry and primarily used on cranes.

Configuration:

1 white/black booted pushbutton with inter-lockable mechanism
2 speeds, 2NO contact per function, “Up” and “Down” twin arrows.

1 white/black booted pushbutton with inter-lockable mechanism
2 speeds, 2NO contact per function, “Left” and “Right” twin arrows.

1 Plug

1 emergency stop Ø40 mushroom turn to release, 2NC contact, “Emergency Stop“

EU-Type Examination Certificate

ITEM REFERENCES			
Designation:	**Use:**	**Zones:**	**Item No.:**
6-element pendant station	Indoor/Outdoor	1,2,21,22	3J1008

TECHNICAL SPECIFICATIONS		
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T85°C Db IP65	
Certificate:	EU-Type Examination Certificate	
Operating temperature:	-20°C to +60°C	
Ingress protection:	IP65 according to EN/IEC 60529	
Material:	Glass fibre reinforced polyester (GRP)	
Dimensions:	590x98x76 mm	
Features of the contact block:	Ith = 10 A; U_i = 415 V	
	AC	U_e = 380 V; I_e = 1,9 A o U_e = 240 V; I_e = 3 A o U_e = 120 V; I_e = 6 A
	DC	U_e = 250 V; I_e = 0,27 A o U_e = 125 V; I_e = 0,55 A o U_e = 24 V; I_e = 2,87 A
Features of the LED pilot light:	Rated voltage: 24...254 V AC/DC Maximal current: 2...10 mA	
Mechanical endurance:	Head: 5 million operations - Contact block: 1 million operations	
Cable entries:	For cable Ø 10 to Ø 22 mm	

ATEX CONTROL STATIONS

ZONES 1, 2 (gas) & 21, 22 (dust)

The ATEX XAWP pendant control stations are suitable for all types of industry and primarily used on cranes.

Configuration:

1 white/black booted pushbutton with inter-lockable mechanism
2 speeds, 2 NO contact per function, “Up” and “Down” twin arrows.

1 white/black booted pushbutton with inter-lockable mechanism
2 speeds, 2 NO contact per function, “Left” and “Right” twin arrows.

1 white/black booted pushbutton with inter-lockable mechanism
2 speeds, 2 NO contact per function, “Forward” and “Reverse” twin arrows.

1 Plug

1 emergency stop Ø40 mushroom turn to release, 2NC contact, “Emergency Stop“

EU-Type Examination Certificate

ITEM REFERENCES			
Designation:	**Use:**	**Zones:**	**Item No.:**
8-element pendant station V1	Indoor/Outdoor	1,2,21,22	3J1006

TECHNICAL SPECIFICATIONS		
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T85°C Db IP65	
Certificate:	EU-Type Examination Certificate	
Operating temperature:	-20°C to +60°C	
Ingress protection:	IP65 according to EN/IEC 60529	
Material:	Glass fibre reinforced polyester (GRP)	
Dimensions:	680x98x76 mm	
Features of the contact block:	Ith = 10 A; U_i = 415 V	
	AC	U_e = 380 V; I_e = 1,9 A o U_e = 240 V; I_e = 3 A o U_e = 120 V; I_e = 6 A
	DC	U_e = 250 V; I_e = 0,27 A o U_e = 125 V; I_e = 0,55 A o U_e = 24 V; I_e = 2,87 A
Features of the LED pilot light:	Rated voltage: 24...254 V AC/DC Maximal current: 2...10 mA	
Mechanical endurance:	Head: 5 million operations - Contact block: 1 million operations	
Cable entries:	For cable Ø 10 to Ø 22 mm	

ATEX CONTROL STATIONS

ZONES 1, 2 (gas) & 21, 22 (dust)

The ATEX XAWP pendant control stations are suitable for all types of industry and primarily used on cranes.

Configuration:

1 white/black booted pushbutton with inter-lockable mechanism
2 speeds, 2NO contact per function, “Up” and “Down” twin arrows.

1 white/black booted pushbutton with inter-lockable mechanism
2 speeds, 2NO contact per function, “Left” and “Right” twin arrows.

1 green booted pushbutton, 1NO contact, “I”.
1 red booted pushbutton, 1NC contact, “0”.

1 Plug

1 emergency stop Ø40 mushroom turn to release, 2NC contact, “Emergency Stop“

EU-Type Examination Certificate

ITEM REFERENCES			
Designation:	**Use:**	**Zones:**	**Item No.:**
8-element pendant station V2	Indoor/Outdoor	1,2,21,22	3J1009

TECHNICAL SPECIFICATIONS		
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T85°C Db IP65	
Certificate:	EU-Type Examination Certificate	
Operating temperature:	-20°C to +60°C	
Ingress protection:	IP65 according to EN/IEC 60529	
Material:	Glass fibre reinforced polyester (GRP)	
Dimensions:	680x98x76 mm	
Features of the contact block:	Ith = 10 A; U_i = 415 V	
	AC	U_e = 380 V; I_e = 1,9 A o U_e = 240 V; I_e = 3 A o U_e = 120 V; I_e = 6 A
	DC	U_e = 250 V; I_e = 0,27 A o U_e = 125 V; I_e = 0,55 A o U_e = 24 V; I_e = 2,87 A
Features of the LED pilot light:	Rated voltage: 24...254 V AC/DC Maximal current: 2...10 mA	
Mechanical endurance:	Head: 5 million operations - Contact block: 1 million operations	
Cable entries:	For cable Ø 10 to Ø 22 mm	

ATEX CONTROL STATIONS

ZONES 1, 2 (gas) & 21, 22 (dust)

The ATEX XAWP pendant control stations are suitable for all types of industry and primarily used on cranes.

Configuration example:

Left side:
1 emergency stop Ø40 mushroom turn to release, 1 NC contact, “Emergency Stop“
1 green booted pushbutton, 1 NO contact, “I”
1 white/black booted pushbutton, inter-lockable mechanism 1 speed, 1 NO contact per function, “Hoist slow up” and “Hoist slow down” twin arrows.
1 white/black booted pushbutton, inter-lockable mechanism 1 speed, 1 NO contact per function, “Hoist fast up” and “Hoist fast down” twin arrows.

Right side:
1 white/black booted pushbutton, inter-lockable mechanism 2 speeds, 2 NO contact per function, “CT Forward” and “CT Reverse” twin arrows.
1 white/black booted pushbutton, inter-lockable mechanism 2 speeds, 2 NO contact per function, “LT Left” and “LT Right” twin arrows.
1 white/black booted pushbutton, inter-lockable mechanism 2 speeds, 2 NO contact per function, “CRD forward” and “CRD reverse” twin arrows.

EU-Type Examination Certificate

ITEM REFERENCES			
Designation:	**Use:**	**Zones:**	**Item No.:**
12-element pendant station	Indoor/Outdoor	1,2,21,22	3J1002

TECHNICAL SPECIFICATIONS		
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T85°C Db IP65	
Certificate:	EU-Type Examination Certificate	
Operating temperature:	-20°C to +60°C	
Ingress protection:	IP65 according to EN/IEC 60529	
Material:	Glass fibre reinforced polyester (GRP)	
Dimensions:	603x246x76 mm	
Features of the contact block:	Ith = 10 A; U_i = 415 V	
	AC	U_e = 380 V; I_e = 1,9 A o U_e = 240 V; I_e = 3 A o U_e = 120 V; I_e = 6 A
	DC	U_e = 250 V; I_e = 0,27 A o U_e = 125 V; I_e = 0,55 A o U_e = 24 V; I_e = 2,87 A
Features of the LED pilot light:	Rated voltage: 24...254 V AC/DC Maximal current: 2...10 mA	
Mechanical endurance:	Head: 5 million operations - Contact block: 1 million operations	
Cable entries:	For cable Ø 10 to Ø 22 mm	

ATEX CONTROL STATIONS | ZONES 1, 2 (gas) & 21, 22 (dust)

The ATEX XAWP pendant control stations are suitable for all types of industry and primarily used on cranes.

Configuration example:

Left side:
1 emergency stop Ø40 mushroom turn to release, 1 NC contact, “Emergency Stop“
1 green booted pushbutton, 1 NO contact, “I”
1 black/white double push button, 1 speed, 1 NO contact, “UP” slow/fast
1 black/white double push button, 1 speed, 1 NO contact, “DOWN” slow/fast
1 black/white double push button ,1 speed, 1 NO contact, “UP”, “DOWN”

Right side:
1 black/white double push button, 1 speed, 1 NO contact, “LEFT” slow/fast
1 black/white double push button, 1 speed, 1 NO contact, “RIGHT” slow/fast
1 black/white double push button, 1 speed, 1 NO contact, “FORWARD” slow/fast
1 black/white double push button, 1 speed, 1 NO contact, “REVERSE” slow/fast

EU-Type Examination Certificate

ITEM REFERENCES			
Designation:	**Use:**	**Zones:**	**Item No.:**
16-element pendant station	Indoor/Outdoor	1,2,21,22	3J1003

TECHNICAL SPECIFICATIONS		
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T85°C Db IP65	
Certificate:	EU-Type Examination Certificate	
Operating temperature:	-20°C to +60°C	
Ingress protection:	IP65 according to EN/IEC 60529	
Material:	Glass fibre reinforced polyester (GRP)	
Dimensions:	680x250x80 mm	
Features of the contact block:	Ith = 10 A; U_i = 415 V	
	AC	U_e = 380 V; I_e = 1,9 A o U_e = 240 V; I_e = 3 A o U_e = 120 V; I_e = 6 A
	DC	U_e = 250 V; I_e = 0,27 A o U_e = 125 V; I_e = 0,55 A o U_e = 24 V; I_e = 2,87 A
Features of the LED pilot light:	Rated voltage: 24...254 V AC/DC Maximal current: 2...10 mA	
Mechanical endurance:	Head: 5 million operations - Contact block: 1 million operations	
Cable entries:	For cable Ø 10 to Ø 22 mm	

ATEX CONTROL STATIONS

ZONES 1, 2 (gas) & 21, 22 (dust)

Ex-d local control stations certified for application in hazardous area zones 1,2 and zones 21,22.

- Pushbuttons
- Pilot lights
- Mushroom type pushbuttons
- Switches

External screws in stainless steel.

EU-Type Examination Certificate

Fully configurable through a huge variety of elements.

ITEM REFERENCES					
Designation:	Cable entries:	A	B	C	Weight (g):
PB1 - 1 Element (IIC)	2x3/4" NPT	106	86	87	480
PB2 - 2 Elements (IIC)	2x3/4" NPT	156	136	87	685
PB3 - 3 Elements (IIB+ H_2)	2x3/4" NPT	206	186	87	890
PB4 - 4 Elements (IIB+ H_2)	2x1" NPT	256	236	82	1520

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex d IIC o IIB+H_2 T6-T4 Gb II 2D Ex tb IIIC T85°C-T135°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Ingress protection:	IP66
Material:	Aluminium RAL 7000
Nominal current:	10 A
Nominal isolation voltage:	660 V
Nominal pulse voltage:	U_{imp}=6 kV
Short circuit protection Ue<500 VAC:	10 A
Terminals:	According to IEC/EN 60947-1
Max. wires section:	2x2,5 mm^2
Working cycles:	1800 operations/hr (max)

TEMPERATURES			
Command/Signalling:	Temp. class:		Max. T. Range:
	Gas	Dust	
LED lamps	T6	T85°C	-50°C to +60°C
	T5	T100°C	-50°C to +80°C
Command units	T6	T85°C	-50°C to +80°C

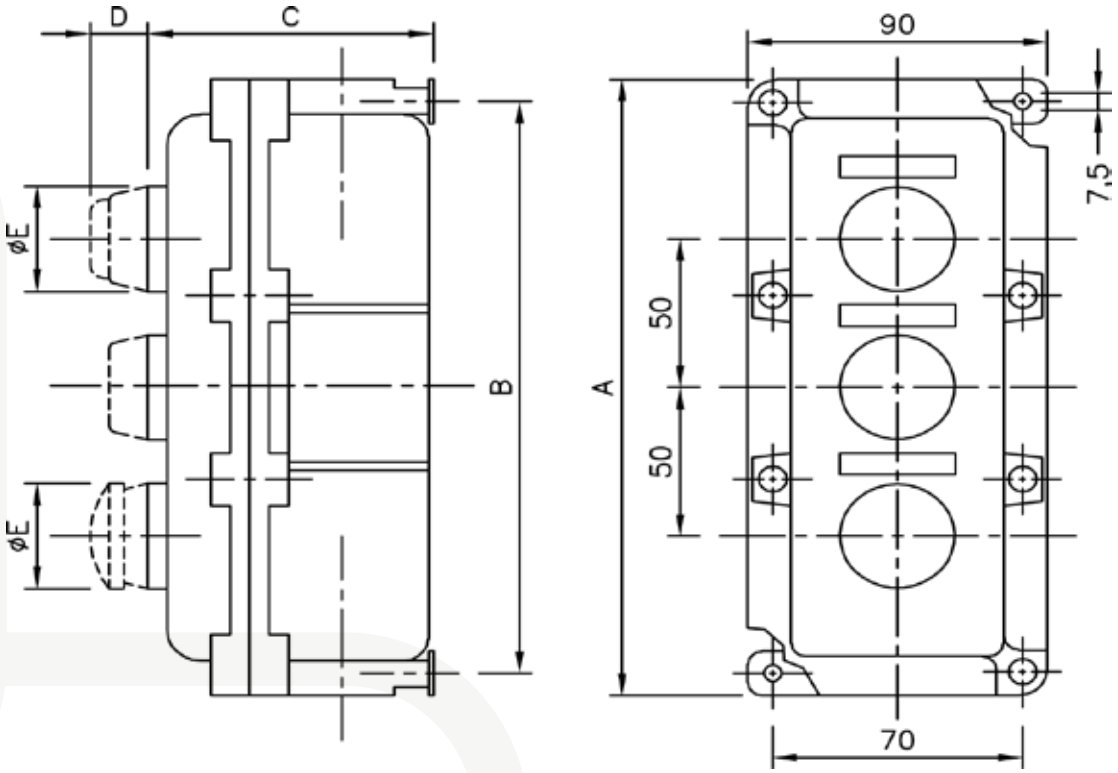
AC15 - A600			
Voltage:	24 V	240 V	400 V
Current:	10 A	6 A	4 A

DC13 - Q600			
Voltage:	24 V	125 V	250 V
Current:	2,8 A	0,55 A	0,27 A

MANIPULATORS	
Voltage:	400 V AC
Current:	10 A

SIGNALLING LAMPS	
Voltage:	260 V AC
Lamp:	LED

ILLUMINATED PUSHBUTTONS	
Max. voltage:	230 V AC/DC
Max. power:	2 W



ELEMENTS				
Designation:	Dimensions (mm):		Contacts:	Weight (g):
	D	ØE		
START pushbutton	16	32	1NO	90
STOP pushbutton	16	32	1NC	90
Lighting START pushbutton	16	32	1NO	130
Lighting STOP pushbutton	16	32	1NC	130
Mushroom type pushbutton with spring return	30	50	1NO+1NC	100
Key switch 1-2 poles (pos. 0-1)	60	30	-	400
Two position key changeover switch 1-2 poles (pos. 1-2)	60	30	-	400
Three position key changeover switch 1-2 poles (pos. 1-0-2)	60	30	-	400
Triangular key switch 1-2 poles (pos. 0-1)	50	41	-	370
Two position triangular key changeover switch 1-2 poles (pos. 1-2)	50	41	-	370
Three position triangular key changeover switch 1-2 poles (pos. 1-0-2)	50	41	-	370
Mushroom type pushbutton with locking	30	50	1NO+1NC	100
Mushroom type pushbutton with rotary locking	58	33	1NO+1NC	180
Mushroom type pushbutton with locking and keylock	58	33	1NO+1NC	180
Pilot light	16	32	-	130
Switch 1-2 poles (pos. 0-1)	22	32	-	300
Two way changeover switch 1-2 poles (pos. 1-2)	22	32	-	300
Three way changeover switch 1-2 poles (pos. 1-0-2)	22	32	-	300

ATEX CONTROL STATIONS

ZONES 1, 2 (gas) & 21, 22 (dust)

Explosion-proof emergency mushroom for use in hazardous areas.
Ex d enclosure equipped with a rotary release mushroom-type button.

External screws in stainless steel.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
Ex d PB1 Emergency Stop (2NC)	3K0101

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex d IIC T6 Gb II 2D Ex tb IIIC T85°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Ingress protection:	IP66
Material:	Aluminium RAL 7000
Nominal current:	10 A
Nominal isolation voltage:	660 V
Nominal pulse voltage:	U_{imp}=6 kV
Short circuit protection Ue<500 VAC:	10 A
Terminals:	According to IEC/EN 60947-1
Max. wires section:	2x2,5 mm^2
Working cycles:	1800 operations/hr (max)
Dimensions:	106 x 86 x 87 mm
Weight:	480 g approx.
Cable entries:	2x3/4” NPT (cable glands/plugs not included)

EX-D START-STOP CONTROL STATION

Zones 1, 2, 21, 22

ATEX CONTROL STATIONS | ZONES 1, 2 (gas) & 21, 22 (dust)

Explosion-proof Start-Stop control panel for use in hazardous areas. Ex d enclosure equipped with a green 2NO pushbutton and a red 2NC pushbutton, fitted with 2 cable entries 3/4" NPT.

External screws in stainless steel.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
Ex d PB2_000114 Start-Stop	3K0110

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db IIC T6 Gb II 2D Ex tb IIIC T85°C Db IP66
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Ingress protection:	IP66
Material:	Aluminium RAL 7000
Nominal current:	10 A
Nominal isolation voltage:	660 V
Nominal pulse voltage:	U_{imp}=6 kV
Short circuit protection Ue<500 VAC:	10 A
Terminals:	According to IEC/EN 60947-1
Max. wires section:	2x2,5 mm^2
Working cycles:	1800 operations/hr (max)
Dimensions:	106 x 86 x 87 mm
Weight:	480 g approx.
Cable entries:	2x3/4" NPT (cable glands/plugs not included)

PB 135 EX MANUAL PUSH BUTTON

Zones 1, 2, 21, 22

ATEX MANUAL CALL POINT

ZONES 1, 2 (gas) & 21, 22 (dust)

This manual call point «push button» is certified for use in explosive atmosphere, zone 1 & 2 for gas and zone 21 & 22 for dust. It's dedicated for Oil & Gas, chemical, petrochemical, pharmacy industries, marine and Offshore applications.

It's designed for corrosive environnements and hazardous area.

The apparatus is compatible with PLC, ESD, DCS systems via output 4-20mA.

There are two versions available: push button and push button with key to release.

Housing is moulded Glass-Reinforced Polyester (GRP), dyed in the mass and protected by a paint UV resistant.

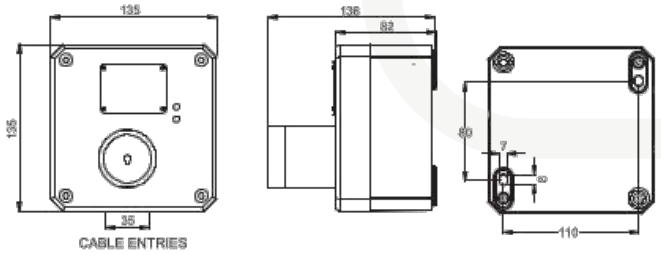
EU-Type Examination Certificate

PRODUCT CODE CONFIGURATOR

SWITCH	DUTY LABEL	TAG LABEL	RESET	LED INDICATOR	FEATURES	CABLE ENTRIES	ENTRY POSITION	FINISH COLOUR
SINGLE = 1 x C/O	Y = YES	Y = YES	S = SELF RESET	L = RED & GREEN	F = LIFT FLAP	A = M20	T = TOP	RD = RED
				R = RED	R = RESISTOR	B = M25		YW = YELLOW
	N = NO	N = NO	K = KEY RESET	G = GREEN	D = DIODE	C = 1/2" NPT	B = BOTTTOM	BU = BLUE
				N = NO LED	N = NO FEATURES	C = 3/4" NPT		BL = BLACK
								OR = OTHER
ADD THE CODES RELATED TO THE FEATURES REQUIRED TO PB 135:								

TECHNICAL SPECIFICATIONS

Marking:	II 2G Ex d IIC + H2 T6 Gb II 2D Ex tb IIIC T85°C
Certificate:	EU-Type Examination Certificate
Operating temperature:	T6: - 40°C to + 55°C | T5: - 40°C to + 60°C | T4: - 40°C to + 70°C
Ambient humidity*:	Until 95% with ice if flap option
Housing:	Glass fibre reinforced polyester (GRP)
Colour:	RED: RAL 3001 | YELLOW**: RAL 1018 | BLUE**: RAL 5005 | BLACK**: RAL 9005
Rated impulse withstand voltage:	1kV following IEC 61000-4-5
Contact type:	1x C/O
Command type unit:	Self reset or key push pull
Conventional thermal courant:	AC 125/250 V (50/60Hz) = 11 A*** ; 30V DC = 6A***; 125 VDC = 0,3A***; 250 V DC = 0,6A***
Minimum voltage and courant:	DC 5V 10mA
Short circuit protection:	10 A gG
Connection:	From 22 to 14 AWG - from 0.50 mm^2 to 2.5 mm^2
Weight:	2 kg
Line resistor**:	470 Ohms
Signalling LED**:	Green U= 24V DC I=10mA; Red U=24V DC I= 20mA
Cable entries:	2 x M20, M25**, 1/2" NPT**, 3/4" NPT** or other** (specify) (cable glands not included)
* = without runoff - ** = optional - *** resistive load	



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EMERGENCY PUSHBUTTON WITH BREAKING GLASS

Zones 1, 2, 21, 22

ATEX MANUAL CALL POINT

ZONES 1, 2 (gas) & 21, 22 (dust)

The Emergency Pushbutton with Breaking Glass is a vital component that helps quick evacuation during fire detection or any other emergency situation where the operation of access control systems need to be disabled. It can be used for open or closed circuits.

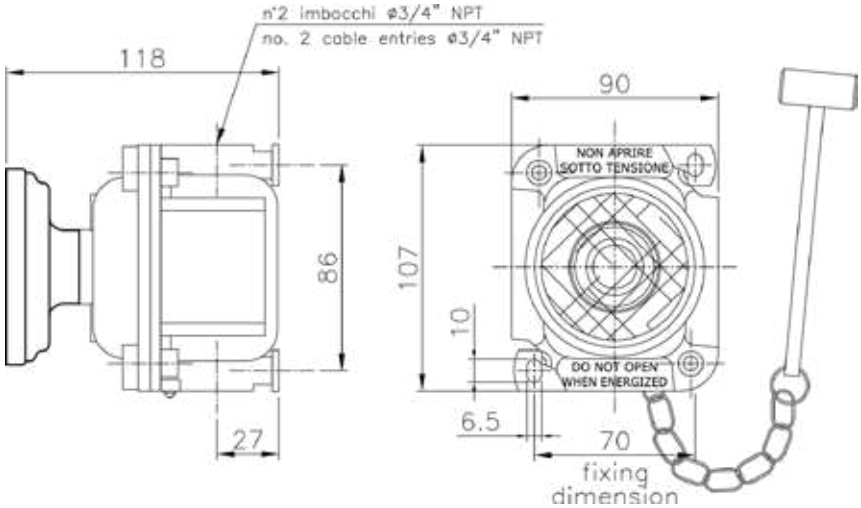
Electric Execution Identification:
PB1 E0: The breaking of the glass releases the button that automatically closes and / or opens a contact (1NO+1NC).
PB1 E1: The breaking of the glass releases the button that shall be pressed to open and / or close a contact (1NO+1NC).

EU-Type Examination Certificate

- External screws in Stainless Steel AISI 304 (On request AISI 316L).
- External accessories (hammer, chain, glass holder ring) in Stainless Steel.
- Extremely lightweight: 1050 g only.

ITEM REFERENCES		
Designation:	Pushbutton operating code open/close:	Item No.:
PB1 E0	E0: pushbutton in releasing	3K0201
PB1 E1	E1: pushbutton to press	3K0202

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex d IIC T6÷T4 Gb II 2D Ex tb IIIC T85°C÷T135°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Aluminum light alloy. External epoxy RAL 3000
Operating temperature:	-20°C to +40°C (T6/T85°C) | -20°C to +50°C (T5/T100°C) | -20°C to +65°C (T4/T135°C)
Operating conditions:	Indoor / Outdoor
Dimensions:	107x 90 x 118 mm
Weight:	Approx. 1 kg
Ingress protection:	IP66
Cable entries:	2x3/4" NPT (cable glands not included)



ATEX MANUAL CALL POINT

ZONES 1, 2 (gas) & 21, 22 (dust)

The Ex Manual Call Point is designed for manual fire alert purposes in potentially explosive areas. Its protection type allows for applications in all Ex areas of zones 1, 2, 21 and 22. Type B Manual Call Point according to EN 54-11 or Special Alarm according to EN 12094/EN 12094-1.

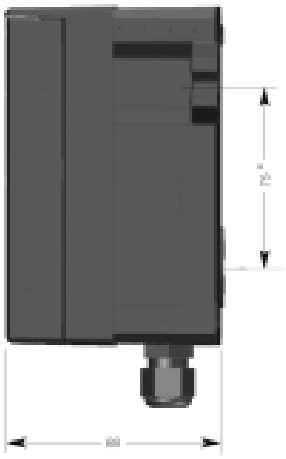
Flexible, system-suited application thanks to different resistor modules.

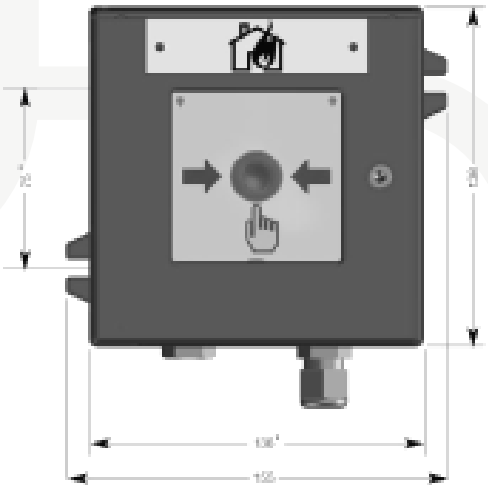
The housing is made of glass fibre-reinforced polyester, which ensures its corrosion protection as well as its classification for protection classes II and III. Therefore, an equipotential bonding conductor is not needed.

EU-Type Examination Certificate

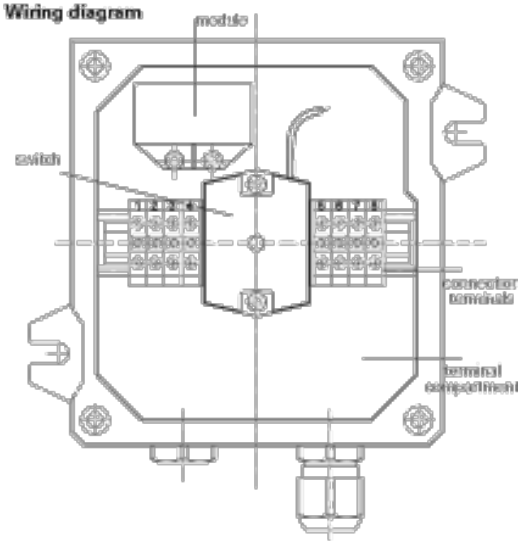
ITEM REFERENCES		
Designation:	**Resistors:**	**Item No.:**
Ex-Fire Switch	-	7F0101
Ex-Fire Switch	3,3 kΩ (RE) / 680 Ω (R)	7F0102
Ex-Fire Switch	3,9 kΩ (RE) / 820 Ω (R)	7F0103
Ex-Fire Switch	3,9 kΩ (RE) / 2,2 kΩ (R)	7F0104
Ex-Fire Switch	10 kΩ (RE) / 1 kΩ (R)	7F0105

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex de mb IIC/T6 Gb, T5 Gb II 2D Ex tb IIIC T100°C Db IP66
Certificate:	EU-Type Examination Certificate
Housing:	Glass fibre reinforced polyester | Fire alarm: red RAL 3000. Special alarm: yellow or blue on request
Surface resistance:	Electrostatially conductive
Operating temperature:	-55°C to +65°C (T6) | -55°C to +85°C (T5)
Switching contact:	Changeover contact (embedded, II 2G Ex d II C)
Contact rating:	Max. 5 A/250 VAC | 0.25 A/250 VDC
Connection terminals:	Up to 4 mm^2 single or fine-wire
Dimensions:	Approx. 136 x 138 x 88 mm
Weight:	Approx. 1,8 kg
Ingress protection:	IP66 according to IEC 60529
Protection class:	II and III (no equipontial bonding necessary)
Operating conditions:	Indoors and outdoors
Operating position:	Wall mounting
Cable entries:	1x M16x1.5 plastic cable gland, cable clamping range Ø4-8 mm | 1x M16x1.5 plastic blind plug

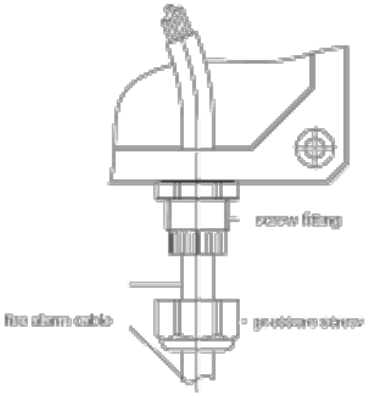


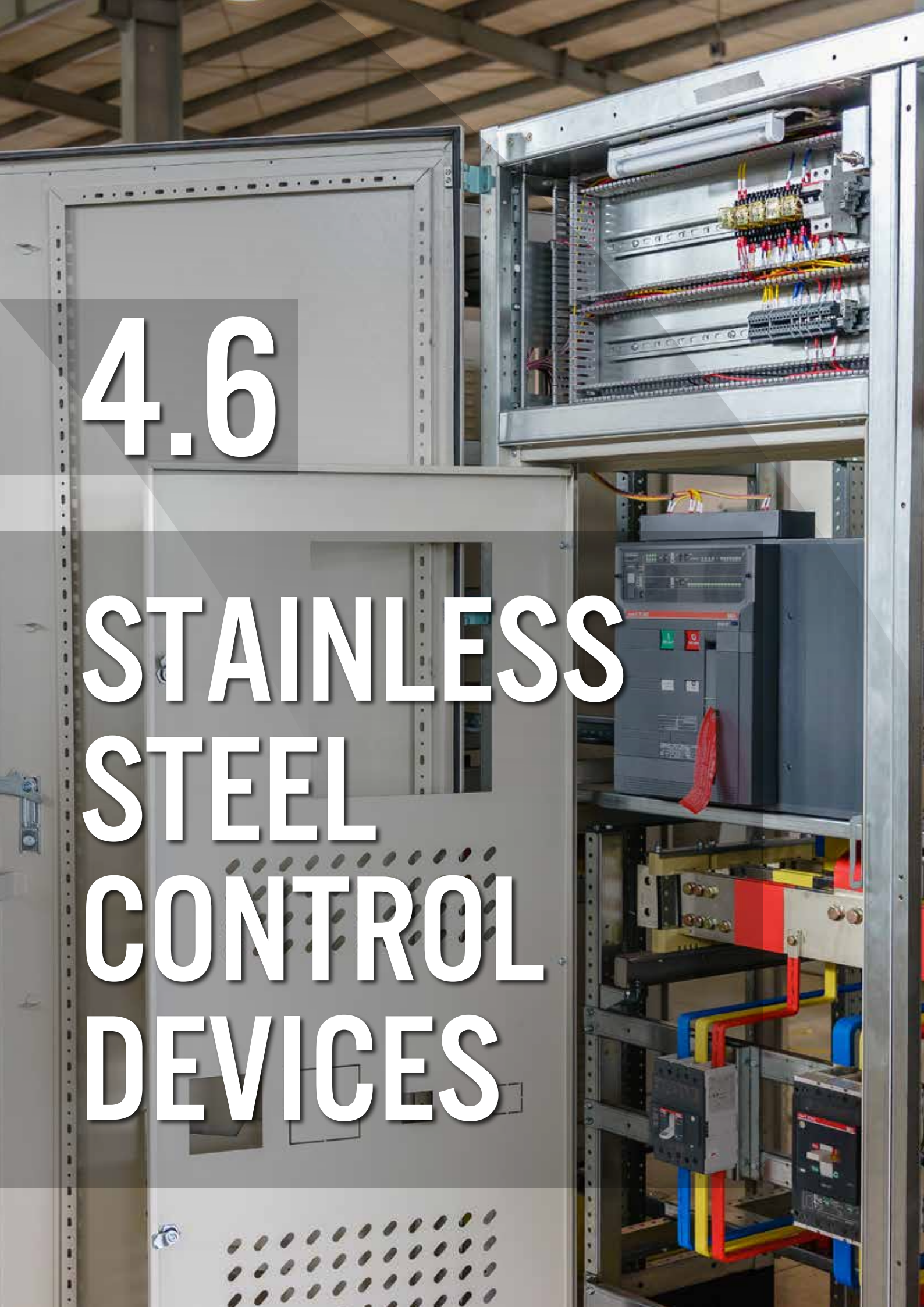


Wiring diagram



Cable gland





4.6

STAINLESS STEEL CONTROL DEVICES

AB1-D3 PUSH BUTTON

Zones 1, 2, 21, 22

STAINLESS STEEL ATEX DEVICES | ZONES 1, 2 (gas) & 21, 22 (dust)

The AB1-D3 push button is designed to control machines and systems in hazardous areas classified as Zone 1/2 and Zone 21/22. Its high IP protection rating and corrosion-resistant stainless steel housing ensure a long service life, even in aggressive environmental conditions. With its particularly flat design and rounded edges, the push button minimizes exposed surfaces, reducing the risk of external damage and dirt accumulation.

EU-Type Examination Certificate

ITEM REFERENCES			
Designation:	Changeover:	Cable lenght:	Item No.:
AB1-D3-0301 10	1 CO	1,5 m	3A1001
AB1-D3-0301 20		3 m	3A1002
AB1-D3-0301 30		5 m	3A1003
AB1-D3-0301 40		10 m	3A1004
AB1-D3-0601 10	2 CO	1,5 m	3A1005
AB1-D3-0601 20		3 m	3A1006
AB1-D3-0601 30		5 m	3A1007
AB1-D3-0601 40		10 m	3A1008

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T85°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20 °C to +60 °C
Operating voltage:	24 VDC / 230 VAC double insulated
Current consumption:	max. 1 A
Electric life:	6.0 E + 03 (230 VAC 1A) 5.0 E + 04 (30 VDC 1A)
Housing:	Stainless steel 1.4305
Mechanical life:	1.0 E + 08 switching cycles
Sealing:	EPDM
Ingress protection:	IP65
Impact resistance:	7 Nm
Mounting hole:	22.0 … 22.3 mm / M22 x 1.5
Torque:	8 Nm
For housing thickness:	1.0 … 15.0 mm
Weight:	150 gr (1.5 m)
Type AB1-D3 / 1 CO	
Flying lead:	3 x 0.5 mm²/ Oilflex 100 / Ø 5.4 mm
Electrical connection:	(1) brown = com / (2) black = NC / (3) grey = NO
Type AB1-D3 / 2 CO	
Flying lead:	6 x 0.5 mm² Ø 6.9 mm
Electrical connection:	(1) brown + (4) blue = com / (2) black + (5) white = NC / (3) grey + (6) orange = NO

AB1-D3 PUSH BUTTON

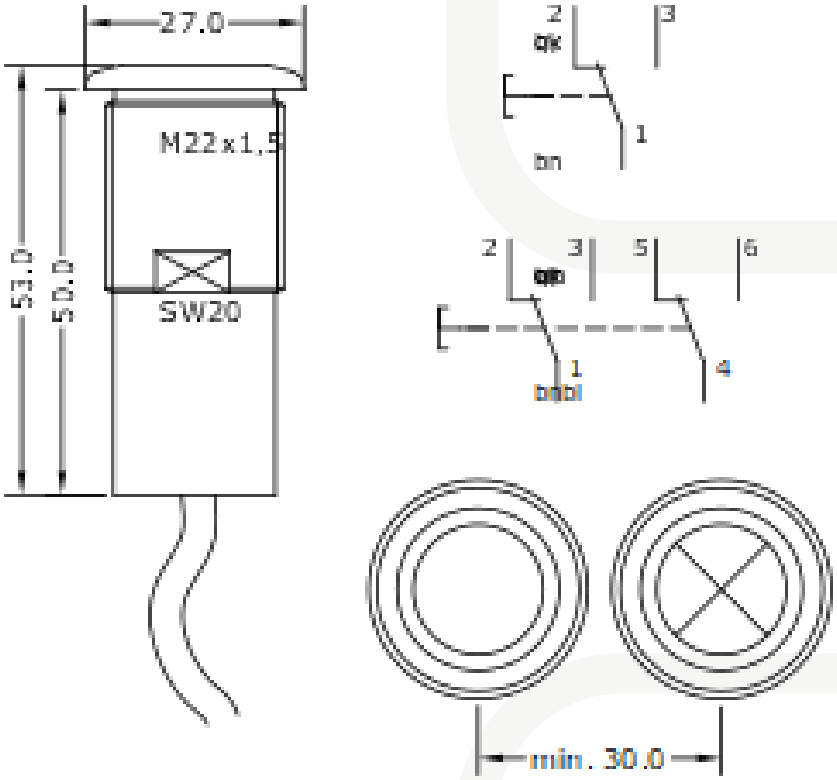
Zones 1, 2, 21, 22

CONNECT and ACT - Due to the approval as a device, this push button can be installed in the front of a machine in the Ex zone without further certification. The low installation depth enables a particularly space-saving use.

The AB1-D3 push button has also been tested in order to be installed in certified control panels of types of protection Ex e and Ex t.

The scope of delivery includes a plastic lock nut and colored insert labels in red, yellow, green, white and black.

ACCESSORIES	
Description:	**Item No.:**
Earthing set (earth lug + nut)	216742
Stopping plug M22 x 1.5 VA	216751



AB1-M3 LED SIGNAL LAMP

Zones 1, 2, 21, 22

STAINLESS STEEL ATEX DEVICES | ZONES 1, 2 (gas) & 21, 22 (dust)

The signal lamp type AB1-M3 reliably indicates signal status on machines and systems in hazardous areas in zone 1/2 and zone 21/22.
The high degree of IP protection and the corrosion resistant stainless steel housing guarantee a long service life, even under aggressive environmental conditions.

Due to the flat design and rounded edges, the signal lamp offers little surface for external damage and dirt deposits.

EU-Type Examination Certificate

ITEM REFERENCES			
Designation:	Color:	Cable lenght:	Item No.:
AB1-M3-R0-1	Red	1,5m	3A0101
AB1-M3-Y0-1	Yellow		3A0102
AB1-M3-G0-1	Green		3A0103
AB1-M3-W0-1	White		3A0104
AB1-M3-B0-1	Blue		3A0105
AB1-M3-RG-1	Red/Green		3A0106
AB1-M3-R0-2	Red	3m	3A0201
AB1-M3-Y0-2	Yellow		3A0202
AB1-M3-G0-2	Green		3A0203
AB1-M3-W0-2	White		3A0204
AB1-M3-B0-2	Blue		3A0205
AB1-M3-RG-2	Red/Green		3A0206
AB1-M3-R0-3	Red	5m	3A0301
AB1-M3-Y0-3	Yellow		3A0302
AB1-M3-G0-3	Green		3A0303
AB1-M3-W0-3	White		3A0304
AB1-M3-B0-3	Blue		3A0305
AB1-M3-RG-3	Red/Green		3A0306
AB1-M3-R0-4	Red	10m	3A0401
AB1-M3-Y0-4	Yellow		3A0402
AB1-M3-G0-4	Green		3A0403
AB1-M3-W0-4	White		3A0404
AB1-M3-B0-4	Blue		3A0405
AB1-M3-RG-4	Red/Green		3A0406

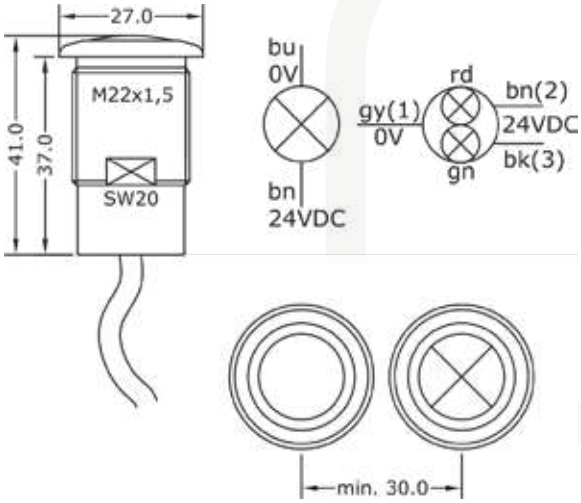
AB1-M3 LED SIGNAL LAMP

Zones 1, 2, 21, 22

CONNECT and ACT - Due to the approval as a device, the signal lamp can be installed in the front of a machine in the Ex zone without further certification. The low installation depth enables a particularly space-saving use.

The indicator light has also been tested in order to be installed in certified control panels of types of protection Ex e and Ex t.

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T85°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +60°C
Operating voltage:	24 V DC +-10 %
Current consumption:	max. 15 mA
Fuse:	63 mA
Flying lead:	3 x 0.5 mm² Ø 5.1 mm
Electrical connection:	(1) Grey = 0 V (2) Brown = 24 V DC red (3) Black = 24 V DC gn
Material housing:	Stainless steel 1.4305
Material lens:	Polycarbonate
Sealing:	EPDM
Ingress protection:	IP65
Impact resistance:	7 Nm / 4 Nm (lens)
Mounting hole:	22.0 … 22.3 mm / M22 x 1.5
Torque:	8 Nm
For housing thickness:	1.0 … 15.0 mm
Weight:	100 gr (1.5 m)
Scope of delivery:	Includes a plastic lock nut



AB1-P3 POTENTIOMETER

Zones 1, 2, 21, 22

STAINLESS STEEL ATEX DEVICES | ZONES 1, 2 (gas) & 21, 22 (dust)

The potentiometer type AB1-P3 is a reliable setpoint transmitter for controlling machines and systems in hazardous areas of zone 1/2 and zone 21/22. The high degree of IP protection and the corrosion-resistant stainless steel housing guarantee a long service life even under aggressive environmental conditions.

Due to it's flat design and rounded edges, the potentiometer offers little surface for external damage and dirt deposits.

The engraved scale in an elegant design guarantees optimal durability even under aggressive conditions.

CONNECT and ACT – Due to the approval as a device, the potentiometer can be installed in the front of a machine without further certification. The low installation depth enables a particularly space-saving use.

This potentiometer has also been tested in order to be installed in Ex e and Ex t control panels.

A plastic lock nut is included in the scope of delivery.

EU-Type Examination Certificate

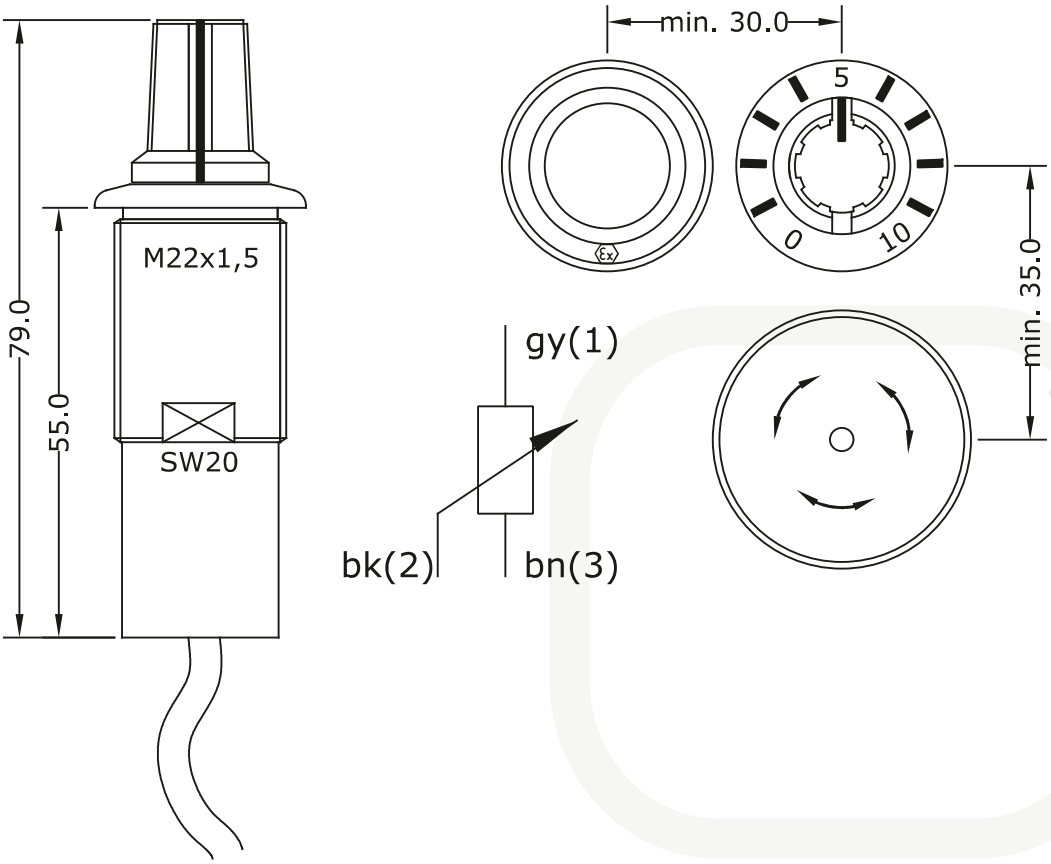
ITEM REFERENCES			
Designation:	**Resistor:**	**Cable lenght:**	**Item No.:**
AB1-P3-1101 1	1 kΩ	1,5 m	3A1301
AB1-P3-1101 2		3 m	3A1302
AB1-P3-1101 3		5 m	3A1303
AB1-P3-1101 4		10 m	3A1304
AB1-P3-1301 1	5 kΩ	1,5 m	3A1305
AB1-P3-1301 2		3 m	3A1306
AB1-P3-1301 3		5 m	3A1307
AB1-P3-1301 4		10 m	3A1308
AB1-P3-1401 1	10 kΩ	1,5 m	3A1309
AB1-P3-1401 2		3 m	3A1310
AB1-P3-1401 3		5 m	3A1311
AB1-P3-1401 4		10 m	3A1312

ACCESSORIES	
Description:	**Item No.:**
Earthing set (earth lug + nut)	216742
Stopping plug M22 x 1.5 VA	216751

AB1-P3 POTENTIOMETER

Zones 1, 2, 21, 22

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T85°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +60°C
Operating voltage:	24 VDC
Resistance value (linear):	1 kΩ, 5 kΩ, 10 kΩ ±10 %
Power consumption:	max. 1 W
Connecting cable:	4G0.5 mm² Ø5.7 mm
Electrical connection:	(1) grey = input (2) black = sliding contact (3) brown = output green/yellow = internal earth
Rotation angle:	295 °
Housing:	Stainless steel 1.4305
Sealing:	EPDM
Ingress protection:	IP66
Impact resistance:	7 Nm
Mounting hole:	22.0 … 22.3 mm / M22 x 1.5
Torque:	8 Nm
For housing thickness:	1.0 … 15.0 mm
Weight:	180 gr (1.5 m)



AB1-S3 BUZZER

Zones 1, 2, 21, 22

STAINLESS STEEL ATEX DEVICES | ZONES 1, 2 (gas) & 21, 22 (dust)

The AB1-S3-type ATEX Buzzers stands for alarming, with a penetrating, acoustic signal, to safely indicate possible dangers in potentially explosive areas. The high degree of IP protection and the corrosion-resistant stainless steel housing guarantee a long service life even under aggressive environmental conditions. This buzzer can be used in a variety of ways in potentially explosive areas.

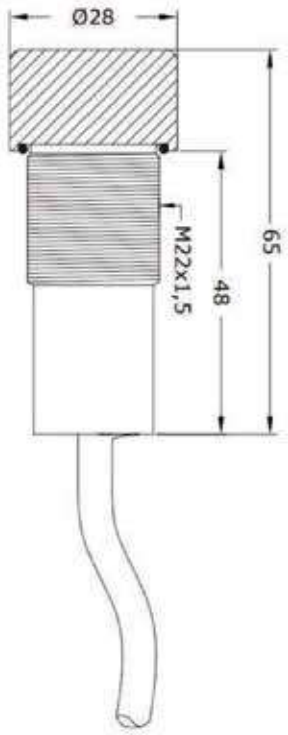
Thanks to its approval as a device, it can be installed directly in the front of a machine without further certification.
It has also been tested in order to be installed in certified control panels of types of protection Ex e, Ex t and Ex d.

A lock nut is included in the scope of delivery.

EU-Type Examination Certificate

ITEM REFERENCES		
Designation:	Cable lenght:	Item No.:
AB1-S3 - 1,5	1,5 m	3D0501
AB1-S3 - 3	3 m	3D0502
AB1-S3 - 5	5 m	3D0503
AB1-S3 - 10	10 m	3D0504

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex mb IIC T4 Gb II 2D Ex mb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-40°C to +60°C
Operating voltage:	24 VDC
Power consumption:	max. 30 mA
Prefuse:	63 mA
Frequency:	4300 Hz
Volume:	85 db approx / 40 cm
Electrical connection:	2x0.5 mm², Ø 4.8 mm. Brown = +24 VDC / Blue = 0 V
Housing:	Stainless steel 1.4305
Sealing:	EPDM
Ingress protection:	IP66 / Head IP30
Mounting hole:	22.0 ... 22.3 mm / M22x1,5
Torque:	8 Nm
Max. wall thickness:	1.0 ... 15.0 mm
Weight:	150 g (1,5 m cable version)



AB1-N3 M22 EMERGENCY STOP

Zones 1, 2, 21, 22

STAINLESS STEEL ATEX DEVICES

ZONES 1, 2 (gas) & 21, 22 (dust)

The Emergency Stop AB1-N3 ensures reliable and safe shutdown of machines and systems in hazardous areas classified as Zones 1/2 and Zones 21/22. Designed with a robust stainless steel housing and a high IP protection rating, it guarantees a long service life even in harsh and corrosive environments.

CONNECT and ACT – Certified for use as a standalone device, the Emergency Stop can be directly installed on the front panel of a machine within an Ex zone without requiring additional approvals. Its compact design with a low installation depth allows for particularly space-saving integration.

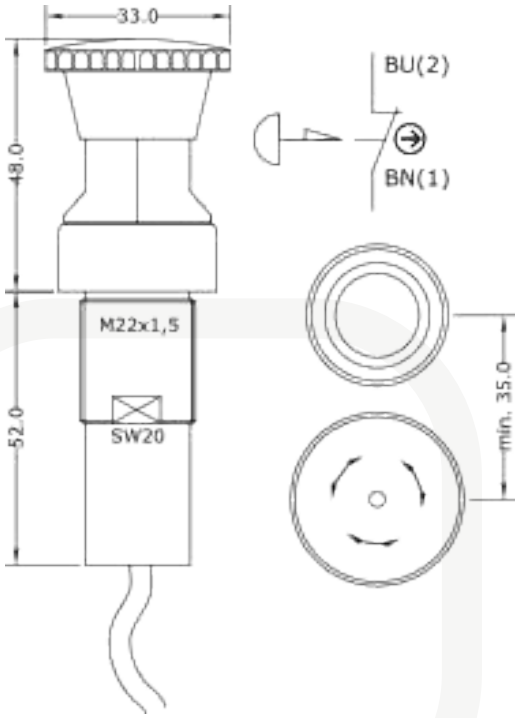
Additionally, the Emergency Stop has been rigorously tested for installation in certified control panels with protection types Ex e and Ex t.

The delivery package includes a durable plastic lock nut for secure installation.

EU-Type Examination Certificate

ITEM REFERENCES		
Designation:	Cable lenght:	Item No.:
AB1-N3-2101 10	1,5 m	3A1101
AB1-N3-2101 20	3 m	3A1102
AB1-N3-2101 30	5 m	3A1103
AB1-N3-2101 40	10 m	3A1104

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T85°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +55°C
Operating voltage:	24 VDC / 230 VAC double insulated
Current consumption:	max. 1 A
Flying lead:	2 x 0.5 mm² Ø 4.8 mm
Electrical connection:	(1) brown = com / (2) blue = NC
Electric life:	10.000 switching cycles
Housing:	Stainless steel 1.4305
Mechanical life:	1.0 E + 08 switching cycles
Sealing:	EPDM
Ingress protection:	IP66
Impact resistance:	7 Nm
Mounting hole:	22.0 … 22.3 mm / M22 x 1.5
Torque:	8 Nm
For housing thickness:	1.0 … 15.0 mm
Weight:	300 gr (1.5 m)



ACCESSORIES	
Description:	Item No.:
Earthing set (earth lug + nut)	216742
Stopping plug M22 x 1.5 VA	216751

CONTACT – (+34) 943 530 095 | inpratex@inpratex.com

AB1-E3 M30 EMERGENCY STOP

Zones 1, 2, 21, 22

STAINLESS STEEL ATEX DEVICES | ZONES 1, 2 (gas) & 21, 22 (dust)

The Emergency Stop AB1-E3 ensures safe and reliable shutdown of machines and systems in hazardous areas classified as Zones 1/2 and 21/22. Equipped with up to three switching contacts, it allows for secure disconnection while providing additional feedback functionality.

Built for durability, the Emergency Stop features a corrosion-resistant stainless steel housing and a high IP protection rating, guaranteeing long service life even in aggressive or demanding environmental conditions.

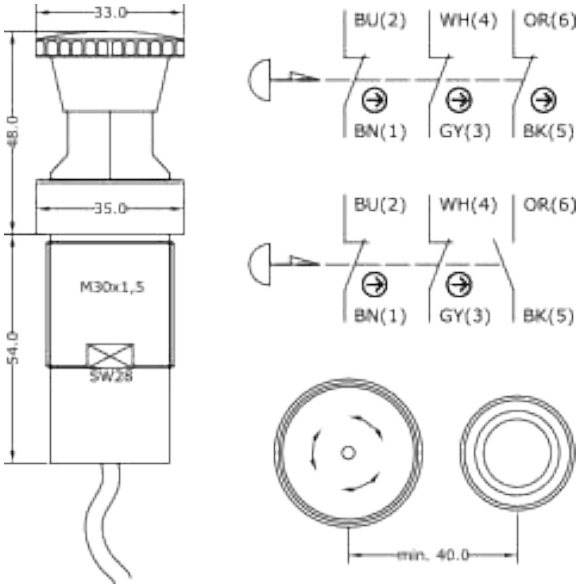
CONNECT and ACT – Certified for use as a device, the Emergency Stop can be installed directly on the front of a machine within Ex zones without requiring additional approvals. Its compact design with a low installation depth facilitates space-saving integration. Additionally, the Emergency Stop has been rigorously tested and approved for installation in certified control panels designed with Ex e and Ex t protection types.

The delivery package includes a plastic lock nut.

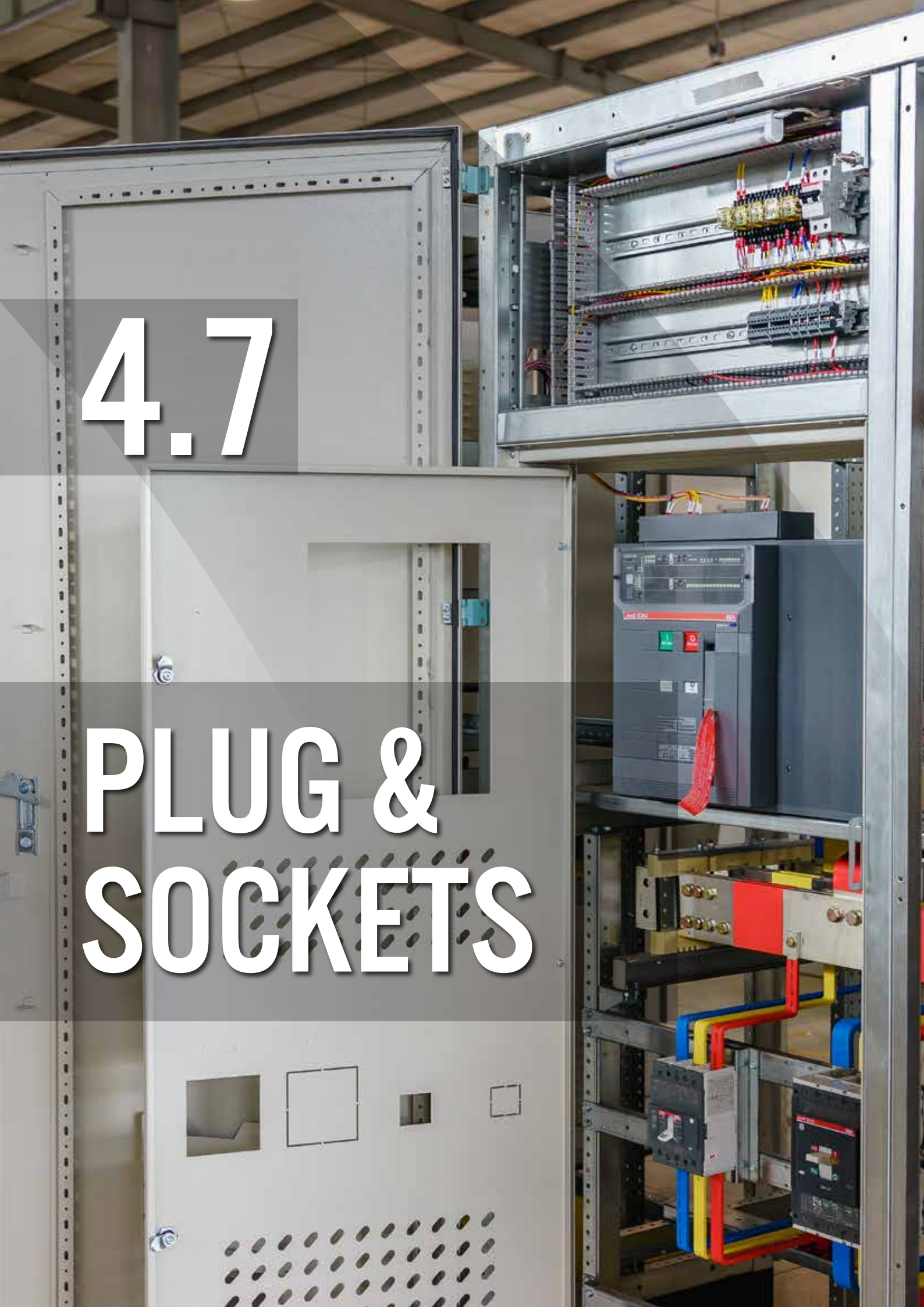
EU-Type Examination Certificate

ITEM REFERENCES							
Designation:	Contacts:	Cable lenght:	Item No.:	Designation:	Contacts:	Cable lenght:	Item No.:
AB1-E3-2301 10	3x positive breaking contact	1,5 m	3A1201	AB1-E3-2101 10	2x positive breaking contact 1x normally open contact	1,5 m	3A1205
AB1-E3-2301 20		3 m	3A1202	AB1-E3-2101 20		3 m	3A1206
AB1-E3-2301 30		5 m	3A1203	AB1-E3-2101 30		5 m	3A1207
AB1-E3-2301 40		10 m	3A1204	AB1-E3-2101 40		10 m	3A1208

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T85°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +55°C
Operating voltage:	24 VDC / 230 VAC double insulated
Current consumption:	max. 1 A
Flying lead:	6 x 0.5 mm² Ø 6.9 mm
Electrical connection:	(1) brown = com 1 (2) blue = NC 1 (3) grey = com 2 (4) white = NC 2 (5) black = com 3 (6) orange = contact 3
Electric life:	10.000 switching cycles
Housing:	Stainless steel 1.4305
Mechanical life:	1.0 E + 08 switching cycles
Sealing:	EPDM
Ingress protection:	IP66
Impact resistance:	7 Nm
Mounting hole:	30.0 … 30.3 mm / M30 x 1.5
Torque:	8 Nm
For housing thickness:	1.0 … 15.0 mm
Weight:	350 gr (1.5 m)



ACCESSORIES	
Description:	Item No.:
Earthing set (earth lug + nut)	226550



4.7

PLUG & SOCKETS

ATEX PLUGS & SOCKETS

ZONES 1, 2 (gas) & 21, 22 (dust)

EU-Type Examination Certificate

Range of certified plugs and sockets for hazardous areas facilitate the compliance of:
- electrical machinery to the Machinery European Directive regarding isolation device and to EN 60204-1 standard: Safety of machinery electrical equipment of machines,
- electrical installation to French decree of 30 aout 2010 and 22 septembre 2010 relating to health and safety at work when using electrical installations,
- electrical installation to national regulation relating to the improvement of the safety and health of workers at work in Italy, Spain, Belgium,
- electrical installation to the installation standards: IEC/ EN 60079-14, IEC/HD 60364 (international), NF C 15-100 (France) and CSA Z462 (Canada).

These plugs and sockets comply with:
- ATEX European Directive (affixing “Ex” symbol and CE marking),
- RoHS Directive (affixing CE marking),
- REACH European Regulation,
- IEC/ EN 60079-0, IEC/ EN 60079-1, IEC/ EN 60079-7, IEC/ EN 60079-31, IEC/ EN 60309-1 and IEC/ EN 60309-4 standards.
- Bureau Veritas Marine specifications.

ITEM REFERENCES

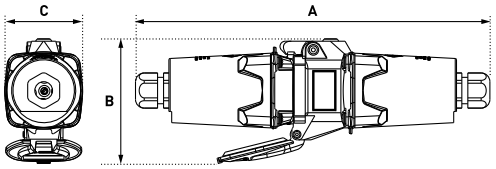
Rated current:	Coding Voltage/ Frequency [0]	Poles:	Cable entries [1]:	Wall mounting socket:	Plugs:	Socket -outlet:	Utilization categories:	Permissible cable cross-sections:	Recommended cable type [2]:
20A	20/24V AC	2P	M20 (10-14mm)	6Z0101	6Z0201	6Z0301	AC-22 AC-23	1-4 mm² flexible 1,5-6 mm² rigid	H07RN-F 2x2,5mm² [3]
20A	220/250V AC	1P+N+T	M20 (10-14mm)	6Z0102	6Z0202	6Z0302	AC-22 AC-23	1-4 mm² flexible 1,5-6 mm² rigid	H07RN-F 3G2,5mm² [3][5]
20A	220/250V AC	1P+N+T	M25 (12-18mm)	6Z0102B	6Z0202B	6Z0302B	AC-22 AC-23	1-4 mm² flexible 1,5-6 mm² rigid	H07RN-F 3G4mm² [3]
20A	380/440V AC	3P+T	M25 (12-18mm)	6Z0103	6Z0203	6Z0303	AC-22 AC-23	1-4 mm² flexible 1,5-6 mm² rigid	H07RN-F 4G4mm² [3]
20A	380/440V AC	3P+T+N	M32 (16-25mm)	6Z0104	6Z0204	6Z0304	AC-22 AC-23	1-4 mm² flexible 1,5-6 mm² rigid	H07RN-F 5G4mm² [3][4]
32A	220/250V AC	1P+N+T	M25 (12-18mm)	6Z0105	6Z0205	6Z0305	AC-22	2,5-10 mm² flexible 2,5-16 mm² rrigid	H07RN-F 3G6mm² [3][4]
32A	380/440V AC	3P+T	M32 (16-25mm)	6Z0106	6Z0206	6Z0306	AC-22	2,5-10 mm² flexible 2,5-16 mm² rigid	H07RN-F 4G6mm² [3]
32A	380/440V AC	3P+T+N	M32 (16-25mm)	6Z0107	6Z0207	6Z0307	AC-22	2,5-10 mm² flexible 2,5-16 mm² rigid	H07RN-F 5G6mm² [3]
63A	380/440V AC	3P+T	M40 (22-32mm)	6Z0108	6Z0208	6Z0308	AC-22	6-16 mm² flexible 6-25 mm² rigid	H07RN-F 4G16mm² [3]
63A	380/440V AC	3P+T+N	M40 (22-32mm)	6Z0109	6Z0209	6Z0309	AC-22	6-16 mm² flexible 6-25 mm² rigid	H07RN-F 5G16mm² [3]
63A	480/500V AC	3P+T	M40 (22-32mm)	6Z0110	6Z0210	6Z0310	AC-22	6-16 mm² flexible 6-25 mm² rigid	H07RN-F 4G16mm² [3]
63A	480/500V AC	3P+T+N	M40 (22-32mm)	6Z0111	6Z0211	6Z0311	AC-22	6-16 mm² flexible 6-25 mm² rigid	H07RN-F 5G16mm² [3]

[0] Other voltage/frequency encodings are available on request.
[1] Polyamide cable gland suitable for non-armoured cable.
[2] The cable selection is a proposal that must be reviewed in each particular case. It is made considering an ambient temperature of 30°C with a conductor operating temperature of 60°C, for cables that are exposed to the elements or supported on a surface. If the cable is to be wound on a drum or covered, the proposed cable types are not valid.
[3] It is essential to check that the outer diameter of the selected cable matches the tightening ranges of the cable glands, without forgetting the load capacity of the cables.
[4] Cable at the tightening limit of the cable gland. It is advisable to expressly check the cable to verify that it is within the tightening margins. The cable gland can be changed prior to manufacture.
[5] For safety tolerances, it is preferable to use a larger cable section, such as 3G4mm², and switch to the 6Z0102B, 6Z0202B and 6Z0302B socket and plug references.

TECHNICAL SPECIFICATIONS			
	20A	32A	63A
Marking:	II 2G Ex db eb IIC T* Gb II 2D Ex tb IIIC T* Db * -40°C ≤ Ta ≤ +60°C T5 T90°C -40°C ≤ Ta ≤ +40°C T6 T70°C	II 2G Ex db eb IIC T* Gb II 2D Ex tb IIIC T* Db * -40°C ≤ Ta ≤ +60°C T5 T77°C -40°C ≤ Ta ≤ +40°C T6 T57°C	II 2G Ex db eb IIC T* Gb II 2D Ex tb IIIC T* Db * -40°C ≤ Ta ≤ +60°C T4 T107°C -40°C ≤ Ta ≤ +40°C T5 T87°C
Certificate:	EU-Type Examination Certificate		
Housing:	Glass Reinforced Polyester (GRP)		
Ingress protection:	IP66/67		
Shock resistance:	IK09		

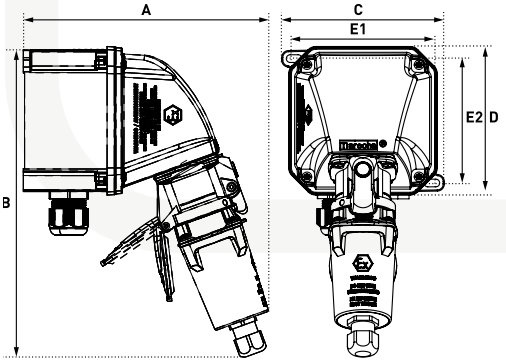
DIMENSIONS 20A

Coupler



A	B	C
266 mm	89 mm	58 mm

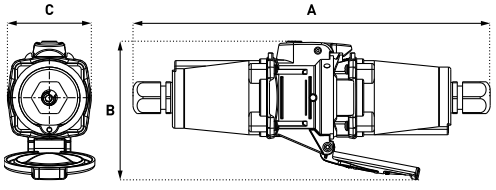
Plug on wall mounted socket-outlet



A	B	C	D	E1	E2
208 mm	264 mm	138 mm	126 mm	117 mm	105,5

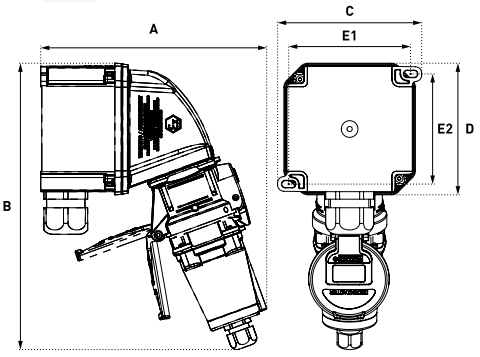
DIMENSIONS 32A

Coupler

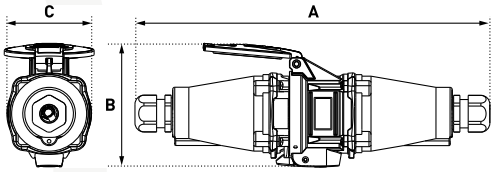
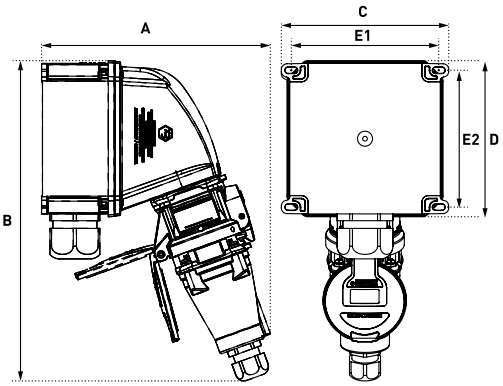


A	B	C
304 mm	71 mm	118 mm

Plug on wall mounted socket-outlet



A	B	C	D	E1	E2
208 mm	264 mm	138 mm	126 mm	117 mm	105,5

DIMENSIONS 63A								
Coupler			Plug on wall mounted socket-outlet					
								
A	B	C	A	B	C	D	E1	E2
350 mm	84 mm	122 mm	244 mm	341 mm	175 mm	166 mm	157 mm	145,5

ATEX PLUGS & SOCKETS

ZONES 1, 2 (gas) & 21, 22 (dust)

ATEX certified plugs and socket-outlets, designed for hazardous areas.

The socket is complete with interlocked switch which can only be activated when the plug is inserted and viceversa.

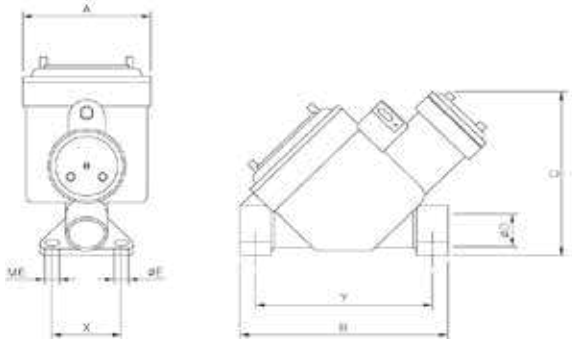
EU-Type Examination Certificate

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex d IIC T6 Gb II 2D Ex tb IIIC T80°C Db IP66
Certificate:	EU-Type Examination Certificate
Housing:	Aluminium
Operating conditions:	Indoor / Outdoor
Ingress protection:	IP66
Operating temperature:	-20°C to +40°C

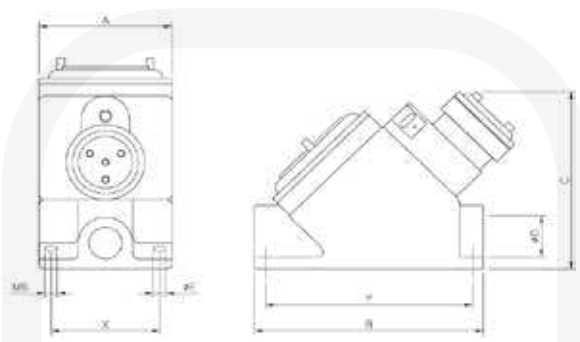
ITEM REFERENCES - SOCKETS

Designation:	Current:	Voltage:	Poles:	2 Cable Entries:	Dimensions (mm)							Item No.:
					A	B	C	ØD	ØE	X	Y	
FSQ 215	25 A	500 V	2P+T	1" NPT	110	180	145	1"	7	60	160	6G0101
FSQ 325	32 A	500 V	3P+T	1" NPT	110	180	145	1"	7	60	160	6G0201
FSQ 425	32 A	500 V	4P+T	1" NPT	110	180	145	1"	7	60	160	6G0301
FSQ 360	63 A	500 V	3P+T	1.1/2" NPT	155	246	190	1.1/2"	11	160	222	6G0401
FSQ 460	63 A	500 V	4P+T	1.1/2" NPT	155	246	190	1.1/2"	11	160	222	6G0501

FSQ 215 - 325 - 425

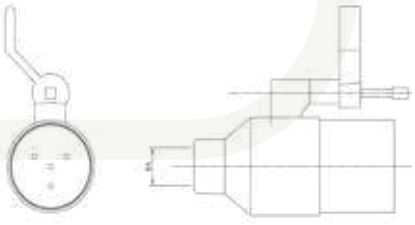


FSQ 360 - 460 / FSQA ...



ITEM REFERENCES - PLUGS

Designation:	Current:	Voltage:	Poles:	1 Cable Entry ØA:	Item No.:
BP 215	25 A	500 V	2P+T	3/4" NPT	6G0102
BP 325	32 A	500 V	3P+T	3/4" NPT	6G0202
BP 425	32 A	500 V	4P+T	3/4" NPT	6G0302
BP 360	63 A	500 V	3P+T	1" NPT	6G0402
BP 460	63 A	500 V	4P+T	1" NPT	6G0502



DX9 DECONTACTOR

Zones 1, 2, 21, 22

ATEX PLUGS & SOCKETS | ZONES 1, 2 (gas) & 21, 22 (dust)

Certified explosion-proof plugs and sockets, with integrated load-break switch.

Locking in connected or disconnected position by keying axis.

EU-Type Examination Certificate

ITEM REFERENCES				
Designation:	Voltage:	Poles:	Cable entries:	Item No.:
Wall mounting socket DX9	380-440 V	3P+T	M40 (16-27 mm)	6E0201
Plug DX9	380-440 V	3P+T	M40 (16-27 mm)	6E0202
Wall mounting socket DX9	380-440 V	3P+N+T	M40 (16-27 mm)	6E0301
Plug DX9	380-440 V	3P+N+T	M40 (16-27 mm)	6E0302

TECHNICAL SPECIFICATIONS	
Marking:	II 2GD Ex de IIC tD A21 -40 °C ≤ Ta ≤ +60 °C T5 T90 °C -40 °C ≤ Ta ≤ +50 °C T6 T80 °C
Certificate:	EU-Type Examination Certificate
Housing:	Metal (Aluminium)
Rated current:	125 A
Maximum voltage:	750 V
Operating conditions:	Indoor / Outdoor
IP protection lid closed:	IP65
IP protection plug connected:	IP65/IP66
Shock resistance:	IK10
Operating temperature:	-40°C to +60°C
Flexible wiring (min - max):	35 - 50 mm^2
Stranded wiring (min - max):	50 - 70 mm^2
Other wiring:	On request
Keying positions:	12

ATEX PLUGS & SOCKETS

ZONES 1, 2 (gas) & 21, 22 (dust)

EU-Type Examination Certificate

Compact and rugged connector designed for all types of aggressive environments (humidity, corrosion, pollution) found in many industrial hazardous areas.

The 5 contacts connection can meet all needs and applications such as lighting.

This connector is both quickly assembled and put into service. Its locking ring resists vibration thus preventing accidental disconnection of the plug on load.

The technically advanced silver-nickel butt contact system assures next level performance no matter the conditions.
The connector guarantees a long-lasting and electrically efficient connection for your industry.

ITEM REFERENCES			
Designation:	Voltage:	Poles:	Item No.:
Socket-outlet (Female)	250V	3P+N+T	6D0201
Inlet (Male)	250V	3P+N+T	6D0202

TECHNICAL SPECIFICATIONS	
Marking:	II 2GD Ex e IIC T6 Gb Ex tb IIIC T72°C Db
Certificate:	EU-Type Examination Certificate
Operating conditions:	Indoor / Outdoor
Housing:	Glassfibre reinforced thermoplastic UL94 V-0
Butt contacts:	Copper alloy with silver-nickel tips
Contact protection:	Tinning
Load cycles:	More than 2000 cycles
Shock resistance:	IK08
Vibration:	Frequency 5-1000Hz, 1g (90 minutes on each critical frequency) According to IEC 6068 2-6
Impulse withstand voltage:	5 kV / Pollution degree 3
Contact resistance:	<2mΩ
Permited current range:	4-20 mA / 5 A
Ductrs accepted:	From 0,75 mm^2 to 2,5 mm^2 Mechanical terminals
Cable diameter:	From 7 to 14 mm
Operating temperature:	-20°C to +70°C
IP protection Socket with cap:	IP66/IP67 | IP69K 100 bar (1450 PSI) 80°C
IP protection connected plug:	IP66/IP67 | IP69K 100 bar (1450 PSI) 80°C
Resistance to fluids:	Motor oils, petrol, fats, detergents

1P+N+E EXTENSION LEAD

Zones 1, 2, 21, 22

ATEX PLUGS & SOCKETS | ZONES 1, 2 (gas) & 21, 22 (dust)

Extension leads for mobile services, suitable for operation in explosive atmospheres in the presence of gases, vapours and combustible dust.

Consisting of a rubber insulated hose for use in hazardous areas and ATEX certified plug and socket (male, female). Both sockets are only compatible with plugs and sockets from the same manufacturer.

The configuration provides an IP66/IP67 rating, which gives the system a high protection against dust and liquid ingress.

EU-Type Examination Certificate

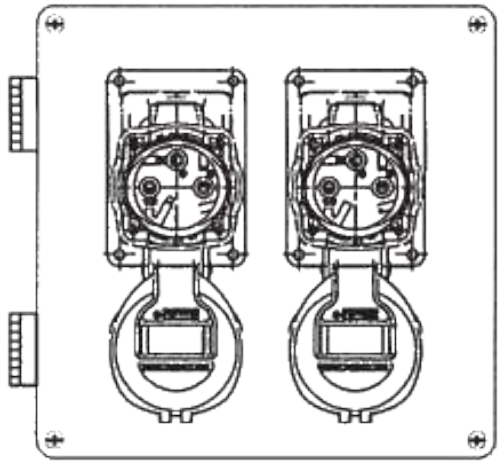
ITEM REFERENCES			
Designation:	Voltage:	Poles:	Item No.:
1P+N+E 10m Extension lead	220/250V	1P+N+E	6C0402A
1P+N+E 15m Extension lead	220/250V	1P+N+E	6C0402B
1P+N+E 20m Extension lead	220/250V	1P+N+E	6C0402C
1P+N+E 25m Extension lead	220/250V	1P+N+E	6C0402D
COMPATIBLE PLUGS AND SOCKETS			
Wall socket: (female) 1P+N+E	220/250V	1P+N+E	6C0102
Socket-outlet (female) 11P+N+E	220/250V	1P+N+E	6C0302
Plug (male) 1P+N+E	220/250V	1P+N+E	6C0202

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex de IIC T*Gb II 2D Ex tb IIIC T*Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-40°C ≤ Ta ≤ +60°C - T5 T90°C -40°C ≤ Ta ≤ +40°C - T6 T70°C
Operating conditions:	Indoor / Outdoor
Housing:	GRP
Ingress protection:	IP66/67
Shock resistance:	IK08
Cable:	H07RN-F 450/750V - 3G2,5
Cable entries:	M20x1,5 (7 - 14 mm)

2 SOCKET DISTRIBUTION UNIT: 2 - 1PH+N+PE

Zones 1, 2, 21, 22

ATEX PLUGS & SOCKETS | **ZONES 1, 2 (gas) & 21, 22 (dust)**



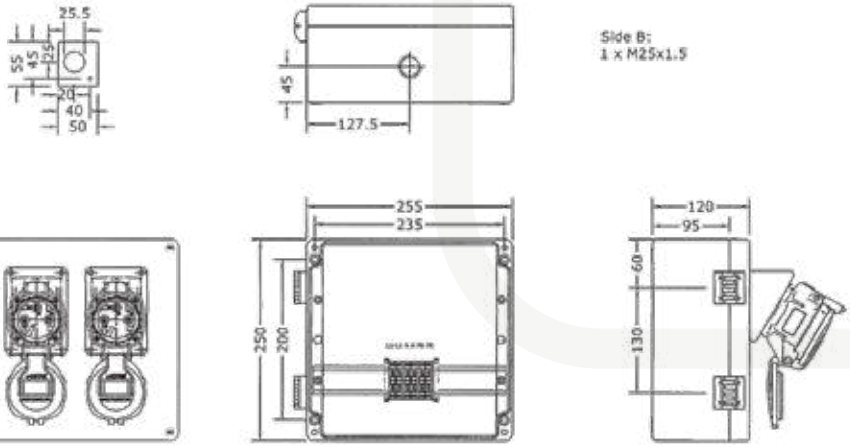
ATEX-certified 2-socket outlet power distribution unit for fixed installation in hazardous areas.

Equipped with 2 ATEX socket outlets 20A 220/250V 1PH+N+PE and their respective plugs. Hinged lid.

EU-Type Examination Certificate

ITEM REFERENCES					
Designation:	Rated current:	Rated voltage:	Poles:	Cable gland:	Item No.:
2-outlet rack 1P+N+T - P	20A	220/250V	1P+N+T	Plastic	6F0115A
2-outlet rack 1P+N+T - L	20A	220/250V	1P+N+T	Brass	6F0115B
2-outlet rack 1P+N+T - LN	20A	220/250V	1P+N+T	Niquel-plated brass	6F0115C

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Material:	Glass fibre reinforced polyester, black
Dimensions:	255x250x120 mm
Operating conditions:	Indoor / Outdoor
Terminals:	4x 6 mm² + 2x 6 mm² PE. Numbering: L1-L1, N-N, PE, PE L1 terminals (jumpered) / N terminals (jumpered)
Outlets:	2 socket outlets 1P+N+T 20A (plugs included)
Ingress protection:	IP65
Cable entries:	1x M25x1,5



3 SOCKET DISTRIBUTION UNIT: 3 - 1PH+N+PE

Zones 1, 2, 21, 22

ATEX PLUGS & SOCKETS | ZONES 1, 2 (gas) & 21, 22 (dust)

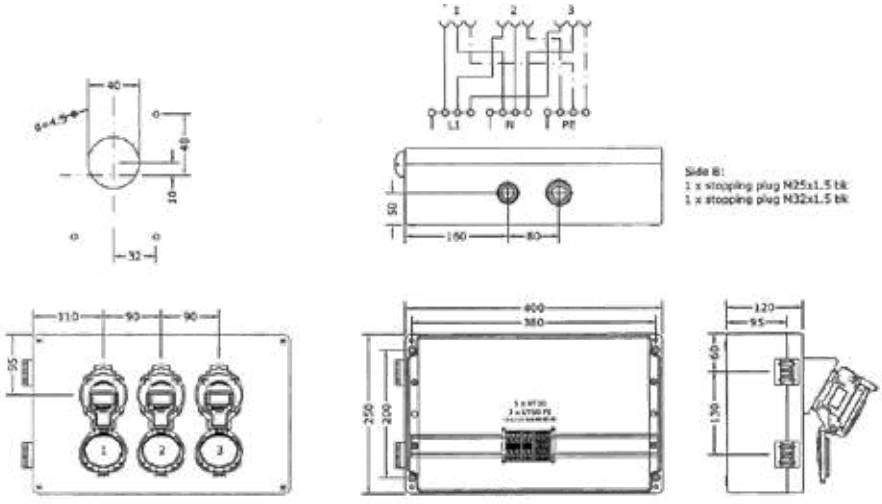
ATEX-certified 3-outlet rack for fixed installation in hazardous areas.

Equipped with 3 ATEX socket outlets 20A 220/250V 1PH+N+PE and their respective plugs.
Hinged lid.

EU-Type Examination Certificate

ITEM REFERENCES				
Designation:	Rated current:	Rated voltage:	Poles:	Item No.:
3-outlet rack 1PH+N+PE	20A	220/250V	1PH+N+PE	6F0110

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Material:	Glass fibre reinforced polyester, black
Dimensions:	400x250x120 mm
Operating conditions:	Indoor / Outdoor
Terminals:	5x 10 mm² + 3 x10 mm² PE
Outlets:	3 socket outlets 20A 1PH+N+PE (plugs included)
Ingress protection:	IP65
Cable entries:	1 M25x1,5 | 1 M32x1,5 plugged



3 SOCKET DISTRIBUTION UNIT: 2 - 1PH+N+PE / 1 - 3PH+PE

Zones 1, 2, 21, 22

ATEX PLUGS & SOCKETS | **ZONES 1, 2 (gas) & 21, 22 (dust)**

ATEX-certified 3-outlet rack for fixed installation in hazardous areas. Hinged lid.

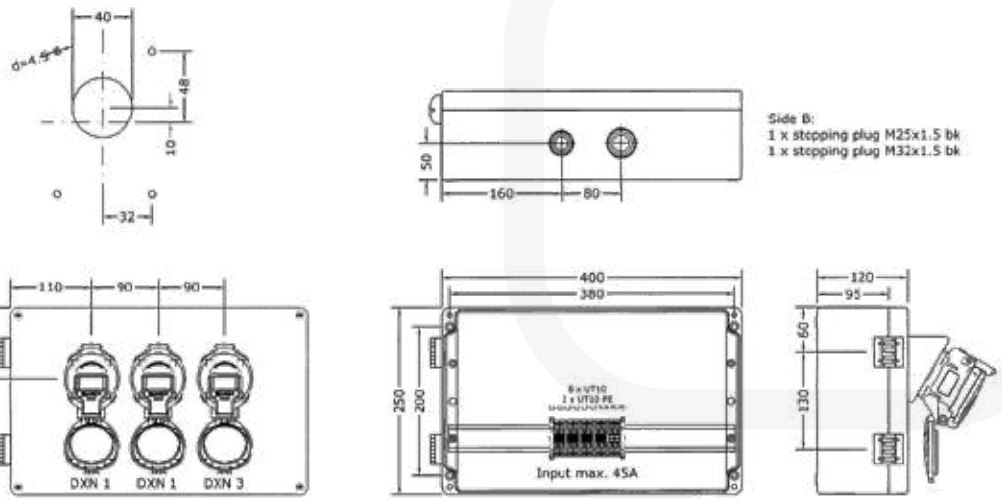
Equipped with 2 ATEX 20A 220/250V 1PH+N+ PE socket outlets and 1 ATEX 32A 380/440V 3PH+ PE socket with their respective plugs.

EU-Type Examination Certificate

The cable glands are supplied separately

ITEM REFERENCES				
Designation:	**Rated current:**	**Rated voltage:**	**Poles:**	**Item No.:**
3-outlet rack (2 - 1PH+N+PE 20A / 1 - 3PH+PE 32A)	20A | 32A	220/250V | 380/440V	1P+N+T | 3P+T	6F0113

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex ed IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Material:	Glass fibre reinforced polyester, black
Dimensions:	400x250x120 mm
Operating conditions:	Indoor / Outdoor
Terminals:	8x 10 mm² + 2x 10 mm² PE
Outlets:	2 socket outlets 1P+N+T 20A | 1 socket outlets 3P+T 32A (plugs included)
Ingress protection:	IP65
Operating temperature:	-20°C to +40°C
Cable entries:	1 M25x1,5 | 1 M32x1,5



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ATEX PLUGS & SOCKETS | ZONES 1, 2 (gas) & 21, 22 (dust)

ATEX-certified 4-outlet rack for fixed installation in hazardous areas. Hinged lid.

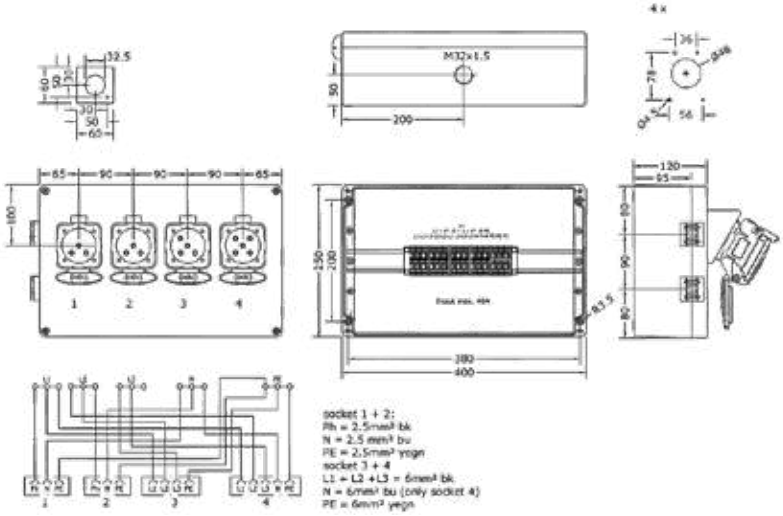
Equipped with 2 ATEX 20A 220/250V 1PH+N+ PE sockets, 1 ATEX 32A 380/440V 3PH+ PE socket and 1 ATEX 32A 380/440V 3PH+N+PE socket with their respective plugs.

EU-Type Examination Certificate

The cable gland is supplied separately

ITEM REFERENCES				
Designation:	**Rated current:**	**Rated voltage:**	**Poles:**	**Item No.:**
4-outlet rack (2 - 1PH+N+PE 20A / 1 - 3PH+PE 32A / 1 - 3PH+N+PE 32A)	20A | 32A	220/250V 380/440V	1P+N+T | 3P+T | 3P+N+T	6F0114

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex ed IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Material:	Glass fibre reinforced polyester, black
Dimensions:	400x250x120 mm
Operating conditions:	Indoor / Outdoor
Terminals:	12x 10 mm² + 3x 10 mm² PE
Outlets:	2 socket outlets 1P+N+T 20A | 1 socket outlets 3P+T 32A | 1 socket outlets 3P+N+T 32A (plugs included)
Ingress protection:	IP65
Operating temperature:	-20°C to +40°C
Cable entries:	1 M32x1,5



4 SOCKET OUTLETS DISTRIBUTION UNIT: 2 - 1PH+N+PE / 2 - 3PH+N+PE

Zones 1, 2, 21, 22

ATEX PLUGS & SOCKETS | ZONES 1, 2 (gas) & 21, 22 (dust)

ATEX-certified 4-outlet rack for fixed installation in hazardous areas. Hinged lid.

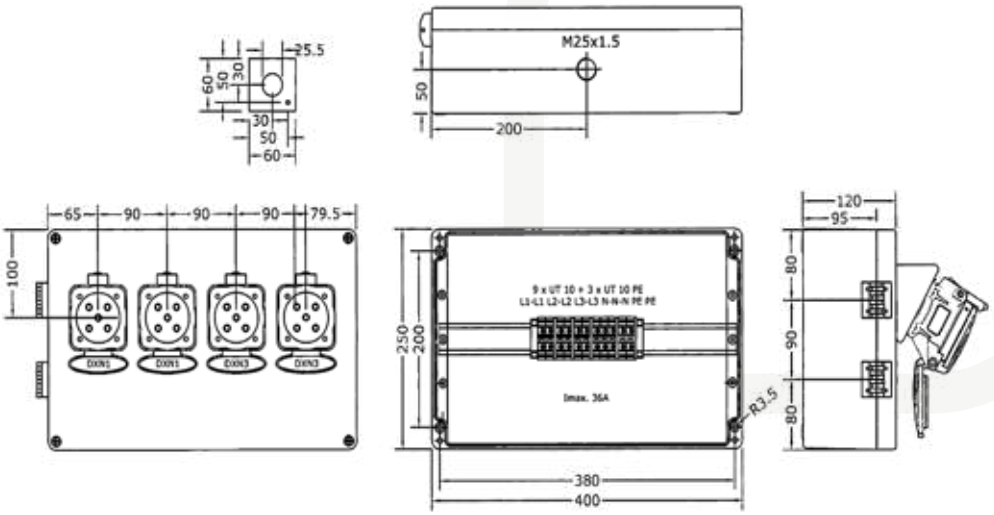
Equipped with 2 ATEX sockets 20A 220/250V 1PH+N+PE, 2 ATEX sockets 32A 380/440V 3PH+N+PE and their respective plugs.

EU-Type Examination Certificate

The cable gland is supplied separately

ITEM REFERENCES				
Designation:	Rated current:	Rated voltage:	Poles:	Item No.:
4-outlet rack (2 - 1PH+N+PE 20A / 2 - 3PH+N+PE 32A)	20A | 32A	220/250V | 380/440V	1PH+N+PE | 3PH+N+PE	6F0111

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex ed IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Material:	Glass fibre reinforced polyester, black
Dimensions:	400x250x120 mm
Operating conditions:	Indoor / Outdoor
Terminals:	9x 10 mm² + 3x 10 mm² PE
Outlets:	2 sockets 20A 1PH+N+PE (plugs included) 2 sockets 32A 3PH+N+PE (plugs included)
Ingress protection:	IP65
Operating temperature:	-20°C to +40°C
Cable entries:	1 M25x1,5



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6 SOCKET OUTLETS DISTRIBUTION UNIT: 6 - 1PH+N+PE

Zones 1, 2, 21, 22

ATEX PLUGS & SOCKETS | ZONES 1, 2 (gas) & 21, 22 (dust)

ATEX-certified 6-outlet power distribution unit for fixed installation in hazardous areas.

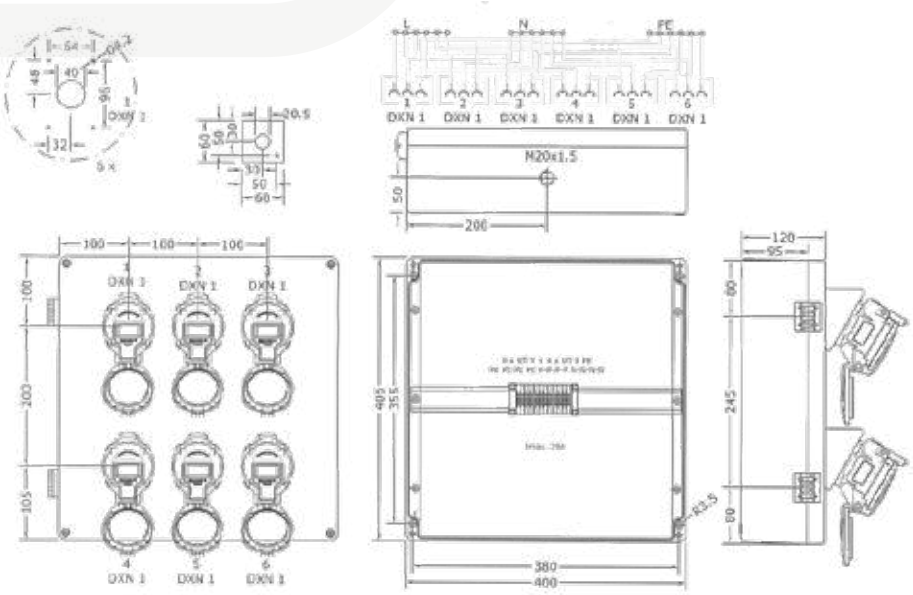
Equipped with 6 ATEX socket outlets 20A 220/250V 1PH+N+PE and their respective plugs. Hinged lid.

EU-Type Examination Certificate

The cable gland is supplied separately

ITEM REFERENCES				
Designation:	**Rated current:**	**Rated voltage:**	**Poles:**	**Item No.:**
6-outlet rack 1PH+N+PE	20A	220/250V	1PH+N+PE	6F0112

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex ed IIC T6 Gb II 2D Ex tb IIIC T80°C
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Material:	Glass fibre reinforced polyester, black
Dimensions:	400x405x120 mm
Operating conditions:	Indoor / Outdoor
Terminals:	8x 4 mm² + 4x 4 mm² PE
Outlets:	6 socket outlets 20A 1PH+N+PE (plugs included)
Ingress protection:	IP65
Cable entries:	1 M20x1,5



ATEX PLUGS & SOCKETS

ZONES 0, 1, 2 (gas)

The connection elements on electrical devices are designed to facilitate quick and efficient maintenance or calibration. These Ex i connection elements are specifically engineered for use with intrinsically safe circuits.

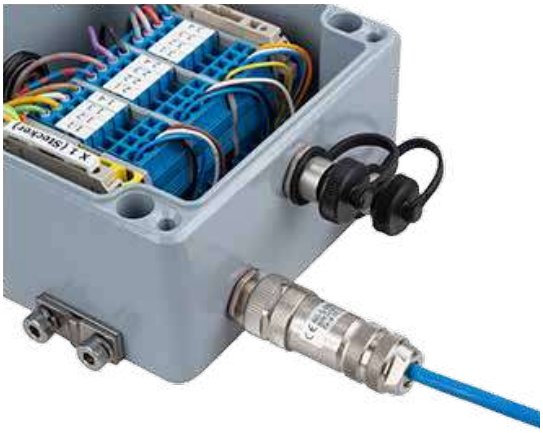
Certified according to the latest standards, these components are classified as simple electrical devices suitable for operation in zones 0, 1 and 2.

In addition to being used within enclosures, these connection elements can also function as coupling units to extend cables.

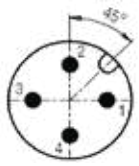
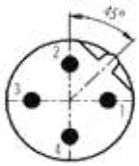
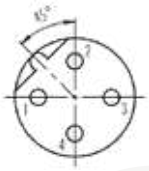
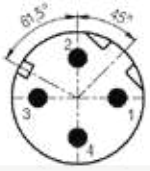
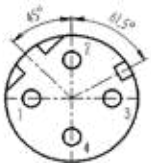
The Ex i connection elements are available in three distinct encoding options. Thanks to their high IP protection rating and broad ambient temperature range, these components are built to perform reliably in harsh environmental conditions.

2014/34/UE

NOTE: this connection elements are for the use with intrinsically safe circuits

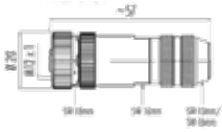


VARIANTS

Male A	Female A	Male B	Female B	Male D	Female D
					

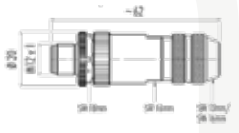
ITEM REFERENCES

COUPLER



Designation:	Type:	Connection:	Item No.:
4 Poles coupler	A	M12x1 - Ø6-8	4F0101
4 Poles coupler	A	M12x1 - Ø4-6	4F0102
4 Poles coupler	B	M12x1 - Ø4-6	4F0103
4 Poles coupler	B	M12x1 - Ø6-8	4F0104
4 Poles coupler	D	M12x1 - Ø6-8	4F0105
4 Poles coupler	D	M12x1 - Ø4-6	4F0106
	Coupler protection cap		4F0121

PLUG



Designation:	Type:	Connection:	Item No.:
4 Poles plug	A	M12x1 - Ø4-6	4F0107
4 Poles plug	A	M12x1 - Ø6-8	4F0108
4 Poles plug	B	M12x1 - Ø6-8	4F0109
4 Poles plug	B	M12x1 - Ø4-6	4F0110
4 Poles plug	D	M12x1 - Ø4-6	4F0111
4 Poles plug	D	M12x1 - Ø6-8	4F0112
	Plug protection cap		4F0122

ITEM REFERENCES

FLANGE SOCKET

Designation:	Type:	Occupancy:	Item No.:
4 Poles flange socket	A	1=bn / 2=wh / 3=bu / 4=bk	4F0113
4 Poles flange socket	B	1=bn / 2=wh / 3=bu / 4=bk	4F0114
4 Poles flange socket	D	1=ye / 2=wh / 3=or / 4=bu	4F0115
	Flange socket protection cap		4F0120

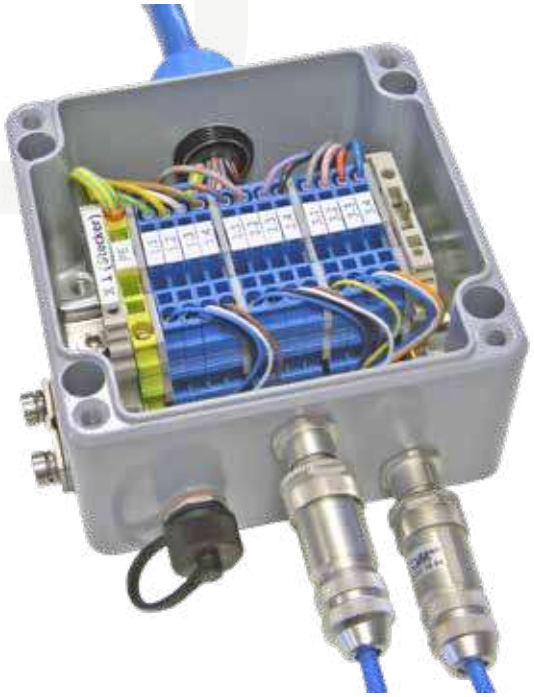
FLANGE PLUG

Designation:	Type:	Occupancy:	Item No.:
4 Poles flange plug	A	1=bn / 2=wh / 3=bu / 4=bk	4F0116
4 Poles flange plug	B	1=bn / 2=wh / 3=bu / 4=bk	4F0117
4 Poles flange plug	D	1=ye / 2=wh / 3=or / 4=bu	4F0118
	Flange plug protection cap		4F0119

TECHNICAL SPECIFICATIONS

Marking:	Ex II 1G Ex ia IIC T6 Ga
Certificate:	According to 2014/34/EU
Operating temperature:	-40°C to +40°C
Operating voltage:	max. 60V
Current consumption:	max. 2A
Connection:	Coupler+Plug: max. 4 x 0.75 mm^2 Flange socket + plug: 4 x 0.25 mm^2
Material:	Die-cast zinc (nickel plated)
Ingress protection:	IP66/67
Coupler + plug:	M12 x 1
Flange socket + plug:	M16 x 1.5

APPLICATIONS



4.8

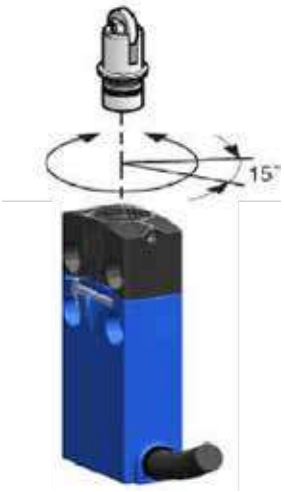
LIMIT SWITCHES

ATEX LIMIT SWITCHES

ZONES 1, 2 (gas) & 21, 22 (dust)

The XCWD limit switches is a safe bet for controlling movement. It benefit from the latest developments: modularity, compactness and a very broad range of actuators.

They are designed for intensive use and a very good repeatability.



They are provided in complete assemblies or variable composition with:
- **2 or 4 electrically separate snap action contacts.**
- **Can substitute the previous range XCWA and XCWF**

EU-Type Examination Certificate

Heads that can be adjusted from 15° to 15° on 360° relative to the body

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex d IIC T6 Gb II 2D Ex tb IIIC T85°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Zamac
Operating temperature:	-20°C to +60°C
Ingress protection:	IP66/67
Repeat accuracy:	0,05 mm on the tripping points 1 million operation cycles for actuator with end plunger
Shock resistance:	25 gn (18ms) according to IEC 60068-2-27
Vibration resistance:	5 gn according to IEC 60068-2-27
Rated thermal current:	6 A for 2 contacts according to versions, 3 A for 4 contacts
Rated insulation voltage:	400 V according to IEC 60947-5-1
Contact blocks:	Snap action - 1 x NC + 1 x NO or 2 x NC + 2 x NO
Resistance across terminals:	≤ 25 mΩ according to IEC 60255-7 category 3

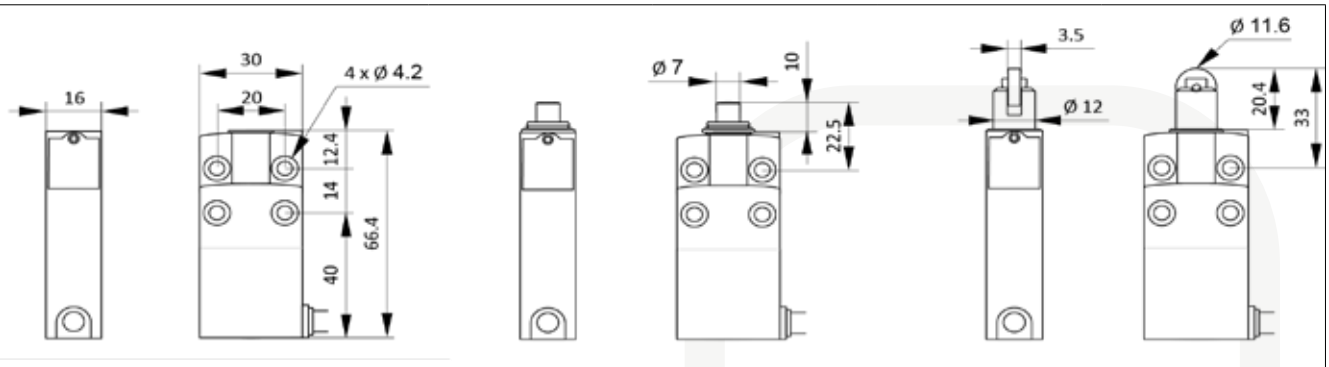
Electrical features of the contacts	
Switches with 2 contacts	Switches with 4 contacts
AC-15 ; C300 (Ue = 240 V, Ie = 1.5 A) DC-13 ; R300 (Ue = 250 V, Ie = 0.1 A)	AC-15 ; C300 (Ue = 240 V, Ie = 0.75 A) DC-13 ; R300 (Ue = 250 V, Ie = 0.1 A)

HEAD WITH STRAIGHT MOVEMENT. FIXING BY THE BODY					
Actuator type		Metal end plunger		Steel roller plunger	
		2 CONTACTS	4 CONTACTS	2 CONTACTS	4 CONTACTS
1 m cable length		XCWD2110L1	XCWD4110L1	XCWD2102L1	XCWD4102L1
2 m cable length		XCWD2110L2	XCWD4110L2	XCWD2102L2	XCWD4102L2
5 m cable length		XCWD2110L5	XCWD4110L5	XCWD2102L5	XCWD4102L5
10 m cable length		XCWD2110L10	XCWD4110L10	XCWD2102L10	XCWD4102L10

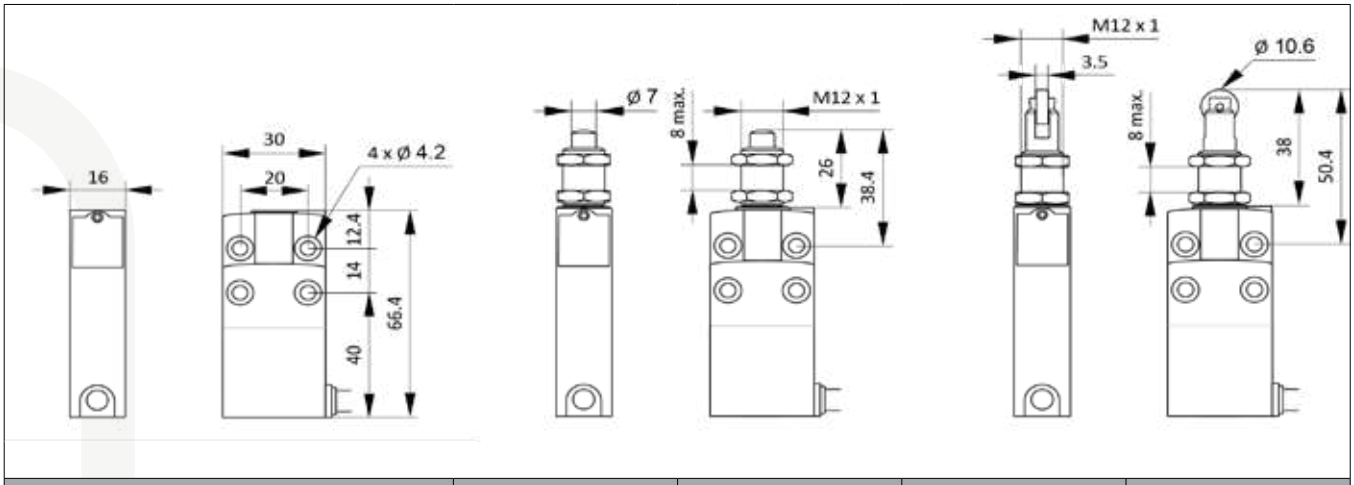
HEAD WITH STRAIGHT MOVEMENT. FIXING BY THE HEAD					
Actuator type		Metal end plunger - M12		Steel roller plunger - M12	
		2 CONTACTS	4 CONTACTS	2 CONTACTS	4 CONTACTS
1 m cable length		XCWD21F0L1	XCWD410L1	XCWD21F2L1	XCWD41F2L1
2 m cable length		XCWD21F0L2	XCWD410L2	XCWD21F2L2	XCWD41F2L2
5 m cable length		XCWD21F0L5	XCWD410L5	XCWD21F2L5	XCWD41F2L5
10 m cable length		XCWD21F0L10	XCWD410L10	XCWD21F2L10	XCWD41F2L10

HEAD WITH ANGULAR MOVEMENT. FIXING BY THE BODY					
Actuator type		Thermoplastic roller lever		Steel roller lever	
		2 CONTACTS	4 CONTACTS	2 CONTACTS	4 CONTACTS
1 m cable length		XCWD2115L1	XCWD4115L1	XCWD2116L1	XCWD4116L1
2 m cable length		XCWD2115L2	XCWD4115L2	XCWD2116L2	XCWD4116L2
5 m cable length		XCWD2115L5	XCWD4115L5	XCWD2116L5	XCWD4116L5
10 m cable length		XCWD2115L10	XCWD4115L10	XCWD2116L10	XCWD4116L10

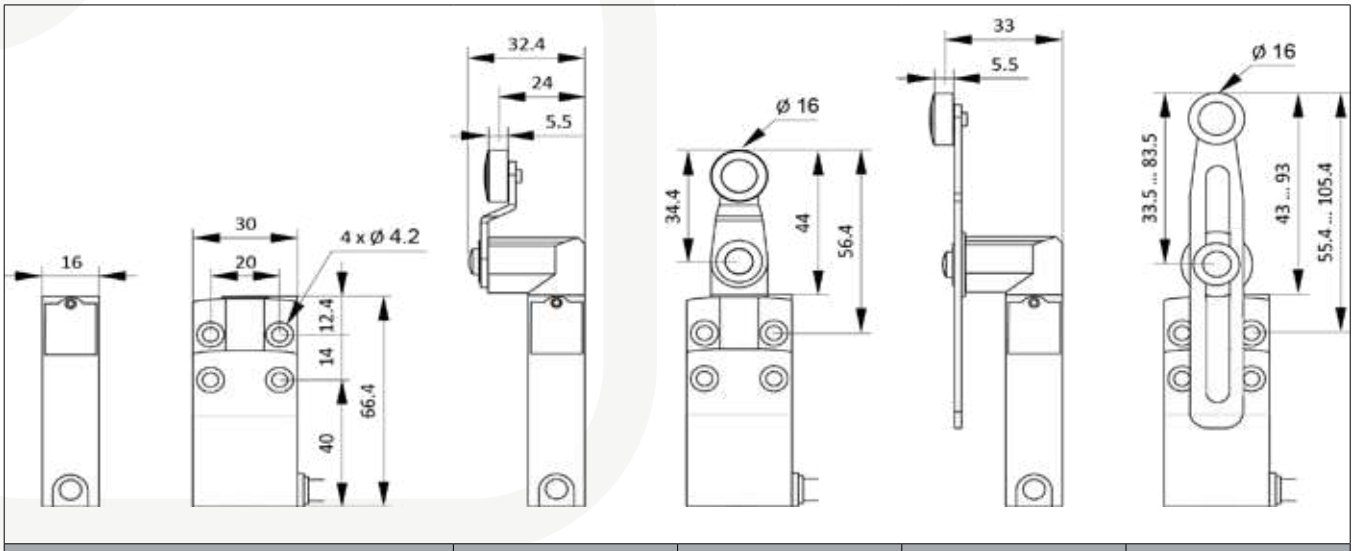
HEAD WITH ANGULAR MOVEMENT. FIXING BY THE BODY					
Actuator type		Lever variable length with thermoplastic roller		Lever variable length with steel roller	
		2 CONTACTS	4 CONTACTS	2 CONTACTS	4 CONTACTS
1 m cable length		XCWD2145L1	XCWD4145L1	XCWD2146L1	XCWD4146L1
2 m cable length		XCWD2145L2	XCWD4145L2	XCWD2146L2	XCWD4146L2
5 m cable length		XCWD2145L5	XCWD4145L5	XCWD2146L5	XCWD4146L5
10 m cable length		XCWD2145L10	XCWD4145L10	XCWD2146L10	XCWD4146L10



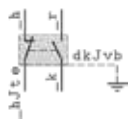
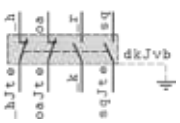
Switch actuation	On end		By 30° cam	
Maximum actuation speed:	0,5 m/s		0,5 m/s	
Mechanical durability:	10 million operating cycles			
Minimum force or torque for tripping:	8,5 N		7 N	
Minimum force or torque for positive opening:	42,5 N		35 N	
Cabling:	PvR Cable 5 x 0,75 mm² for 2-pole contact versions PvR Cable 9 x 0,34 mm² for 4-pole contact versions			



Switch actuation	On end		By 30° cam	
Maximum actuation speed:	0,5 m/s		0,1 m/s	
Mechanical durability:	10 million operating cycles			
Minimum force or torque for tripping:	8,5 N		7 N	
Minimum force or torque for positive opening:	42,5 N		35 N	
Cabling:	PvR Cable 5 x 0,75 mm² for 2-pole contact versions PvR Cable 9 x 0,34 mm² for 4-pole contact versions			



Switch actuation	By 30° cam		By 30° cam	
Maximum actuation speed:	0,1 m/s		1,5 m/s	
Mechanical durability:	10 million operating cycles			
Minimum force or torque for tripping:	7 N		0,1 N.m	
Minimum force or torque for positive opening:	35 N		0,5 N.m	
Cabling:	PvR Cable 5 x 0,75 mm² for 2-pole contact versions PvR Cable 9 x 0,34 mm² for 4-pole contact versions			

CONTACT BLOCKS	
	
Switches with 2-pole contacts NC + NO snap action	Switches with 4-pole contacts NC + NC + NO + NO snap action

ATEX LIMIT SWITCHES

ZONES 1, 2 (gas) & 21, 22 (dust)

The XCK and XCR ranges of ATEX certified limit switches are well known around the world for their reliability, design and flexibility of application.

The XCKW series are supplied with fitted cable gland for easy installation. XCKWMR are fitted for lifting equipment, conveyors, handling devices...

XCRA / B / TW are fitted for lifting equipment, conveyors...

EU-Type Examination Certificate

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex d e IIC T6 Gb II 2D Ex tb IIIC T85°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Zamac
Operating temperature:	XCKW: -20°C to +60°C XCR.W: -30°C to +60°C
Ingress protection:	IP65 according to EN/IEC 60529
Contact blocks:	500 V, 3 A

FOR LIFTING EQUIPMENT, CONVEYORS - FIXING DISTANCE 85 x 75 mm

Actuator type	Square rod 6 mm spring return position	Thermoplastic roller lever Ø 30 mm	Thermoplastic roller lever Ø 50 mm	Metallic square rod in cross, stay put	Conveyor belt shift monitoring	
					Lever galvanized	Lever in stainless steel
Two 2-pole NC + NO contacts, both operate in each direction	XCRAW111	XCRAW121	XCRAW151	XCREW181 (2)		
Two 2-pole NC + NO contacts, one operates in each direction	XCRBW111	XCRBW121	XCRBW151	XCRFW171 (3)		
2 single contacts NO + NC					XCRTW115	XCRTW215
Actuation speed	1,5 m/s					
Durability	10 million operations				0.3 million operations	
Contact type	Snap action					
Cable entry	1 x M20 (8 - 13 mm)					

(2) Metallic rods in cross
(3) Metallic rods in "T"

OVERAL USE - FIXING DISTANCE 41 mm

Actuator type	Metal end plunger	Steel roller plunger	Thermoplastic roller lever	Thermoplastic roller lever	"Cat's wisker"
NO + NC	XCKWM2110H29	XCKWM2102H29	XCKWM2121H29	XCKWM2115H29	XCKWM2106H29
Actuation speed	0,5 m/s		1,5 m/s		0,5 m/s
Durability	20 million operations				10 million operations
Contact type	Snap action				
Cable entry	2 x blind plug | 1 x M20 (8 - 13 mm)				

COMPACT RANGE - FIXING DISTANCE 20 mm

Actuator type	Metal end plunger	Booted metal end plunger	Steel roller plunger	Plastic roller, horizontal actuation	Plastic roller, vertical actuation	Plastic roller, vertical or horizontal actuation
NC + NC	XCKWD2110P16	XCKWD2111P16	XCKWD2102P16	XCKWD2121P16	XCKWD2127P16	XCKWD2128P16
NO + NC	XCKWD2910P16	XCKWD2911P16	XCKWD2902P16	XCKWD2921P16	XCKWD2927P16	XCKWD2928P16
Actuation speed	0,5 m/s			1 m/s		
Durability	15 million operations		10 million operations	15 million operations		
Contact type	Snap action					
Cable entry	1 x M16 (5 - 8 mm)					

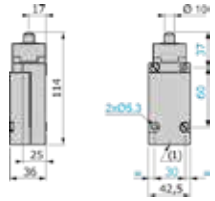
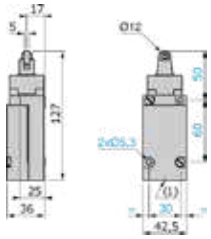
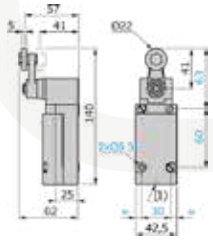
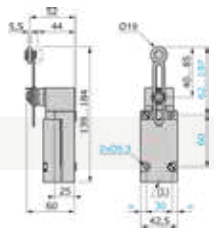
COMPACT RANGE - FIXING DISTANCE 20 mm

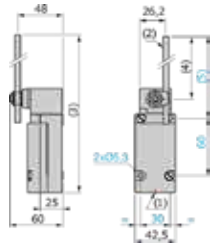
Actuator type	Thermoplastic roller lever	Thermoplastic roller lever Ø 50 mm	Variable length plastic roller lever	Variable length plastic roller Ø 50 mm	"Cat's wisker"	M18 head Metal end plunger	M18 steel roller end plunger
NC + NC	XCKWD2118P16	XCKWD2139P16	XCKWD2145P16	XCKWD2149P16	XCKWD2106P16	XCKWD21H0P16	XCKWD21H2P16
NO + NC	XCKWD2918P16	XCKWD2939P16	XCKWD2945P16	XCKWD2949P16	XCKWD2906P16	XCKWD29H0P16	XCKWD29H2P16
Actuation speed	1,5 m/s				1 m/s	0,5 m/s	
Durability	10 million operations				5 million operations	10 million operations	
Contact type	Snap action						
Cable entry	1 x M16 (5 - 8 mm)						

COMPACT RANGE - FIXING DISTANCE 30 x 60 mm

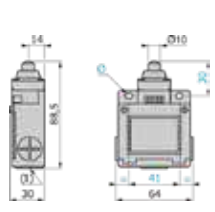
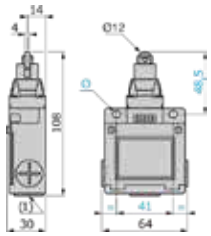
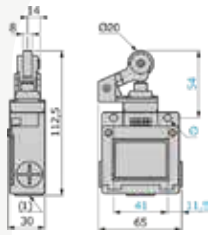
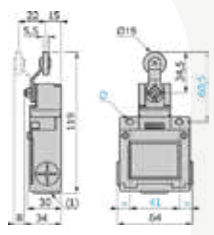
Actuator type	**Metal end plunger**	**Steel roller plunger**	**Steel roller lever**	**Thermoplastic roller lever**	**Variable length thermoplastic roller lever**	**Round lever Ø 6 mm polyamide L = 200 mm**
NO + NC	XCKWJ2161H29	XCKWJ2167H29	XCKWJ210513H29	XCKWJ210511H29	XCKWJ210541H29	XCKWJ210559H29
Actuation speed	0,5 m/s	1 m/s	1,5 m/s			
Durability	30 million operations	25 million operations	30 million operations		20 million operations	
Contact type	Snap action					
Cable entry	1 x M20 (8 - 13 mm)					

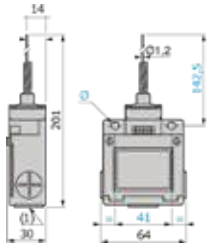
XCKWJ - CLASSIC RANGE

XCKWJ2161H29	XCKWJ2167H29	XCKWJ210513H29 - XCKWJ210511H29	XCKWJ210541H29
			

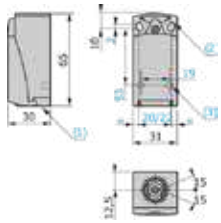
XCKWJ210559H29		
		1) 1 entry ISO M20 x 1.5 for cable gland 2) Lever Ø 6 mm, length 120 mm Ø) 2 slotted holes 5.3 x 7.3 mm

XCKWM - CLASSIC RANGE

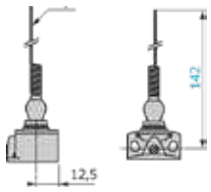
XCKWM2110H29	XCKWM2102H29	XCCKWM2121H29	XCKWM2115H29
			

XCKWM2106H29	
	1) 3 entries ISO M20 x 1.5 for cable gland 2) 2 holes x Ø 4 Ø) 2 slotted holes 5.2 x 6.2 mm

XCKWD - COMPACT RANGE



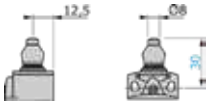
ZCE06



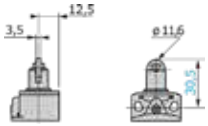
1) 1 entry ISO M16x1,5for cable gland
2) 2 slotted holes Ø 4.3 x 6.3 mm and fixing distance 22 mm or 2 holes Ø 4.3 mm and fixing distance 20 mm
3) 2 holes for mounting Ø 3 mm, depth 4 mm

ZCE10

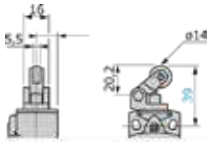
ZCE11



ZCE02



ZCE21



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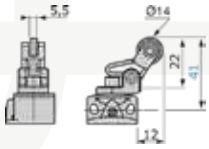

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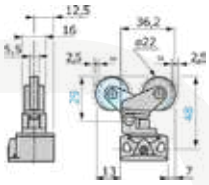

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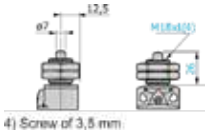
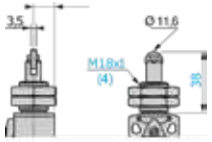
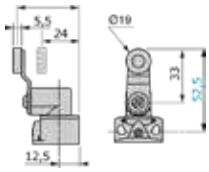


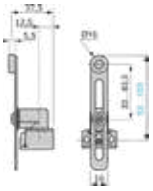
ZCEH2



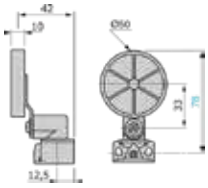
ZCE01 + ZCY18



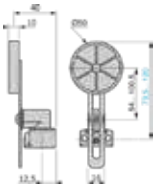
ZCE01 + ZCY45



ZCEH01 + ZCY39

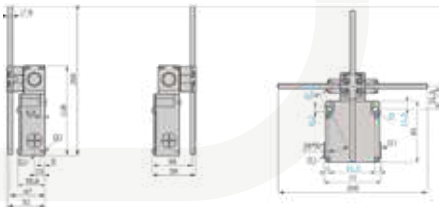


ZCE01 + ZCY49



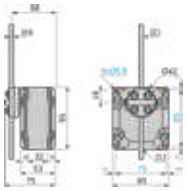
XCKWMR, XCRA/B/TW

XCKWMR54D1H29 / XCKWMR54D2H29

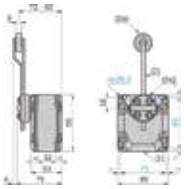


1) 3 entries ISO M20 x 1.5 for cable gland
2) 2 centring holes Ø 3.9 mm
Ø) 2 slotted holes 6.2 x 6.5 mm

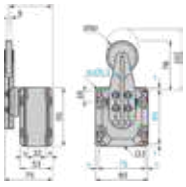
XCRAW111 - XCRBW111



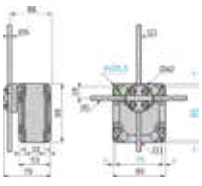
XCRAW121 - XCRBW121



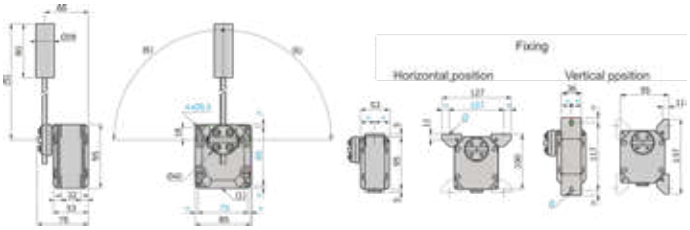
XCRAW151 - XCRBW151



XCREW181 - XCREW171



XCRTW115 / XCRTW215



1) 1 entry ISO M20 x 1.5 for cable gland
2) Lever length: 200 mm
3) Lever length + roller: 160 mm
4) Lever length: 300 mm for XCRPW and 200 mm for XCREW
5) Max: 200 mm - Min: 83 mm
6) Max: 90°
Ø) 2 slotted holes 6.2 x 6.5 mm

ATEX LIMIT SWITCHES

ZONES 1, 2 (gas) & 21, 22 (dust)

Ex-proof key-lock safety switches ideal to control gates, protections, carters and any moving mechanical part.

The stainless steel operating key has to be fixed to the mobile part of the protection.
The key is removed from the switch when opening the protection and a mechanism ensures the positive opening of the electric contact.

Applicable to any type of protection (hinged, removable or sliding).
It is possible to operate the switch with a key allowing the restart only by inserting the same key.

Electrical power or timers not required.

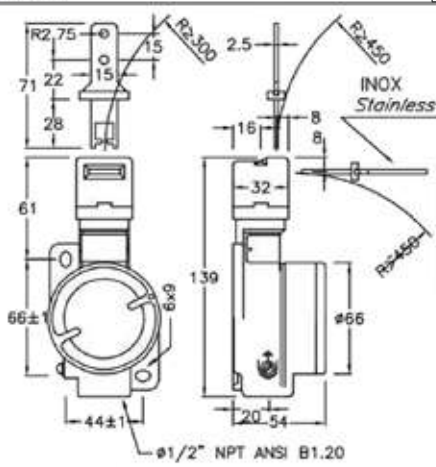
EU-Type Examination Certificate

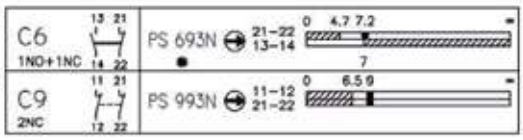
ITEM REFERENCES			
Designation:	Contact unit:		Item No.:
PS 693N - Key lock safety switch with positive opening	C6 (1NO+1NC)		PS 693N
PS 993N - Key lock safety switch with positive opening	C9 (2NC)		PS 993N
PS 6R2N - Key lock safety switch with manual mechanical delay and positive opening	C6 (1NO+1NC)		PS 6R2N
PS 9R2N - Key lock safety switch with manual mechanical delay and positive opening	C9 (2NC)		PS 9R2N

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex d IIC T6/T5 Gb II 2D Ex tb IIIC T85°C/T100°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Housing:	Aluminium light alloy. Externalepoxy RAL7000
Ingress protection:	IP66/67
Frequency of operations:	20/min up to +40°C
Number of cycles:	8 - 10 millions
Nominal current:	I: 10 A
Insulating voltage:	U_i: 500 Vac / 600 Vdc
Impulse withstand voltag:	U_{imp}: 6 kV
Short circuit current:	1000 AV
Short circuit protection:	Fuse 10A 500 V
Minimum conductor section:	1.5 mm^2
Max. current density:	5 A/mm^2
Cable entries:	1 x 1/2" NPT. In option M20X1.5. (Cable gland not included)

Contact blocks	Item N°.	Travel diagram

With Key

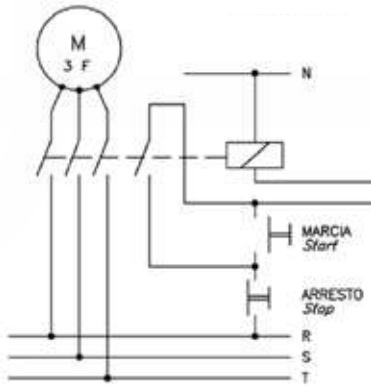




Legend

Positive opening

Wiring example

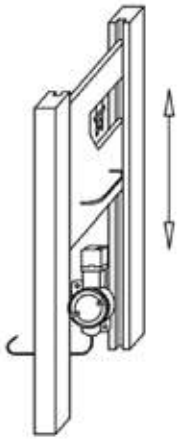


Key safety switch

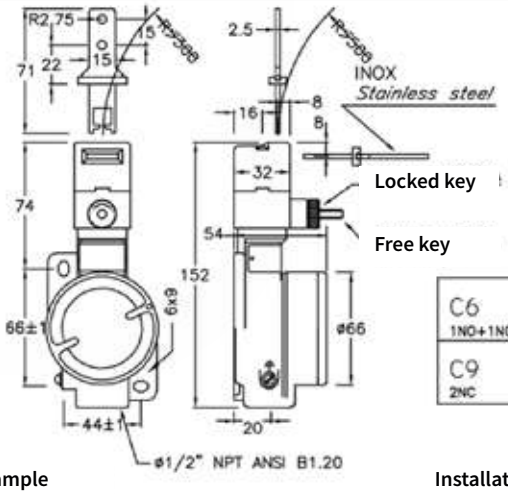
21-22 Safety contact

13-14 Auxiliary contact

Installation example



With Key Manual Mechanical Delay



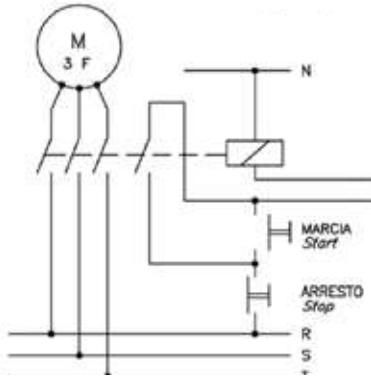
Locked key

Free key

Legend

Positive opening

Wiring example

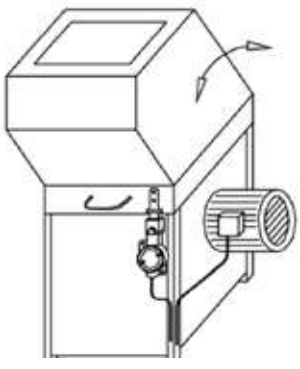


Key safety switch

21-22 Safety contact

13-14 Auxiliary contact

Installation example



ATEX LIMIT SWITCHES

ZONES 1, 2 (gas) & 21, 22 (dust)

Ex-proof cable operated safety switches ideal to control any moving mechanical parts especially conveyors.

Self-diagnostic for the correct operation of the unit by opening the contacts in case of cable loosening or breakage detection.

The version with reset includes the indicator of correct tension of the cable as well as a mechanical indicator of the status of the contacts. Contacts remain open after the intervention even if the cable is released.

Suitable for cables with free span up to 16 m and, with appropriate extensions, even beyond.

EU-Type Examination Certificate

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex d IIC T6/T5 Gb II 2D Ex tb IIIC T85°C/T100°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Aluminium light alloy. Externalepoxy RAL7000
Operating temperature:	-20°C to +40°C
Ingress protection:	IP66/67
Frequency of operations:	20/min up to +40°C
Number of cycles:	8 - 10 millions
Nominal current:	I: 10 A
Insulating voltage:	Ui: 500 Vac / 600 Vdc
Impulse withstand voltag:	Uimp: 6 kV
Short circuit current:	1000 AV
Short circuit protection:	Fuse 10A 500 V
Minimum conductor section:	1.5 mm^2
Max. current density:	5 A/mm^2
Cable entries:	1 x 1/2" NPT. In option M20X1.5. (Cable gland not included)

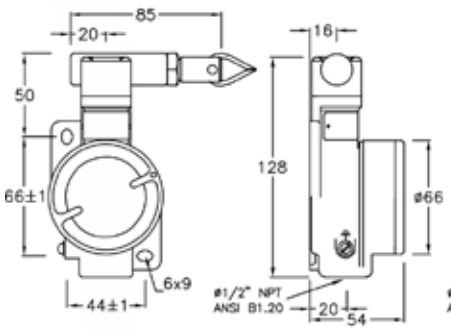
CONTACT UNIT

	AC15 (50-60Hz)			DC13 (d.c.)		
U_e (V)	250	400	500	24	125	250
I_e (A)	6	4	1	6	1.1	0.4

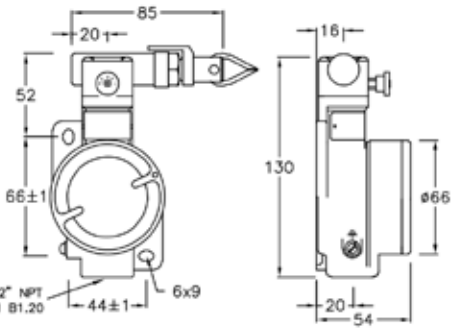
ELECTRICAL DIAGRAM

Type	Contact	Diagram	Operating	Type	Contact	Diagram	Operating
C2	1NO+1NC 1NO+1NC		Snap action	C10	2NO		Slow action
C5	1NO+1NC		Snap action	C11	2NC		Snap action
C6	1NO+1NC		Slow action	C14	2NC		Slow action
C7	1NO+1NC		Overlapping slow break	C15	2NO		Slow action
C9	2NO		Slow action	C20	1NO+2NC		Slow action

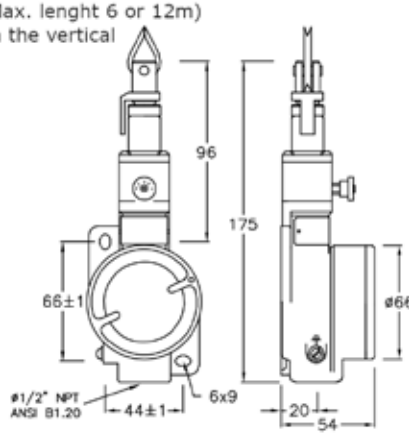
WITH CONNECTING ROD FOR ROPE



WITH CONNECTING ROD RESET ROPE ON THE RIGHT (684-984) AND LEFT (683-983)

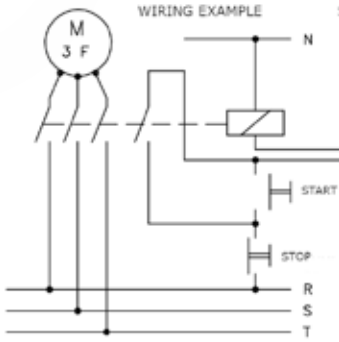


WITH CONNECTING ROD RESET ROPE (Max. lenght 6 or 12m) on the vertical

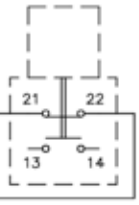


CONTACT BLOCKS	CATALOGUE No.	TRAVEL DIAGRAMS	CATALOGUE No.	TRAVEL DIAGRAMS	CATALOGUE No.	TRAVEL DIAGRAMS
C6 1NO+1NC (13 21 / 14 22)	PS 680N	21–22 / 13–14: 0 4.0 8 12.6 14 16; 3.5 S 13	PS 684N PS 683N	21–22 / 13–14: 0 8 14 16; R4.5 S R12	PS 678	21–22 / 13–14: 0 4 8 8.5; R1.5 S R6.5
C9 2NC (11 21 / 12 22)	PS 980N	11–12 / 21–22: 0 3.5 8 13 16; S 14.5	PS 984N PS 983N	11–12 / 21–22: 0 8 14 16; R4.5 S R12	PS 978	11–12 / 21–22: 0 4 8 8.5; R1.5 S R6.5

WIRING EXAMPLE



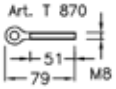
SWITCH WITH CONNECTING ROD FOR ROPE



21–22 SAFETY CONTACT

13–14 AUXILIARY CONTACT

ACCESSORIES



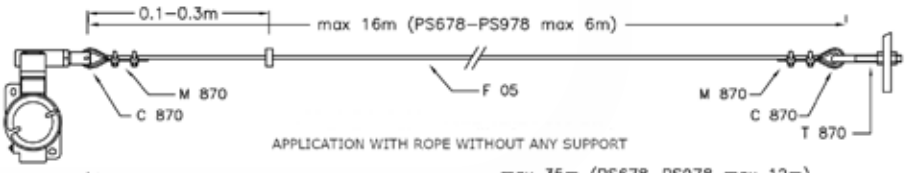
STAY BOLT SUITABLE FOR SETTING THE ROPE IN TENSION CORRECTLY (pcs. 1)

Art. M 870 — ROPE CLAMP (pcs. 2 or 4)

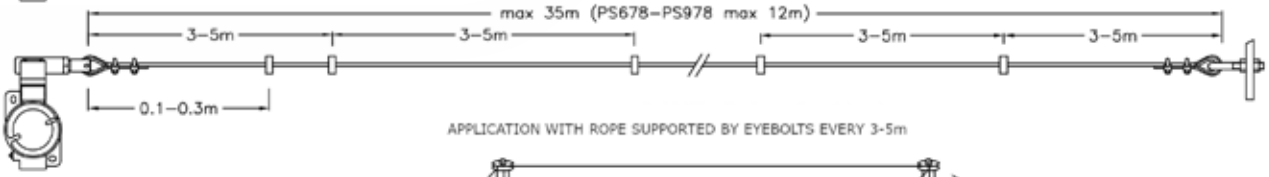
Art. C 870 — THIMBLE (pcs. 1)

Art. F 05 — RED PLASTICIZED STEEL ROPE Ø5mm (coils of 100m)

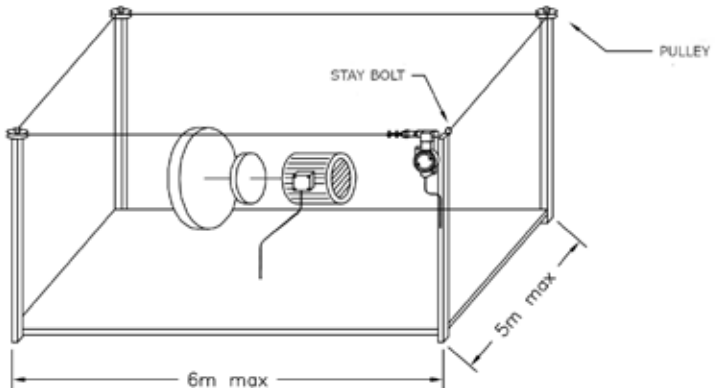
INSTALLATION EXAMPLES



APPLICATION WITH ROPE WITHOUT ANY SUPPORT



APPLICATION WITH ROPE SUPPORTED BY EYEBOLTS EVERY 3-5m



STARTING FORCE: 147N

END FORCE: 235N

POSITIVE OPENING

ATEX LIMIT SWITCHES

ZONES 1, 2 (gas) & 21, 22 (dust)

Explosion-proof buoyant operated limit switch, certified for use in explosive atmosphere, zones 1 & 2 for gas and zones 21 & 22 for dust.

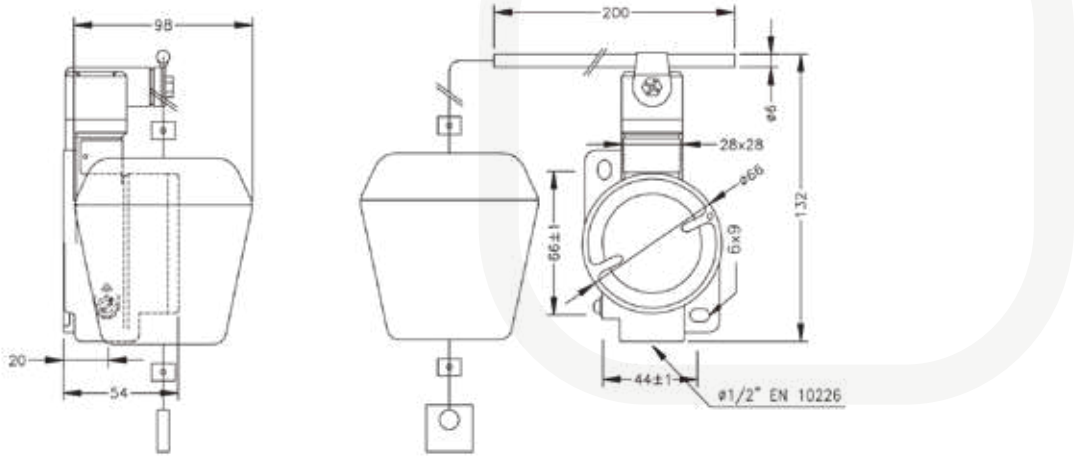
Buoyant in Moplen, cable in Nylon (2m) and counterweight in Zinc Plated Steel. Tags and screws in Stainless Steel.

The switch is normally supplied with actuator acting in both directions (actuator with float left or right).

EU-Type Examination Certificate

ITEM REFERENCES					
Designation:	Contact type:	Contact:	Current(A):	Voltage (V):	Item No.:
PS 10AG	Single pole	1NA+1NC	I max = 10A	V max = 220V AC/DC	4D0401
PS 20AG	Double pole	2NA+2NC	I max = 10A	V max = 220V AC/DC	4D0402

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex d IIC T6/T5 Gb II 2D Ex tb IIIC T85°C/T100°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Aluminium light alloy
Colour:	External Epoxy RAL7000
Operating temperature:	-20°C to +40°C
Ingress protection:	IP66/67
Cable entries:	1/2" NPT. M20X1.5 on request. (Cable gland not included)



ATEX LIMIT SWITCHES

ZONES 1, 2 (gas) & 21, 22 (dust)

The pull-wire switches are installed above or near conveyors, machines or installations which can not be secured by other devices such as protective covers.

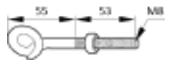
They provide a reliable and proven solution for all situations where security is fundamental especially in potentially explosive atmospheres.

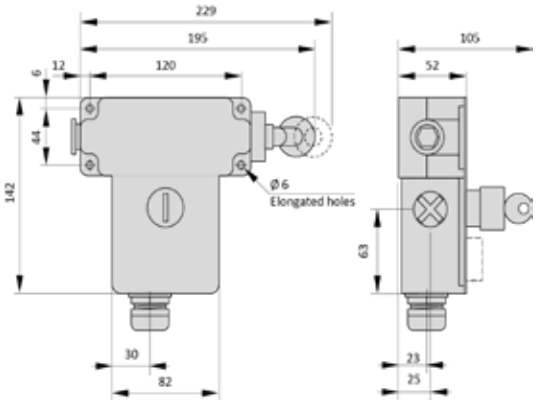
They are designed for explosive atmospheres gas/vapours or dust and meet the highest levels of protection.

EU-Type Examination Certificate

ITEM REFERENCES			
Designation:	**Operating anchoring cable point:**	**Contact:**	**Item No.:**
Reset by booted push button	To left	1 x NC + NO	4D0601
Reset by booted push button	To left	1 x NC + NC	4D0602
Reset by booted push button	To right	1 x NC + NO	4D0603
Reset by booted push button	To right	1 x NC + NC	4D0604
Reset by key release push button - Key 421	To left	1 x NC + NO	4D0605
Reset by key release push button - Key 421	To left	1 x NC + NC	4D0606
Reset by key release push button - Key 421	To right	1 x NC + NO	4D0607
Reset by key release push button - Key 421	To right	1 x NC + NC	4D0608

TECHNICAL SPECIFICATIONS	
Marking:	II 2GD Ex d e IIC T6 Gb Ex tb IIIC T85°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Zamac, carbon steel
Features of the contact block:	U_{max} = 250 V | I_{max} = 3 A
Mechanical endurance of the head:	Head: 5 million operations - Contact block: 1 million operations
Operating temperature:	-20°C to +60°C
Ingress protection:	IP65
Cable entries:	1xM20 cable gland

ACCESSORIES		
Designation:		**Item No.:**
	Cable pulley support	4D0609
	Pulley for Ø5 mm cable max.	4D0610
	Cable end protector for cable Ø3,2 mm	4D0611
	Cable end protector for cable Ø5 mm	4D0612
	Swivelling cable support	4D0613
	End spring	4D0614



4.9 EARTHING & GROUNDING DEVICES

PTA 10 GROUNDING CLAMPS

Zones 1, 2, 21, 22

ATEX GROUNDING CLAMPS | ZONES 1, 2 (gas) & 21, 22 (dust)

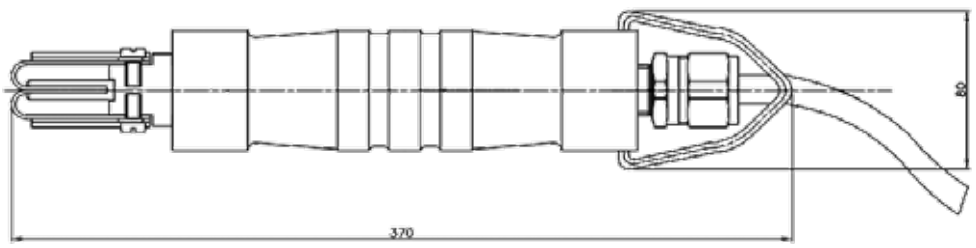
Grounding clamp indispensable whenever it is required the temporary grounding of tank trucks or tankers during transfer either of liquids or hazardous substances.

The fastening is secured by two brass springs of great strength.

EU-Type Examination Certificate

ITEM REFERENCES					
Designation:	Insulation voltage:	Gripping capacity:	Current (A):	Cable section:	Item No.:
PTA 10	3000 V	0,5mm ~ 3mm	I max = 10A	6 - 10 - 16 mm²	6D0401

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex d IIC T6/T5 II 2D Ex tD A21 T85°C - T100°C
Certificate:	EU-Type Examination Certificate
Sleeve:	Polyamide
Anchor hook:	Stainless steel AISI 304
Contact spring:	Brass
Weight:	1 kg
Operating temperature:	-20°C to +40°C
Ingress protection:	IP65
Cable entries:	1x1/2" NPT. Nickel plated cable gland (non armoured cable) External diameter (4 - 7 mm)



ATEX GROUNDING CLAMPS

ZONES 1, 2 (gas) & 21, 22 (dust)

ATEX certified grounding clamp specially designed for use in hazardous areas. Iseo I pliers are particularly suitable for equipping vehicles, tow trucks and tanks or to electrically ground mixing tanks.

EU-Type Examination Certificate

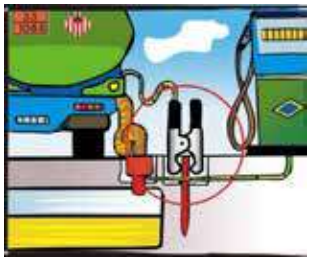
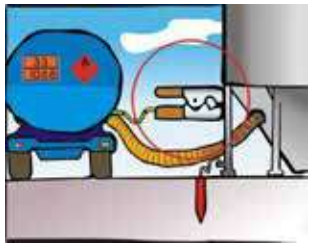
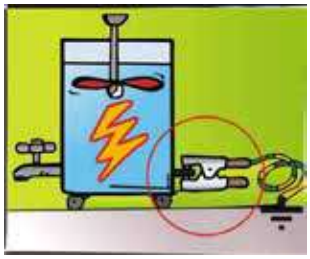
The electrical continuity is ensured by the carbonitrided steel contact tips which make a firm connection to any foothold having a thickness between 3 and 20 mm.

Equipped with tearingproof junction between the cable of the user and the one of the clamp.

ITEM REFERENCES

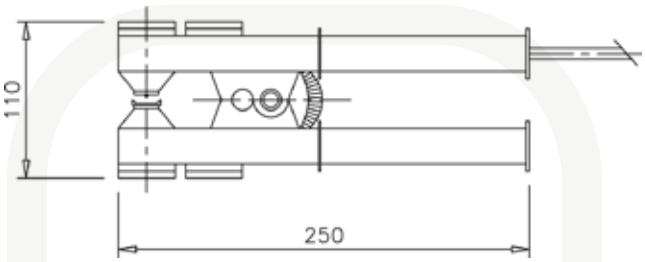
Designation:	Insulation voltage:	Gripping capacity:	Current (A):	Cable section:	Cable lenght:	Item No.:
ISEO I	3000 V	3mm ~ 20mm	I max = 10A	1 x 6 mm²	11 m	6D0501

APPLICATION

Tanker trucks	Silos	Miscellaneous	Big Bags
			

TECHNICAL SPECIFICATIONS

Marking:	II 2G Ex d IIC T6 II 2D Ex tb IIIC T85°C Db
Certificate:	EU-Type Examination Certificate
Material:	Aluminium
Contact tips:	Carbonitrided steel
Ingress protection:	IP65
Weight:	0,700 kg
Operating temperature:	-20°C to +55°C



NOTES

Check daily the sliding of the crimping rod within the body of the clamp. Keep the coupling clean and lubricated with silicone spray. This is necessary to ensure grounding while making sure that any disruptive discharges occur in the inner chamber, purposely isolated, and not in the external environment.

For correct operation of the clamp it is recommended a monthly check of the crimping plugs, subject to wear; this ensures a perfect contact with the terminal which are linked to. Check the integrity of the electrical cable to the ground terminal in the vicinity of the clamp itself; verify the electrical continuity (at least once a month).

For use in potentially explosive atmospheres caused by dusts the user must provide a regular cleaning to limit the formation of layers of dust.

ISEO II GROUNDING CLAMPS

Zones 1, 2, 21, 22

ATEX GROUNDING CLAMPS

ZONES 1, 2 (gas) & 21, 22 (dust)

ATEX certified grounding clamp specially designed for use in hazardous areas. Iseo II pliers are the ideal tool for tanker loading platform equipped with electronic devices to signal correct grounding.

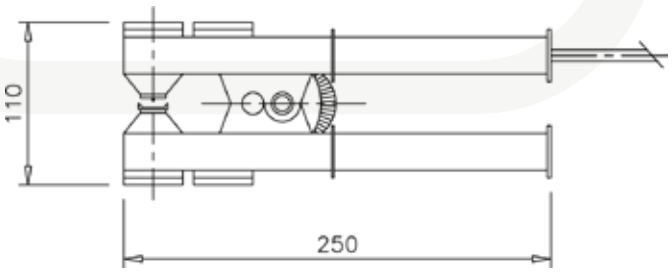
EU-Type Examination Certificate

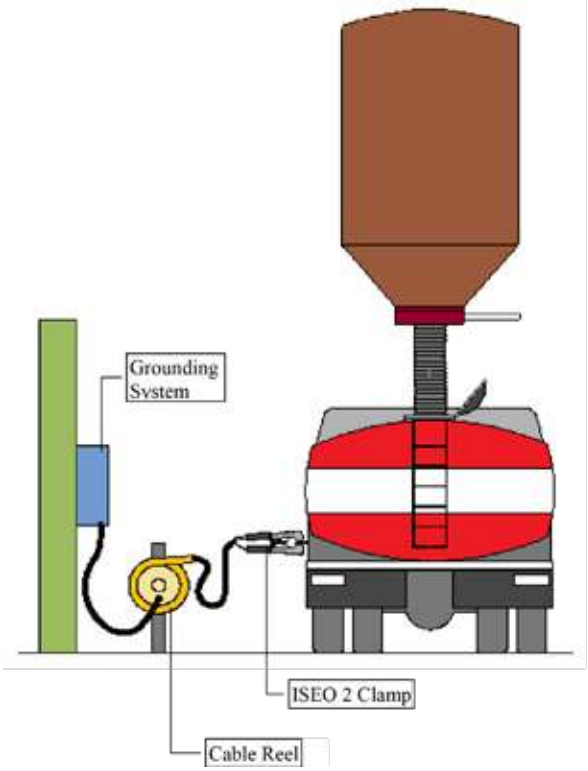
The electrical continuity is ensured by the carbonitrided steel contact tips which make a firm connection to any foothold having a thickness between 3 and 20 mm.

Equipped with tearingproof junction between the cable of the user and the one of the clamp.

ITEM REFERENCES						
Designation:	Insulation voltage:	Gripping capacity:	Current (A):	Cable section:	Cable lenght:	Item No.:
ISEO II	3000 V	3mm ~ 20mm	I max = 10A	3 x 3 mm²	11 m	6D0502

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex d IIC T6 II 2D Ex tb IIIC T85°C Db
Certificate:	EU-Type Examination Certificate
Material:	Aluminium
Contact tips:	Carbonitrided steel
Ingress protection:	IP65
Weight:	0,700 kg
Operating temperature:	-20°C to +55°C





NOTES

Check daily the sliding of the crimping rod within the body of the clamp. Keep the coupling clean and lubricated with silicone spray. This is necessary to ensure grounding while making sure that any disruptive discharges occur in the inner chamber, purposely isolated, and not in the external environment.

For correct operation of the clamp it is recommended a monthly check of the crimping plugs, subject to wear; this ensures a perfect contact with the terminal which are linked to. Check the integrity of the electrical cable to the ground terminal in the vicinity of the clamp itself; verify the electrical continuity (at least once a month).

For use in potentially explosive atmospheres caused by dusts the user must provide a regular cleaning to limit the formation of layers of dust.

70SG PASSIVE GROUNDING CLAMPS WITH SPIRAL CABLE

Zones 0, 1, 2, 20, 21, 22

ATEX GROUNDING CLAMPS

ZONES 0, 1, 2 (gas) & 20, 21, 22 (dust)

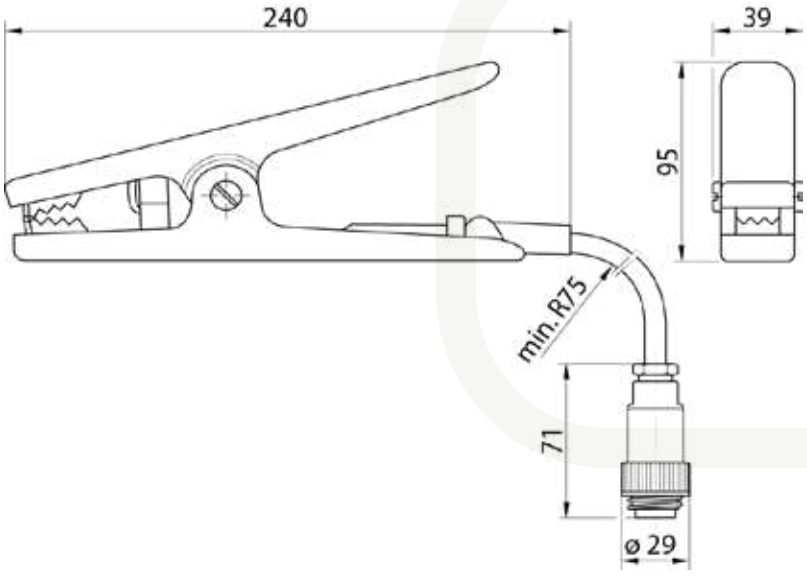
Passive ATEX grounding clamps for the temporary grounding of tank trucks or tankers during transfer either of liquids or hazardous substances. Electrostatic charges are discharged effectively

Supplied with 5m of orange spiral cable, assembled with an ELM00714 plug. (1 m extendable to max. 5 m).

EU-Type Examination Certificate

ITEM REFERENCES				
Designation:	Clamping width:	Clamping force:	Spiral cable lenght:	Item No.:
70SG	35 mm	140 N ±20%	5 m	6D0710

70SG CLAMP TECHNICAL SPECIFICATIONS	
Clamp Marking:	II 1G IIB T6 Ga, II 2G IIC T6 Gb, II 1D T80°C Da
Certificate:	EU-Type Examination Certificate
Clamp material:	Stainless steel
Operating temperature:	-20°C to +70°C
Ground cable: (color: orange)	Oil and gasoline resistant control lead H07BQ-F, 3 x 1.5 mm^2 Temperature range –40...+90°C With fixed wire end ferrule 4-poles coupling plug
Dimensions:	See fig
Weight:	Approx. 0.6 kg
Earth leakage resistance:	235 kOhm ±10%
Max. discharge voltage:	I max = 10A
Chemical resistance:	Oil and gasoline



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PROFI-LINE 106-1 GROUNDING CLAMPS

Zones 0, 1, 2, 20, 21, 22

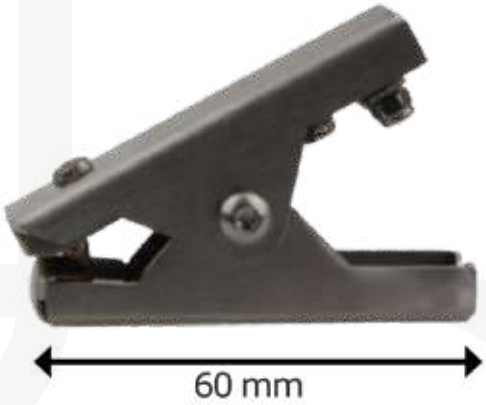
ATEX GROUNDING CLAMPS

ZONES 0, 1, 2 (gas) & 20, 21, 22 (dust)

The grounding clamp PROFI-line 106-1 is suitable for all common applications in which the smallest components must be grounded. Due to the heavy design of the grounding clamp, it is also suitable for the roughest environmental conditions.

The stainless steel teeth are hardened and therefore particularly durable.
When the grounding clamp is not in use, the teeth are protected by the existing relief holes in the clamp.

EU-Type Examination Certificate



These grounding clamps are especially made for discharging electrostatic charge from potentially endangered system parts. Sharp stainless steel teeth get through insulating layers such as paint, rust, dirt and grease thanks to the high pressure of the spring.
In this way an effective “metal-to-metal” connection can be created and a safe grounding guaranteed.

- Hardened stainless steel teeth for long life.
- Approval for Zone 0 and Zone 20 according to Directive 2014/34/EU.
- All metallic parts are made of stainless steel.
- High contact pressure of the clamp, due to a strong spring.

ITEM REFERENCES	
Designation:	**Item No.:**
PROFI-line 106-1	6D0630

TECHNICAL SPECIFICATIONS	
Marking:	II 1G Ex h IIC T6 Gb II 1D Ex h IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Material:	Stainless steel 1.4310
Side lenght:	60 mm
Opening angle:	15 mm
Connection type:	1-core via M3 eyelet (max. 4mm²)
Stainless steel teeth:	Hardened, 2 pieces (mounted on one leg side)

PROFI-LINE 114-1 GROUNDING CLAMPS

Zones 0, 1, 2, 20, 21, 22

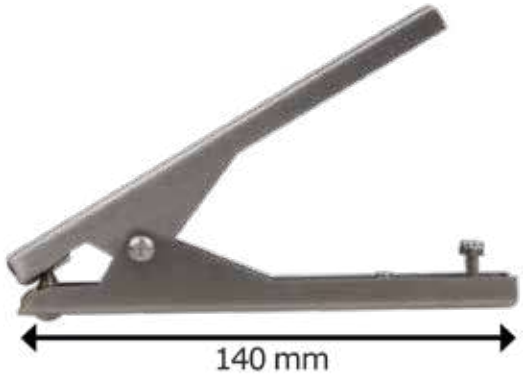
ATEX GROUNDING CLAMPS

ZONES 0, 1, 2 (gas) & 20, 21, 22 (dust)

The grounding clamp PROFI-line 114-1 is suitable for all common applications, such as grounding of drums, containers and canisters. Due to the heavy design of the grounding clamp, it is also suitable for the roughest environmental conditions.

The built-in stainless steel teeth are hardened and therefore particularly durable.
When the grounding clamp is not in use, the teeth are protected by the existing relief holes in the clamp.

EU-Type Examination Certificate



These grounding clamps are especially made for discharging electrostatic charge from potentially endangered system parts. Sharp stainless steel teeth get through insulating layers such as paint, rust, dirt and grease thanks to the high pressure of the spring.
In this way an effective “metal-to-metal” connection can be created and a safe grounding guaranteed.

- Hardened stainless steel teeth for long life.
- Approval for Zone 0 and Zone 20 according to Directive 2014/34/EU.
- All metallic parts are made of stainless steel.
- High contact pressure of the clamp, due to a strong spring.

ITEM REFERENCES	
Designation:	**Item No.:**
PROFI-line 114-1	6D0640

TECHNICAL SPECIFICATIONS	
Marking:	II 1G Ex h IIC T6 Gb II 1D Ex h IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Material:	Stainless steel 1.4310
Side lenght:	140 mm
Opening angle:	15 mm
Connection type:	1-core via M3 eyelet (max. 4mm²)
Stainless steel teeth:	Hardened, 2 pieces (mounted on one leg side)

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PROFI-LINE 123-1 GROUNDING CLAMPS

Zones 0, 1, 2, 20, 21, 22

ATEX GROUNDING CLAMPS

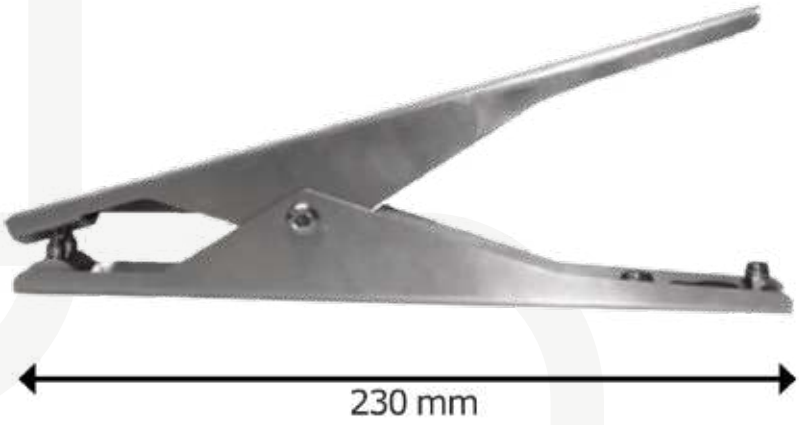
ZONES 0, 1, 2 (gas) & 20, 21, 22 (dust)

The grounding clamp PROFI-line 123-1 is suitable for all common and rough application areas, such as grounding of drums, containers and canisters, as well as grounding of trucks, trucks and IBCs. Due to the heavy design of the grounding clamp, it is also suitable for the roughest environmental conditions.

The built-in stainless steel teeth are hardened and therefore particularly durable.
When the grounding clamp is not in use, the teeth are protected by the existing relief holes in the clamp.

Due to the generous design, this clamp can be operated perfectly even when wearing gloves.

EU-Type Examination Certificate



These grounding clamps are especially made for discharging electrostatic charge from potentially endangered system parts. Sharp stainless steel teeth get through insulating layers such as paint, rust, dirt and grease thanks to the high pressure of the spring.
In this way an effective “metal-to-metal” connection can be created and a safe grounding guaranteed.

- Hardened stainless steel teeth for long life.
- Approval for Zone 0 and Zone 20 according to Directive 2014/34/EU.
- All metallic parts are made of stainless steel.
- High contact pressure of the clamp, due to a strong spring.

ITEM REFERENCES	
Designation:	**Item No.:**
PROFI-line 123-1	6D0650

TECHNICAL SPECIFICATIONS	
Marking:	II 1G Ex h IIC T6 Gb II 1D Ex h IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Material:	Stainless steel 1.4310
Side lenght:	230 mm
Opening angle:	40 mm
Connection type:	1-core via M8 eyelet (max. 10mm²)
Stainless steel teeth:	Hardened, 2 pieces (mounted on one leg side)

PROFI-LINE 115-1 GROUNDING CLAMPS

Zones 0, 1, 2, 20, 21, 22

ATEX GROUNDING CLAMPS

ZONES 0, 1, 2 (gas) & 20, 21, 22 (dust)

EU-Type Examination Certificate

The grounding clamp PROFI-line 115-1 is suitable for all common applications in which unpainted containers, BIG-BAGs, pipes or container handles must be grounded. Due to the heavy construction of the grounding clamp it is also suitable for roughest environmental conditions.

These grounding clamps are especially made for discharging electrostatic charge from potentially endangered system parts. Sharp stainless steel teeth get through insulating layers such as paint, rust, dirt and grease thanks to the high pressure of the spring. In this way an effective “metal-to-metal” connection can be created and a safe grounding guaranteed.

- Hardened stainless steel teeth for long life.
- Approval for Zone 0 and Zone 20 according to Directive 2014/34/EU.
- All metallic parts are made of stainless steel.
- High contact pressure of the clamp, due to a strong spring.

ITEM REFERENCES	
Designation:	**Item No.:**
PROFI-line 115-1 mZ (strain relief)	6D0620
PROFI-line 115-1 oZ (no strain relief)	6D0621

TECHNICAL SPECIFICATIONS	
Marking:	II 1G Ex h IIC T6 Gb II 1D Ex h IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Material:	Stainless steel 1.4310
Side lenght:	150 mm
Opening angle:	45 mm
Connection type:	1-pole via M8 eyelet (max 10mm^2)
Stainless steel teeth:	Trident (mounting opposite)

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PROFI-LINE 115 KAIMAN GROUNDING CLAMPS

Zones 0, 1, 2, 20, 21, 22

ATEX GROUNDING CLAMPS

ZONES 0, 1, 2 (gas) & 20, 21, 22 (dust)

The grounding clamp PROFI-line 115-KAIMAN is suitable for all common and rough application areas, such as grounding of drums, containers and canisters as well as grounding of trucks.

Due to the heavy design of the grounding clamp, it is also suitable for the roughest environmental conditions.

Due to the particularly high spring force, the grounding clamp also bites through the thickest layers of paint.

EU-Type Examination Certificate

These grounding clamps are especially made for discharging electrostatic charge from potentially endangered system parts. Sharp stainless steel teeth get through insulating layers such as paint, rust, dirt and grease thanks to the high pressure of the spring.
In this way an effective “metal-to-metal” connection can be created and a safe grounding guaranteed.

- Hardened stainless steel teeth for long life.
- Approval for Zone 0 and Zone 20 according to Directive 2014/34/EU.
- All metallic parts are made of stainless steel.
- High contact pressure of the clamp, due to a strong spring.

ITEM REFERENCES	
Designation:	**Item No.:**
PROFI-line 115-KAIMAN mZ (strain relief)	6D0660
PROFI-line 115-KAIMAN oZ (no strain relief)	6D0661

TECHNICAL SPECIFICATIONS	
Marking:	II 1G Ex h IIC T6 Gb II 1D Ex h IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Material:	Stainless steel 1.4310
Side lenght:	150 mm
Opening angle:	42 mm
Connection type:	1-core via M8 eyelet (max. 16mm²)
Stainless steel teeth:	Hardened, 2 pieces (mounted opposite)

HM-ES HAND MAGNET

Zones 1, 2, 21, 22

ATEX GROUNDING CLAMPS

ZONES 1, 2 (gas) & 21, 22 (dust)

The HM-ES hand magnet is the ideal solution when safe earthing of drums and containers is required, but the space for a normal earthing clamp is not available.

The flat-fitting housing can either be mounted on top of the drum lid by magnetic force or held on the side of the drum by magnetic force.

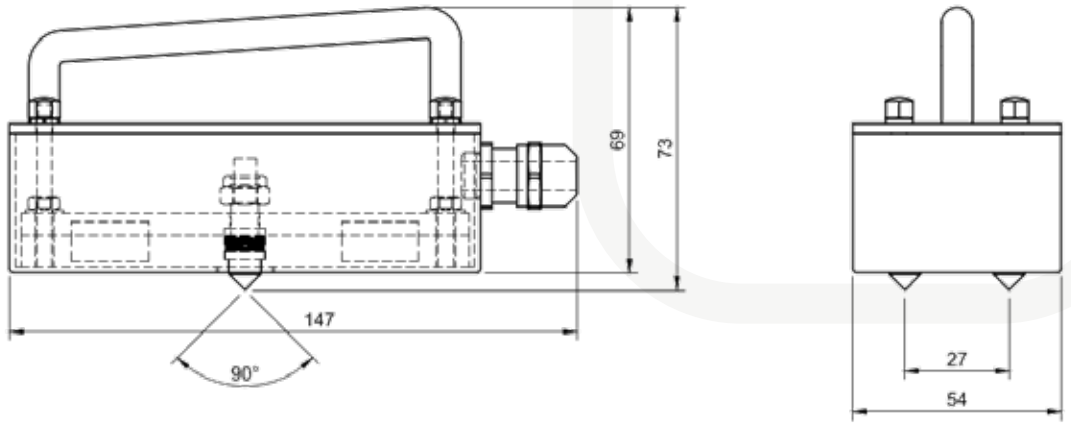
The two tips of the hand magnet connect to the painted base of the barrel by slight manual rubbing, thus establishing a secure connection to the good earth.

This magnet is designed as a simple earthing solution without monitoring.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
HM-ES with 1m smooth steel cable, green, 4mm²	6D0724
HM-ES with 3m smooth steel cable, green, 4mm²	6D0725
HM-ES with 5m smooth steel cable, green, 4mm²	6D0726
HM-ES with 1m plain steel cable, green/yellow, 4mm²	6D0727
HM-ES with 3m plain steel cable, green/yellow, 4mm²	6D0728
HM-ES with 5m plain steel cable, green/yellow, 4mm²	6D0729

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex h IIB T6 Gb II 2D Ex h IIIB T80°C Db
Certificate:	EU-Type Examination Certificate
Material:	Stainless steel 1.4301 (V2A)
Dimensions:	147x54x73mm
Stainless steel teeth:	Hardened, 2 pieces
Scope of application:	Painted and unpainted containers with a volume over 50 litres



SPIRAL CABLE, STEEL (1 CORE)

ATEX GROUNDING

For use in hazardous areas according to EN 60079-14.

The steel spiral cables offer superior mechanical strength.

The cable withstands continuous daily use and is extremely resistant to acids, alkalis, mineral oils, greases and other chemicals due to its cable coating.

These spiral cables meet all requirements of the standards EN 60079-0 and EN 60079-14 and may be used accordingly in potentially explosive atmospheres.

The spiral cables are free of silicone.

The cable ends can be assembled with eyelets at no extra charge.

ITEM REFERENCES				
Designation:	Cable colour:	Core:	Block length:	Item No.:
1m straight cable	Green	Steel-core	-	A179008
3m spiral cable	Green	Steel-core	160 mm	A173019
5m spiral cable	Green	Steel-core	260 mm	A173020
10m spiral cable	Green	Steel-core	600 mm	A173021
1m straight cable	Green/Yellow	Steel-core	-	A173010
3m spiral cable	Green/Yellow	Steel-core	160 mm	A173022
5m spiral cable	Green/Yellow	Steel-core	260 mm	A173023
10m spiral cable	Green/Yellow	Steel-core	600 mm	A173024

TECHNICAL SPECIFICATIONS	
Cable type:	ST-Li2Y
Cable colour:	Green or Green / Yellow
Cross section:	4 mm^2
Wire type:	Steel cable
Ambient temperature:	-40°C...+80°C

SPIRAL CABLE, COPPER (1 CORE)

ATEX GROUNDING

The copper spiral cables offer extremely high flexibility. The copper core used consists of 226 individual copper strands, which minimize the risk of cable breakage. The cable coating protects well against acids, alkalis, mineral oils, greases and other chemicals.

These spiral cables meet all requirements of the standards EN 60079-0 and EN 60079-14 and may be used accordingly in explosive areas.

The spiral cables are free of silicone. The cable ends can be assembled with eyelets at no extra charge.

For use in hazardous areas according to EN 60079-14.

ITEM REFERENCES				
Designation:	Cable colour:	Cross section:	Block length:	Item No.:
1m straight cable	Green/Yellow	4 mm²	-	A179010
1m spiral cable	Green/Yellow	4 mm²	100 mm	A416106
3m spiral cable	Green/Yellow	4 mm²	600 mm	A416123
5m spiral cable	Green/Yellow	4 mm²	1000 mm	A416107
10m spiral cable	Green/Yellow	4 mm²	2000 mm	A416108
1m spiral cable	Green/Yellow	2,5 mm² (according to TRGS 727)	100 mm	A179013
3m spiral cable	Green/Yellow	2,5 mm² (according to TRGS 727)	600 mm	A416332
5m spiral cable	Green/Yellow	2,5 mm² (according to TRGS 727)	1000 mm	A416333

TECHNICAL SPECIFICATIONS	
Cable type:	LIF11Y11Y, 226x0,15mm
Cable colour:	Green / Yellow
Cross section:	4 mm² / 2,5 mm²
Wire type:	Copper
Ambient temperature:	-40°C...+80°C

REWINDING CABLE REELS FOR PASSIVE GROUNDING TYPE 601 KR/EW

ATEX EARTHING SYSTEMS | **ZONES 1, 2 (gas) & 21, 22 (dust)**

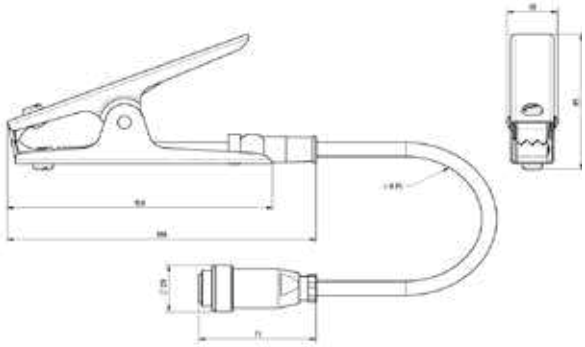
The 601KR/EW rewinding cable reel is available in an impact-resistant aluminum casing and can hold a grounding cable of up to 12 m. For use without ground monitoring system in Zones 1, 2, 21 and 22. It is supplied with 70PK type clamp.

This reel is designed for wall mounting, but can also be swivel-mounted using a mounting bracket. A coupling plug can be used to easily connect the passive 70PK clamp with the coupling bushing of the grounding cable.

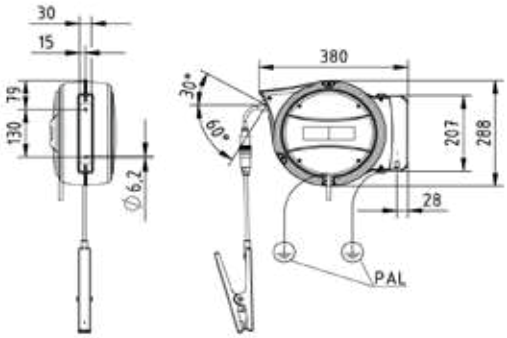
EU-Type Examination Certificate

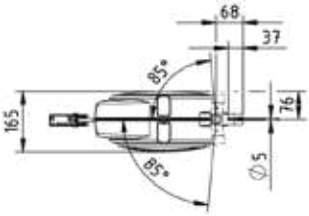
ITEM REFERENCES				
Designation:	Cable lenght:	Connection cable lenght:	Weight:	Item No.:
601KR/EW - 70PK	12 m	2,5 m	Approx. 6 kg	6D0701

70 PK CLAMP TECHNICAL SPECIFICATIONS	
Marking:	II 1G IIB T6 Ga, II 2G IIC T6 Gb, II 1D T80°C Da
Certificate:	EU-Type Examination Certificate
Clamp material:	Stainless steel
Operating temperature:	-20°C to +70°C
Ground cable: (color: orange)	Oil and gasoline resistant control lead, 3 x 1.5 mm² Temperature range –40...+90°C Connected 4-pin plug IP67
Dimensions:	See figure
Weight:	Approx. 0.29 kg
Clamping width:	35 mm
Clamping force:	100 N ±20%
Earth leakage resistance:	< 1 Ohm



601KR/EW CABLE REWINDER TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex ia IIC T6 Gb II 2D Ex ia IIIC T135°C Db
Certificate:	EU-Type Examination Certificate
Enclosure:	Aluminium with rolls and stopper
Ingress protection:	IP42 according to EN 60529
Operating temperature:	-40°C to +70°C
Attachment:	Wall assembly via assembly bracket
Ground cable: (12 M)	Oil and gasoline resistant control lead, 3 x 1.5 mm² Temperature range –40...+90°C Connected 4-pin socket IP67
Connecting lead:	2.5 m, connecting cable 3 x 1,5 mm²
Dimensions:	See figure
Weight:	Approx. 5.7 kg with 12 m ground cable
Inductance:	Approx. 0.07 mH
Capacitance:	Approx. 1.6 nF





REWINDING CABLE REELS FOR PASSIVE GROUNDING (1 CORE)

Zones 1, 2, 21, 22

ATEX EARTHING SYSTEMS

ZONES 1, 2 (gas) & 21, 22 (dust)

The use of grounding reels is particularly useful in places where exposed cables are not required. The extremely stable stainless steel housing of the grounding reels protects especially against external environmental impacts.

The used steel or stainless steel cables are twisted and of highest strength.
The end of the cable is equipped with a rubber bumper to cushion unwanted retraction.

The cable ends can be assembled with eyelets at no extra charge.

Declaration of conformity

ITEM REFERENCES		
Designation:	**Lenght:**	**Item No.:**
Grounding reel type 1 with steel cable, green coated, 2mm²	7 m	6D0720
Grounding reel type 2 with steel cable, green coated, 2mm²	15 m	6D0721
Grounding reel type 3 with stainless steel cable, blank, 4mm² (Version for clean rooms, bare steel cable, no coating)	7 m	6D0722
Grounding reel type 4 with stainless steel cable, blank, 4mm² (Version for clean rooms, bare steel cable, no coating)	15 m	6D0723

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex h IIC T6 Gb II 2D Ex h IIIC T80°C Db
Certificate:	Declaration of Conformity
Ambient temperature:	-40°C to +80°C
Material of the case:	Stainless steel V2A
Cable type:	Steel cable, green coated or Stainless steel cable, blank
Cross section:	2,0 mm² / 4,0 mm²

ACCESSORIES	
Designation:	**Item No.:**
Clamp storage for wall mounting	6D0730

The clamp storage provides the optimal hold for all grounding clamps and ensures that they are stored properly so that they do not lay on the floor. It is mounted using M6 screws.

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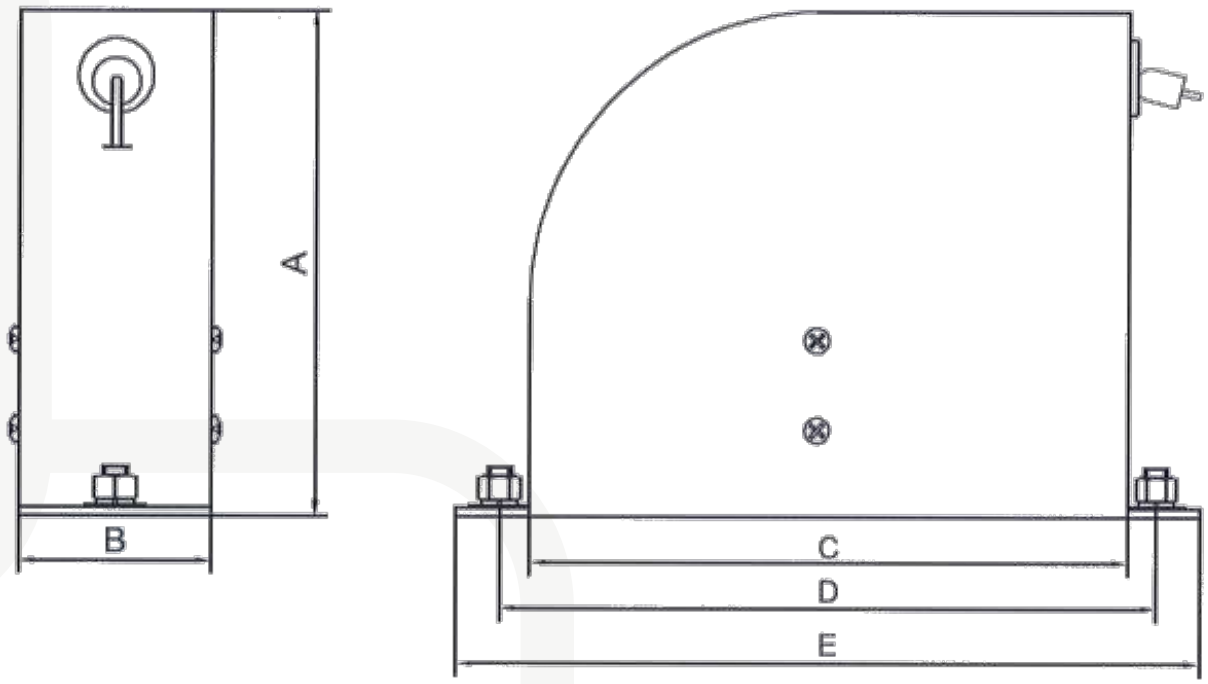
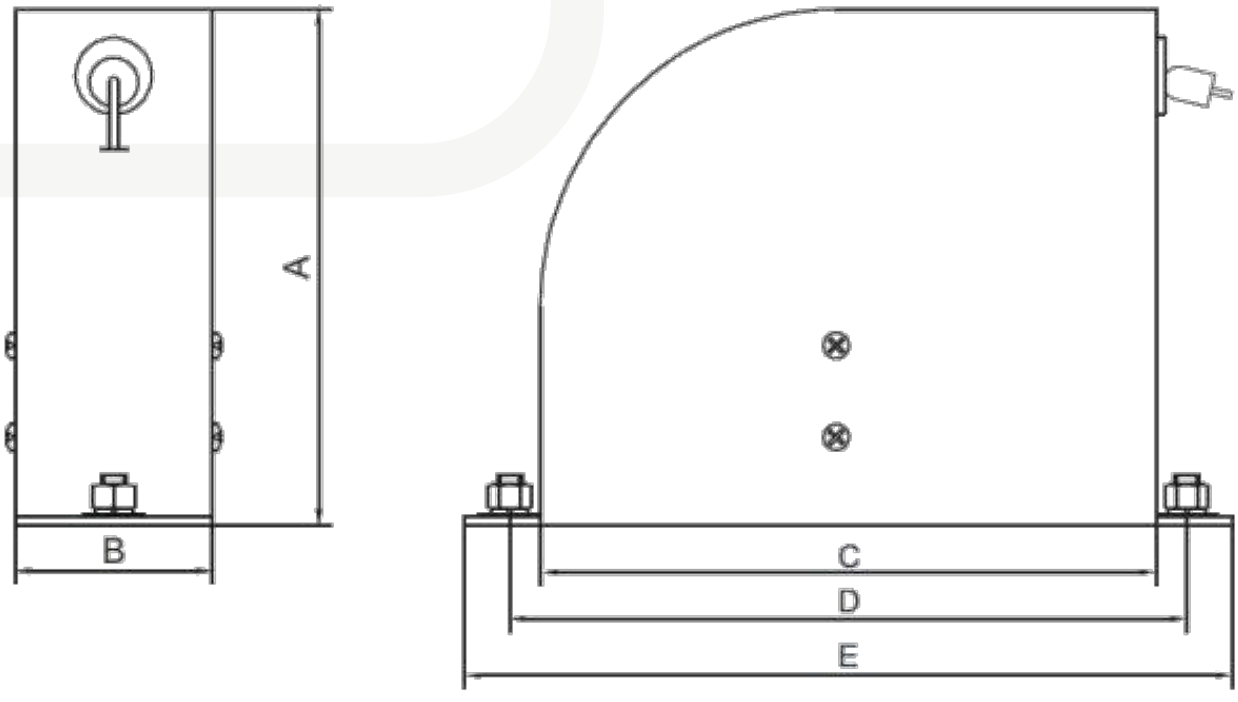
DIMENSIONS TYPE 1, TYPE 3					
Type:	A:	B:	C:	D:	E:
Type 1	170 mm	62,5 mm	168 mm	194 mm	210 mm
Type 3	170 mm	62,5 mm	168 mm	194 mm	210 mm



DIMENSIONS TYPE 2, TYPE 4					
Type:	A:	B:	C:	D:	E:
Type 2	231 mm	69,5 mm	226 mm	256 mm	276 mm
Type 4	231 mm	69,5 mm	226 mm	256 mm	276 mm



ECS-RF MONITORING SYSTEM

Zones 1, 2, 21, 22

ATEX EARTHING SYSTEMS

ZONES 1, 2 (gas) & 21, 22 (dust)

ECS-RF series electronic equipment provides earth connection of process equipment (road tankers, drums, IBCs, etc..) with real-time ground connection monitoring. The system monitors that connection to earth is obtained with a resistance lower than 10Ω, according to the ATEX Directive 2014/34/EU.

The device can be equipped with two Ex i outputs for remote LEDs installed directly on the clamp (consensus green LED and non consensus red LED).

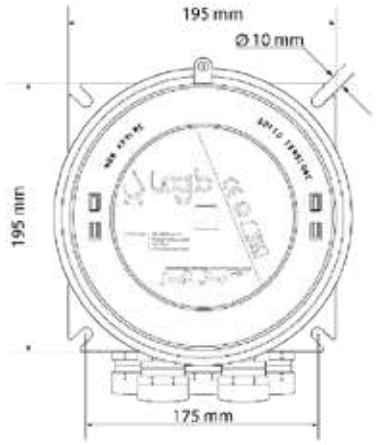
- Compact and rugged Ex-d enclosure suitable for ATEX Zone 1/21 installation

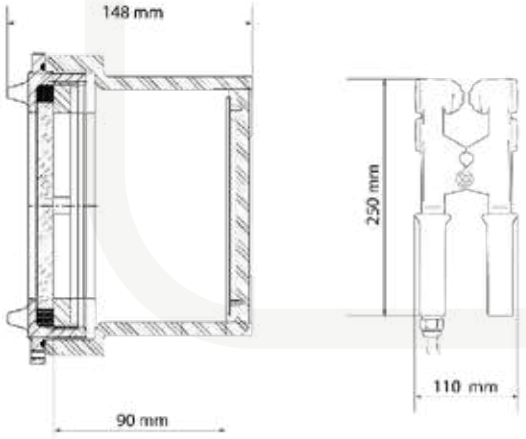
- Equipped with high efficiency redundant green and red LEDs for connection monitoring

EU-Type Examination Certificate

ITEM REFERENCES				
Designation:	SIL:	Spiral cable lenght:	Weight:	Item No.:
ECS-RF-SP5-IS1L-HK01	SIL 2	5m	Approx. 6 kg	6D0902

TECHNICAL SPECIFICATIONS		
Marking:	II 2(1)G Ex d[ia Ga] IIC T6 Gb II 2(1)D Ex tb[ia Da] IIIC T85°C Db	
Certificate:	EU-Type Examination Certificate	
Operating temperature:	-20°C to +55°C	
Clamp input Ex i:	Uo=7.2V, Io=345mA, Po=621mW, Co(IIC)=13.5µF, Lo(IIC)=149µH, Lo/Ro=860 µH/Ω	
Output LED Ex i:	Uo=7.2V, Io=23mA, Po=42mW, Co(IIC)=13.5µF, Lo(IIC)=34µH, Lo/Ro=860 µH/Ω	
Power supply:	230 VAC ± 5%	
Standard cable:	6-wire spiral cable, according to IEC 60332-1-2	
R threshold:	10 Ω	
Dimensions:	195 x 195 x 148 mm	
Potential free contact:	COM/NC/NO	
Cable entries:	5xM20x1,5 1 - Grounding clamp 2 - Grounding cable	3 - Redundancy ground wire 4 - Power cable 5 - Potential free contact cable (if not used, install the plug provided)





CONTACT – (+34) 943 530 095 | inpratex@inpratex.com

ECS-RF-CR20 MONITORING SYSTEM

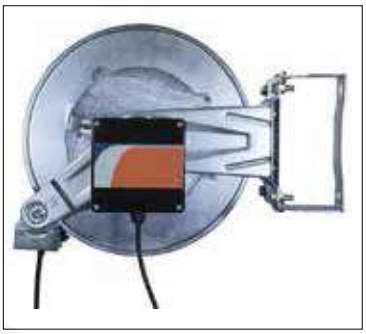
Zones 1, 2, 21, 22

ATEX EARTHING SYSTEMS

ZONES 1, 2 (gas) & 21, 22 (dust)

ECS-RF series electronic equipment provides earth connection of process equipment (road tankers, drums, IBCs, etc..) with real-time ground connection monitoring. The system monitors that connection to earth is obtained with a resistance lower than 10Ω, according to the ATEX Directive 2014/34/EU.

The device can be equipped with two Ex i outputs for remote LEDs installed directly on the clamp (consensus green LED and non consensus red LED).



- Compact and rugged Ex-d enclosure suitable for ATEX Zone 1/21 installation

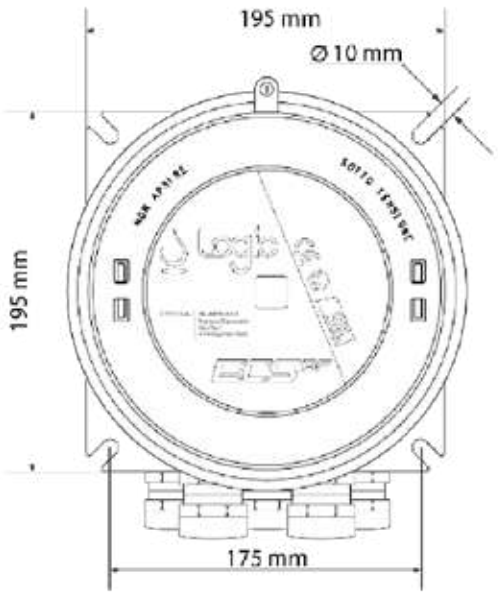
- Equipped with high efficiency redundant green and red LEDs for connection monitoring

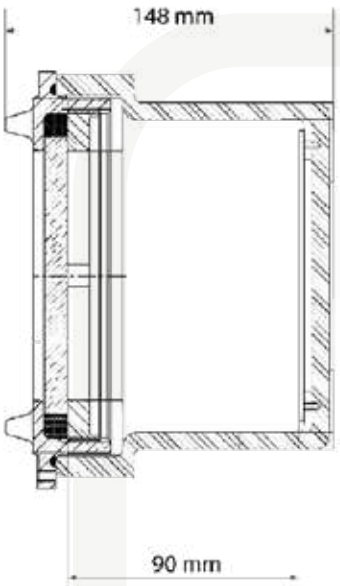
- This version includes the CR-20 reel with 20m cable

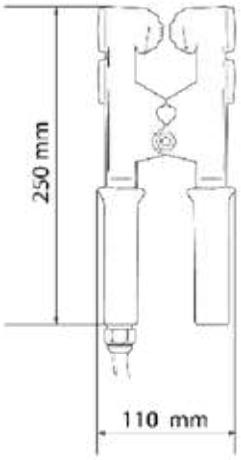
EU-Type Examination Certificate

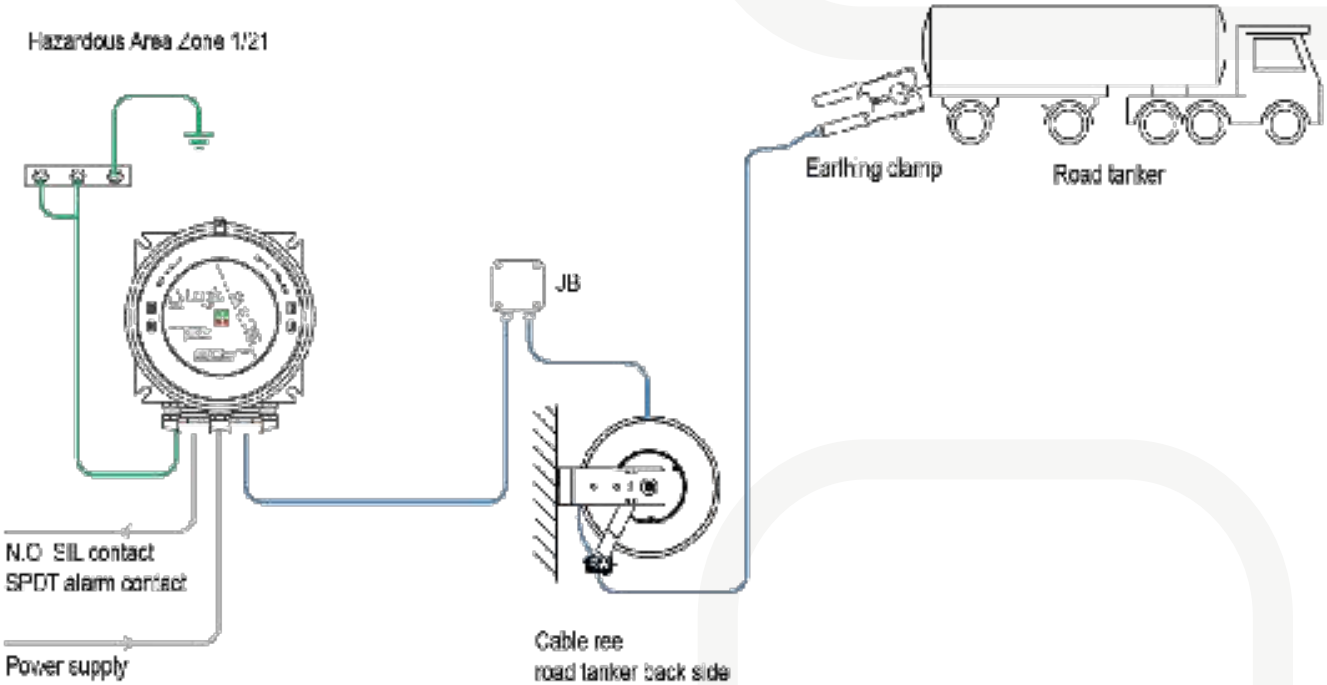
ITEM REFERENCES			
Designation:	SIL:	Reel cable lenght:	Item No.:
ECS-RF-CR20-IS1S-HK	SIL 2	20m	6D0907

TECHNICAL SPECIFICATIONS		
Marking:	Earthing monitoring system: II 2(1)G Ex d[ia] IIC T6 Gb (Ga) II 2(1)D Ex d[ia] Ex tb IIIC T85°C	Cable reel: II 2(1)G Ex d[ia] IIC T6 Gb (Ga) II 2(1)D Ex d[ia] Ex tb IIIC T85°C
Certificate:	EU-Type Examination Certificate	
Operating temperature:	-20°C to +40°C	
Clamp input Ex i:	Uo=7.2V, Io=345mA, Po=621mW, Co(IIC)=13.5µF, Lo(IIC)=149µH, Lo/Ro=860 µH/Ω	
Output LED Ex i:	Uo=7.2V, Io=23mA, Po=42mW, Co(IIC)=13.5µF, Lo(IIC)=34µH, Lo/Ro=860 µH/Ω	
Power supply:	230 VAC ± 5%	
R threshold:	10 Ω	
Dimensions monitoring system:	195 x 195 x 148 mm	
Potential free contact:	COM/NC/NO	
Cable entries:	5xM20x1,5 1 - Grounding clamp 2 - Grounding cable	3 - Redundancy ground wire 4 - Power cable 5 - Potential free contact cable (if not used, install the plug provided)
Cable reel:	Stainless steel	


195 mm
Ø 10 mm
195 mm
175 mm


148 mm
90 mm


250 mm
110 mm


Hazardous Area Zone 1/21
Earthing clamp
Road tanker
JB
N.O SIL contact
SPDT alarm contact
Power supply
Cable ree
road tanker back side

ECS-RF-FIBC MONITORING SYSTEM

Zones 1, 2, 21, 22

ATEX EARTHING SYSTEMS | **ZONES 1, 2 (gas) & 21, 22 (dust)**

The ECS-RF-FIBC system has been designed for earthing C-type FIBC big-bags, dissipating the static electricity generated during the transport of potentially explosive powders, continuously verifying via SIL2 electronics that the resistance to earth is always < 10MΩ.

By using the CLP-FIBC double earthing clamps, equipped with a contact strip that prevents damage to the gripping points, the system is able to recognise the presence of the big-bag and cannot be bypassed when connected to metal devices.

- 2x CPL-FIBC Earth clamp included

- Stainless steel hook for hanging the 2 clamps included

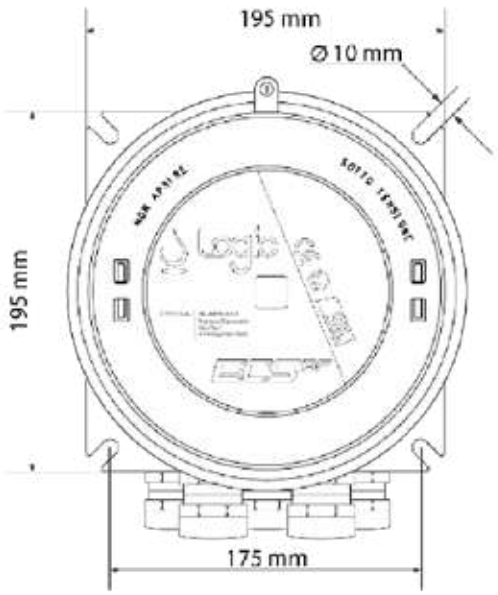
EU-Type Examination Certificate

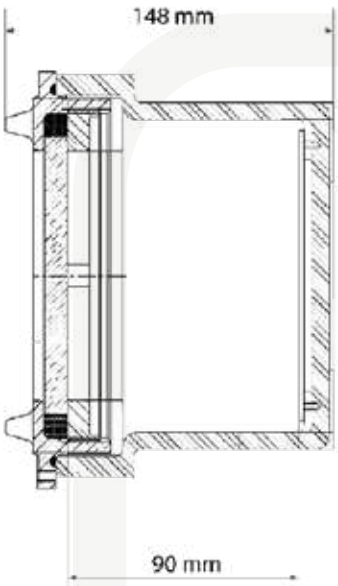
ITEM REFERENCES			
Designation:	SIL:	Spiral cable lenght:	Item No.:
ECS-RF-2xSP5-2xCLPFC-JB-HK	SIL 2	5m	6D0908

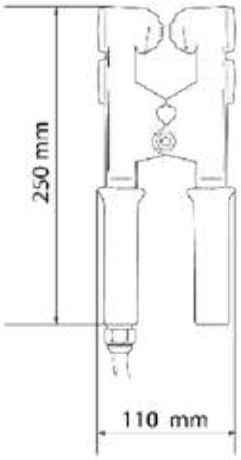
TECHNICAL SPECIFICATIONS		
Marking:	II 2(1)G Ex d[ia] IIC T6 Gb (Ga) II 2(1)D Ex d[ia] Ex tb IIIC T85°C	
Certificate:	EU-Type Examination Certificate	
Operating temperature:	-20°C to +40°C	
Clamp input Ex i:	Uo=7.2V, Io=345mA, Po=621mW, Co(IIC)=13.5µF, Lo(IIC)=149µH, Lo/Ro=860 µH/Ω	
Output LED Ex i:	Uo=7.2V, Io=23mA, Po=42mW, Co(IIC)=13.5µF, Lo(IIC)=34µH, Lo/Ro=860 µH/Ω	
Power supply:	230 VAC, U_m=253V_{rms}	
Standard cable:	6-wire spiral cable, according to IEC 60332-1-2	
R threshold:	10 Ω	
Dimensions monitoring system:	195 x 195 x 148 mm	
Potential free contact:	COM/NC/NO	
Cable entries:	5xM20x1,5 1 - Grounding clamp 2 - Grounding clamp	3 - Grounding cable 4 - Power cable 5 - Potential free contact cable (if not used, install the plug provided)
Clamp material:	Stainless steel AISI 304.	
Clamp dimensions:	50x33x140mm	
Maximum clamp opening:	15mm	
Clamp operating temperature:	-20°C to +70°C	

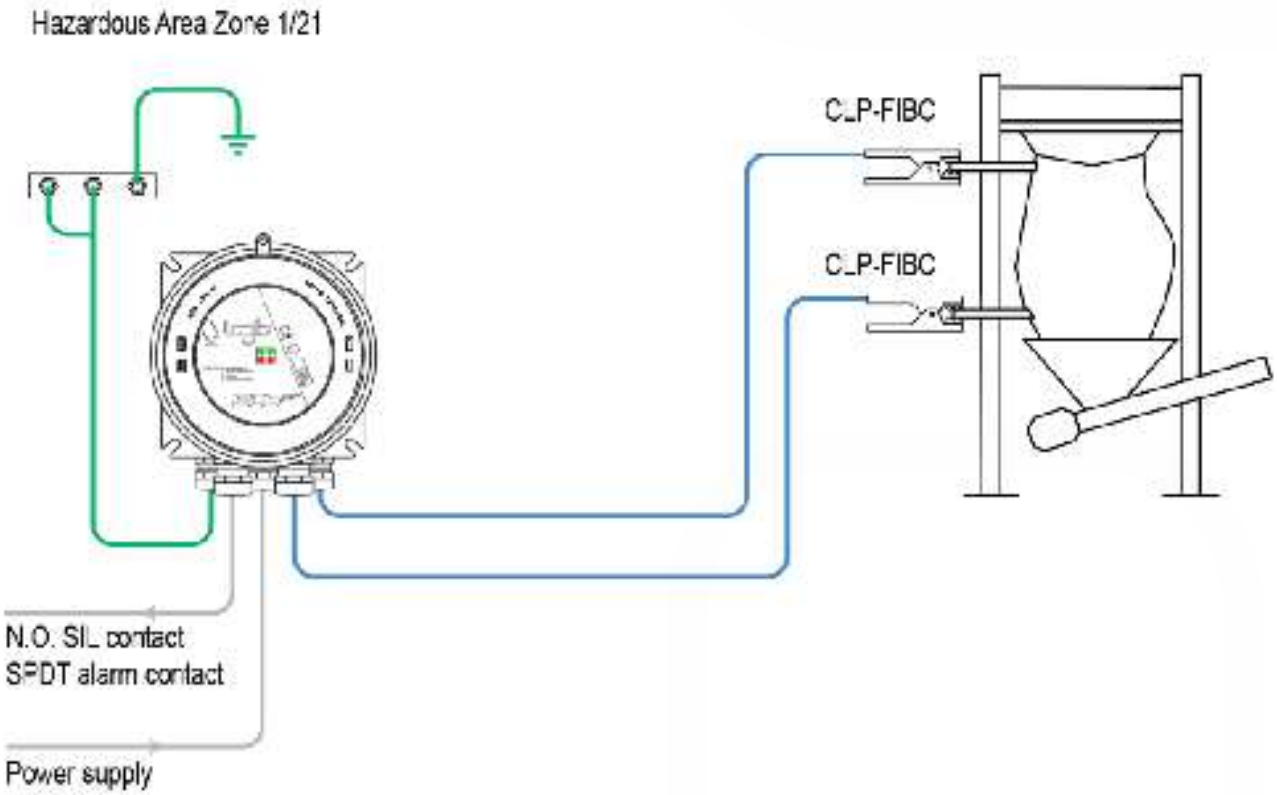
ECS-RF-FIBC MONITORING SYSTEM

Zones 1, 2, 21, 22









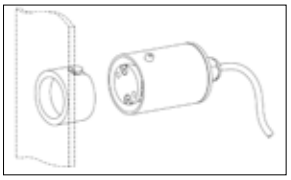
ATEX EARTHING SYSTEMS

ZONES 1, 2 (gas) & 21, 22 (dust)

The CLP-CODE device is part of the ECS for earthing connections of production machinery (dispensers, grinding mills, etc.).

Thanks to the mechanical coding, which makes it unique in this field of application, this equipment is able to detect if the connection to earth is obtained with a resistance to earth less or equal to 10 Ω.

The device is equipped with 2 LEDs (green and red) installed directly on board.



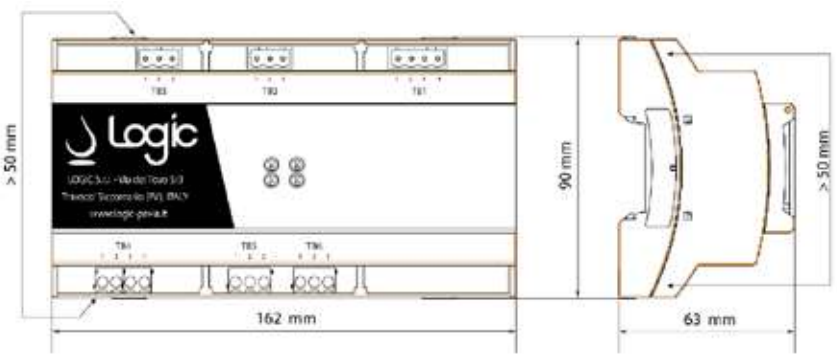
EU-Type Examination Certificate

ITEM REFERENCES			
Designation:	Installed in:	Cable lenght:	Item No.:
CLP-CODE - ECS-RF-DIN - 5	Safe area	5 m	6D0903
CLP-CODE - ECS-RF-DIN - 10	Safe area	10 m	6D0904
CLP-CODE - ECS-RF - 5	Hazardous area	5 m	6D0905
CLP-CODE - ECS-RF - 10	Hazardous area	10 m	6D0906

The ECS-RF-DIN device provides n.1 channel signal conditioning for earth connection of process equipment (IBC, drums, roadtankers, etc.). The system detects in real-time if the connecttion to earth is obtained with a resistance less or equal to 10 Ω.

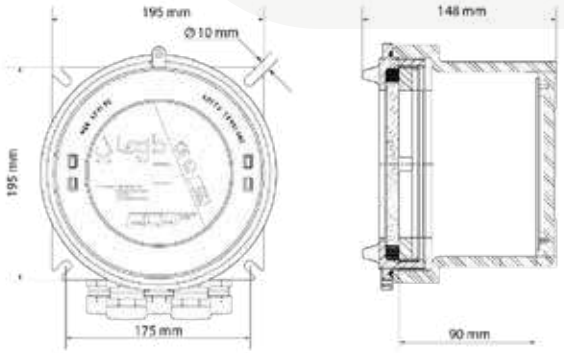
The device is equipped with SPST NO contact with a safety integrity level up to SIL2, according to EN 50495, and high-efficiency redundant green and red LEDs for earth connection monitoring.

- N.1 x SPDT contact for clamp state remote monitoring.
- N.1 x N.O. contact for safety applications up to SIL2.
- N.2 x intrinsically safe outputs for the clamp's remote LEDs.

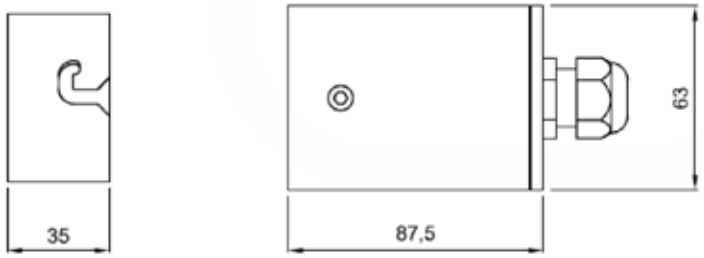
TECHNICAL SPECIFICATIONS ECS-RF-DIN (SAFE AREA)	
Marking:	II (1)G [Ex ia Ga] IIC II (1)D [Ex ia Da] IIIC
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +70°C
Clamp input Ex i:	Uo=7.2V, Io=345mA, Po=621mW, Co(IIC)=13.5µF, Lo(IIC)=149µH, Lo/Ro=860 µH/Ω
Output LED Ex i:	Uo=7.2V, Io=23mA, Po=42mW, Co(IIC)=13.5µF, Lo(IIC)=34µH, Lo/Ro=860 µH/Ω
Power supply:	230 VAC ± 5%
Standard cable:	Extension cable CAB-ECS6C1.0
R threshold:	10 Ω
Dimensions:	

ECS-R series electronic equipment provides earth connection of process equipment (road tankers, drums, IBCs, etc..) with real-time ground connection monitoring. The system monitors that connection to earth is obtained with a resistance lower than 10Ω, according to the ATEX Directive 2014/34/EU.

The device can be equipped with two Ex i outputs for remote LEDs installed directly on the clamp (consensus green LED and non consensus red LED).

TECHNICAL SPECIFICATIONS ECS-RF (HAZARDOUS AREA)		
Marking:	II 2(1)G Ex d[ia Ga] IIC T6 Gb II 2(1)D Ex tb[ia Da] IIIC T85°C Db	
Certificate:	EU-Type Examination Certificate	
Operating temperature:	-20°C to +55°C	
Clamp input Ex i:	Uo=7.2V, Io=345mA, Po=621mW, Co(IIC)=13.5µF, Lo(IIC)=149µH, Lo/Ro=860 µH/Ω	
Output LED Ex i:	Uo=7.2V, Io=23mA, Po=42mW, Co(IIC)=13.5µF, Lo(IIC)=34µH, Lo/Ro=860 µH/Ω	
Power supply:	230 VAC ± 5%	
Standard cable:	6-wire spiral cable, according to IEC 60332-1-2	
R threshold:	10 Ω	
Potential free contact:	COM/NC/NO	
Cable entries:	5xM20x1,5 1 - Grounding clamp 2 - Grounding cable	3 - Redundancy ground wire 4 - Power cable 5 - Potential free contact cable (if not used, install the plug provided)
Dimensions:		

The CLP-CODE meets the requeriments for application in ATEX Zone 1/21, connected to the monitoring systems of the ECS range.

TECHNICAL SPECIFICATIONS CLP-CODE CLAMP	
Area of use:	Up to ATEX Zone 1/21
Material:	Stainless steel AISI304
Operating temperature:	-20°C to +50°C
Contact:	Double steel alloy tip with carbonitriding treatment
Standard cable:	Spiral cable, 5/10m long, wire section 0,5 mm^2, Ø8 mm
R threshold:	10 Ω
Dimensions:	

EX-SYMEGA-VO EARTHING SYSTEM

Zones 1, 2, 21, 22

Full catalogue available on our website: www.inpratex.com

ATEX EARTHING SYSTEMS

ZONES 1, 2 (gas) & 21, 22 (dust)

The earthing system Ex-SYMEGA-VO serves to avoid electrostatic charges in hazardous areas and ensures a secure connection of stationary and mobile, metallic or conductive and dissipative objects and a good earth.

This ATEX earthing system visualizes the presence of a good earth via green LED and, if connected, can enable or interrupt the subsequent process via potential-free changeover contacts.

The earthing system Ex-SYMEGA-VO can operate in two different variations:

Variation 1: Low-resistance measurement of 0...1 kOhm or 103 Ohm.
Variation 2: High-resistance measurement of 0...3 MOhm or 3x106 Ohm.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	Item No.:
Ex-SYMEGA-VO Earthing System	6D0601
5m Spiral Cable, Blue, 2 Core	6D0602
PROFI-line 123-2 Earthing Clamp	6D0603

TECHNICAL SPECIFICATIONS	
Marking:	II (1) 2G Ex eb ia mb IIC T4 Gb II (1) 2D Ex ia tb T120°C Db
Certificate:	EU-Type Examination Certificate
Operating voltage:	AC 85V to 264V DC 8V to 28V
Maximum voltage:	AC 275V | DC 375V
Power consumption:	< 1W
Resistance Measurements:	Low: 0...1 kOhm or 103Ohm High: 0...3 MOhm or 3x106Ohm
2 Potential-free changeover contacts:	1NO + 1NC
Switching current per changeover contact (8V to 28V DC):	max. 2A
Switching current per changeover contact (85V to 264V AC):	max. 6A
Housing:	Aluminium
Housing dimensions:	220x122x90 mm
Housing seal:	EPDM (Silicone free)
Operating temperature:	-20°C to +40°C
Ingress protection:	IP64
Cable entries:	4 Plastic cable gland (non armoured cable). External diameter (5 - 9 mm)

ATEX EARTHING SYSTEMS

ZONES 1, 2 (gas) & 21, 22 (dust)

The TERRALIGHT ground monitoring system is designed for use when filling or discharging potentially explosive materials. The system effectively eliminates any static charges. This system monitors the connection to the bonding conductor and the contact across the ground clamps. TERRALIGHT is designed for connecting one ground clamp or a cable rewinder fitted with ground clamp.

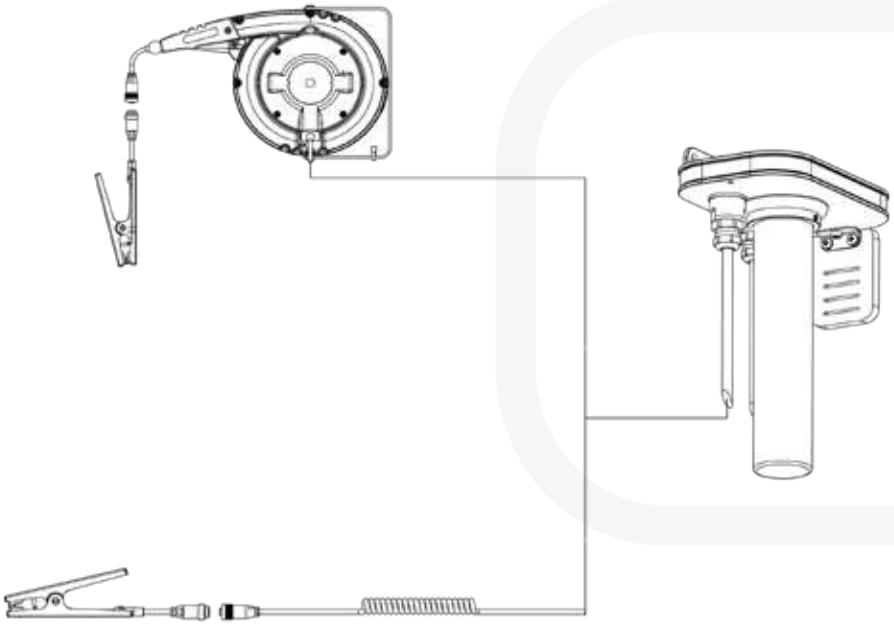
Option 1:
TERRA-L Ground Monitoring System
601KR/DW Cable Rewinder
70AG Earthing Clamp

EU-Type Examination Certificate

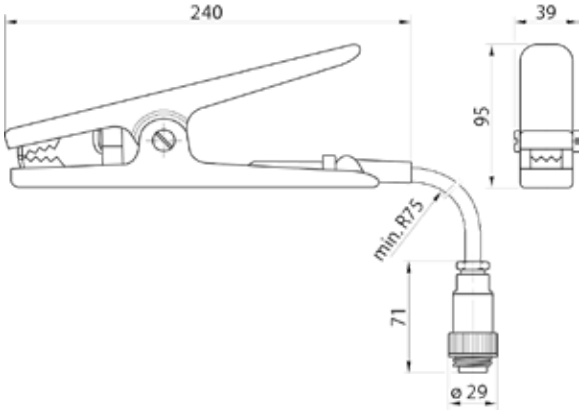
Option 2:
TERRA-L Ground Monitoring System
5m Helix Cable KG/BSA, blue
70AG Earthing Clamp

ITEM REFERENCES OPTION 1	
Designation:	Item No.:
TERRA-L Ground Monitoring System	6D0801
601KR/DW Cable Rewinder	6D0812
70AG Earthing Clamp	6D0821

ITEM REFERENCES OPTION 2	
Designation:	Item No.:
TERRA-L Ground Monitoring System	6D0801
5m Helix Cable KG/BSA, blue	6D0813
70AG Earthing Clamp	6D0821

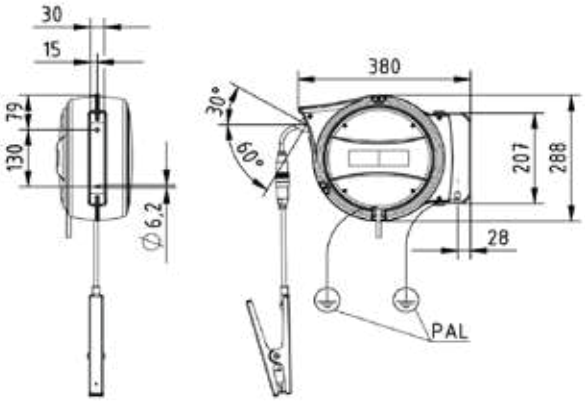


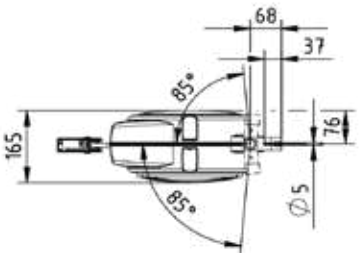
70AG CLAMP TECHNICAL SPECIFICATIONS	
Marking:	Ex II 2D Ex ia IIIC T135°C Db, II 2G Ex ia IIC T6 Gb
Certificate:	EU-Type Examination Certificate
Clamp material:	Stainless steel
Operating temperature:	-20°C to +70°C
Ground cable: (color: light blue)	Oil and gasoline resistant control lead, 3 x 1.5 mm² Temperature range –40...+90°C Connected 4-pin plug IP67
Dimensions:	See figure
Weight:	Approx. 0.6 kg



The ATEX cable rewinders of series 601KR/DW ensure that the ground cable is safely reeled back after use, protecting it from damage and dirt. These cable rewinders are made of impact-proof aluminum and are mounted with an assembly bracket.

All cable rewinders are designed for wall mounting and may be used in zones with potentially explosive atmospheres in connection with the ground monitoring system.





601KR/DW CABLE REWINDER FOR ACTIVE GROUNDING TECHNICAL SPECIFICATIONS	
Marking:	Ex II 2G Ex ia IIC T6 Gb Ex II 2D Ex ia IIIC T135°C Db
Certificate:	EU-Type Examination Certificate
Enclosure:	Aluminium with rolls and stopper
Rewind mechanism:	Automatic, Stopping device, On-Off function
Ingress protection:	IP42 according to EN 60529
Operating temperature:	-40°C to +70°C
Attachment:	Wall assembly via assembly bracket
Ground cable: (cable color: light blue)	12 m oil and gasoline resistant control lead, 3x1.5 mm² Temperature range –40...+90°C Connected 4-pin socket IP67
Connecting lead:	2.5 m, connecting cable 3x1,5 mm²
Dimensions:	See figure
Weight:	Approx. 5,7 kg with 12 m ground cable
Inductance:	Approx. 0.07 mH
Capacitance:	Approx. 1,6 nF

TERRALIGHT GROUND MONITORING SYSTEM

Zones 1, 2, 21, 22

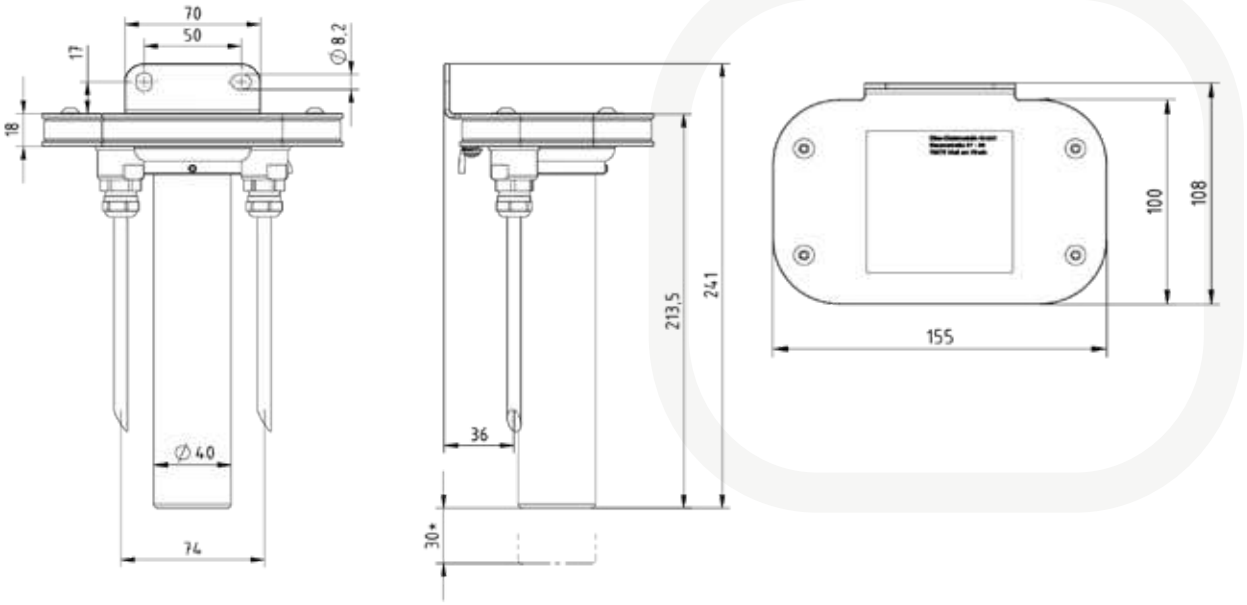
The controlled grounding principle used in the TERRALIGHT Ground Monitoring System ensures that static charges developing in potentially explosive atmospheres, e.g. during loading, discharging or refilling are safely avoided.

This means that the risk of ignition caused by uncontrolled static discharges is eliminated at source. Because the ground connection is monitored, there is no need for low-resistance ground connections or large conductor cross-sections.

The advantages of the TERRALIGHT ground monitoring system are:

- easy and fast assembly and installation
- power supply via batteries, no external power supply necessary
- Configuration of the LED display (flashing, frequency) to the application to optimize the battery life

TERRA-L TECHNICAL SPECIFICATIONS	
Marking:	II 1G Ex ia IIC T4 Ga II 1D Ex ia IIIC T135°C Da
Certificate:	EU-Type Examination Certificate
Supply voltage:	Supply via 3 x 1.5 V D cells. Yellow LEDs indicate a low battery voltage
Operating temperature:	–18°C to +50°C
Storage temperature:	–40°C to +80°C (without battery)
Ambient humidity:	Max. 80% r.h., non-dewing
Enclosure material:	Stainless steel with wall bracket
Ingress protection:	IP65 according to EN 60529
Dimensions:	240.5 x 155 x 108 mm
Weight:	1.75 kg
Measurement circuit:	Intrinsically safe according to EN 60079-11 Maximum voltage U_o: 6.0 V DC | Maximum current I_o: 0.25 A | Maximum output P_o: 0.36 W Maximum permissible connected load capacity / inductance: C_o : 1,49 µF, L_o : 630 µH
Operating points:	ON <20 kOhm | OFF >50 kOhm / ±20%
Permissible types of battery :	D cells - Duracell Plus Power MN 1300 | ENERGIZER MAX LR20 | ENERGIZER LR20 ALKALINE POWER



ATEX EARTHING SYSTEMS

SAFE AREA

During filling or decanting processes involving solid or liquid materials in the Ex area, the Terracompact IITCO030 automatically identifies faulty or defective ground links in the installation. If the floating changeover contact is switched accordingly, it shuts off the process.

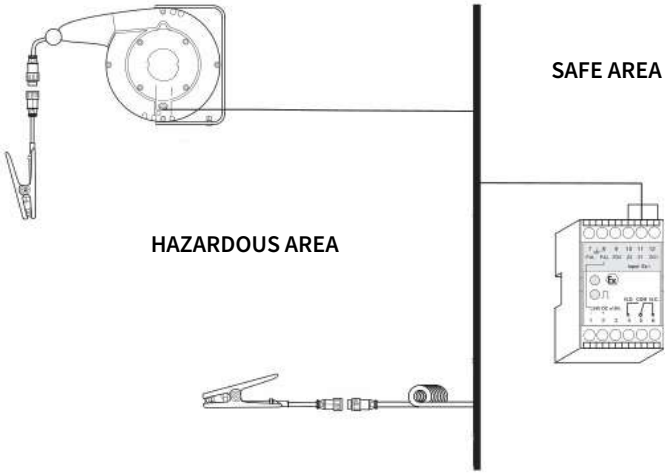
This device is provided for connecting to a ground clamp or a rewinding cable reel with ground clamp.

The Terracompact II is a standard housing for assembly on a DIN 46277 top-hat rail for installation in a control cabinet or a control room.

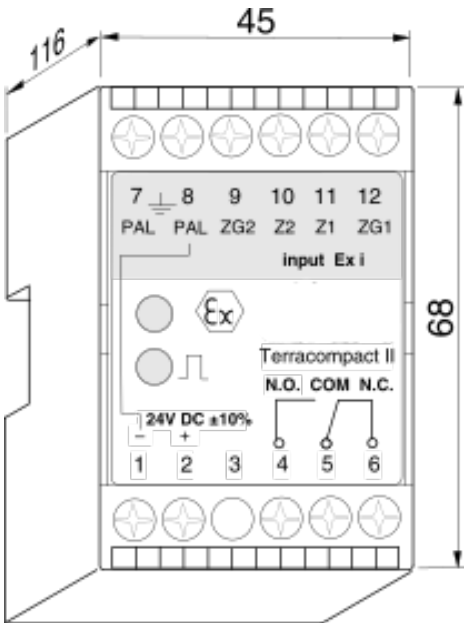
EU-Type Examination Certificate

The Terracompact II TCO030 must be mounted outside the hazardous area. Only the intrinsically safe circuit is allowed to lead into the hazardous area. The unit is preferably installed in the switchgear cabinet of a dry control room.

ITEM REFERENCES		
Designation:		**Item No.:**
	TERRACOMPACT II TCO030	6D0831
	601KR/DW12030BX Cable Rewinder	6D0814
	5m Grounding cord set blue cable KG/BSAB050	6D0815
	70AG Earthing Clamp	6D0821



TECHNICAL SPECIFICATIONS	
Marking:	II(1)G [Ex ia Ga] IIC II(1)D [Ex ia Da] IIIC
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +70°C
Ambient humidity:	Max. 70 % r.h., non-dewing
Supply voltage:	24 (21 ... 31) V DC Maximum voltage for safety reasons: U_m = 250 V
Power input:	I_B typical 80 mA
Design:	Standard enclosure for installation on standard rail NS35
Ingress protection:	Enclosure IP40, (terminals IP10)
Dimensions:	68 x 45 x 116 mm
Weight:	Approx. 200 g
Assembly:	Assembly on standard rail NS35, path height 15 mm; outside explosion hazard area
Connection:	Screw-type terminals, connecting diameter 1,5 mm²
Indicator signal:	Load capacity: U ≤ 230 V, I ≤ 5 A, P ≤ 100 VA Maximum voltage for safety reasons: U_m = 250 V Switching action signalled via green/red LED in front plate



TERRABOX TCB030 GROUNDING SYSTEM - STANDARD

Zones 1, 2, 21, 22

ATEX EARTHING SYSTEMS

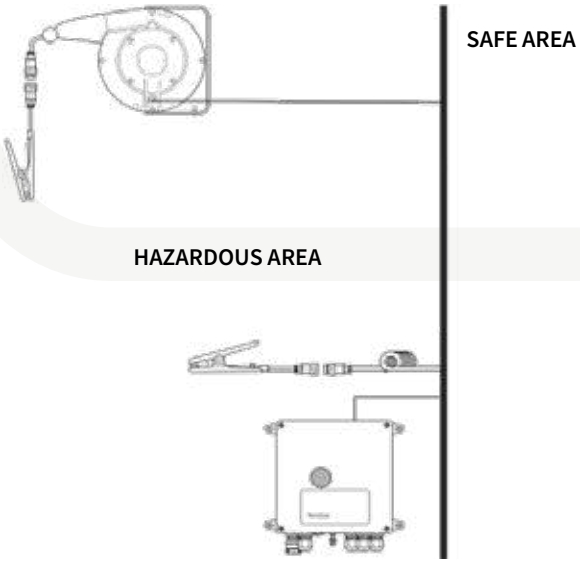
ZONES 1, 2 (gas) & 21, 22 (dust)

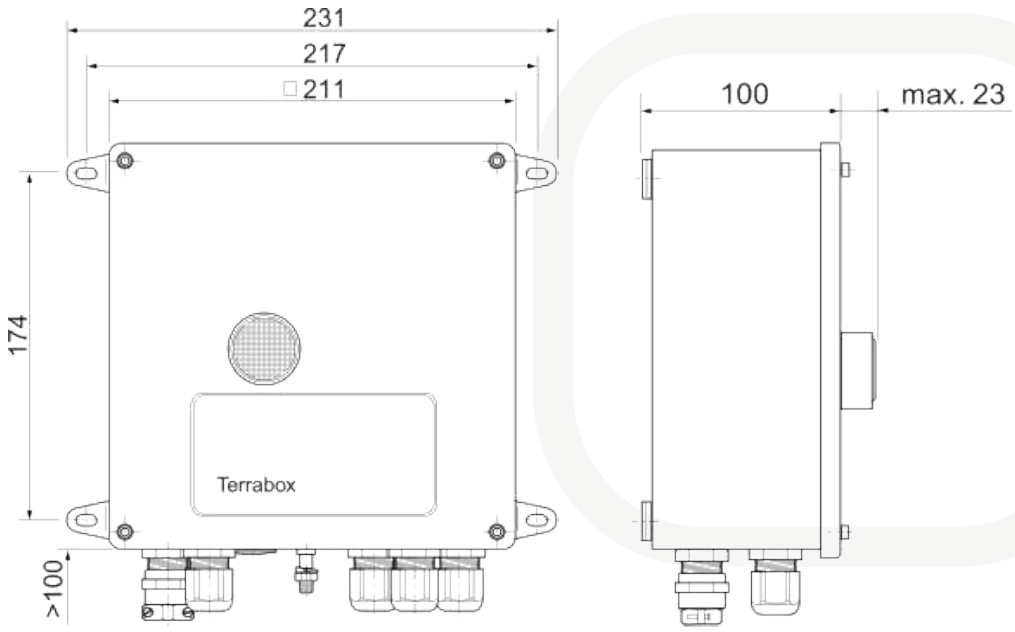
Terrabox TCB030 is designed for direct installation in explosion hazard areas and for connecting a clamp. The dual-color indicator lamp signals the correct grounding state. The integrated contacts allow an enable circuit to be implemented.

EU-Type Examination Certificate

The controlled grounding principle used in the Terrabox TCB030 system ensures that static charges developing in potentially explosive atmospheres (e.g. during loading, discharging or refilling) are safely avoided. This means that the risk of ignition caused by uncontrolled static discharges is eliminated at source.

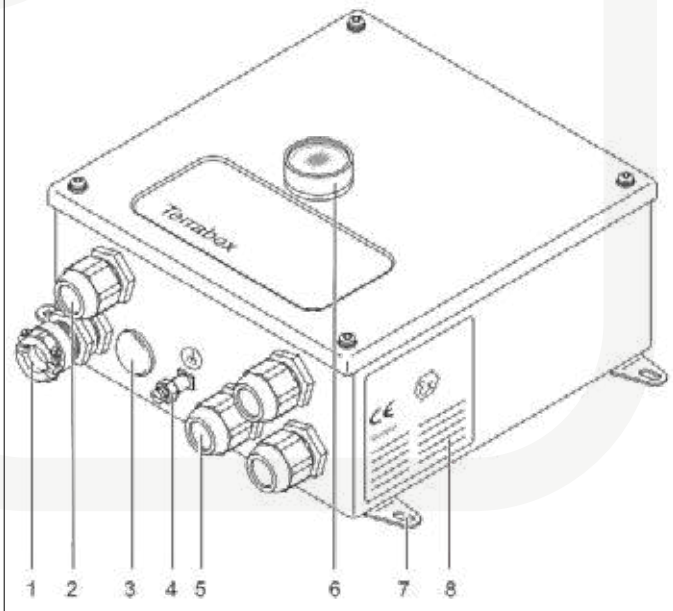
ITEM REFERENCES		
Designation:		Item No.:
	TERRABOX TCB030 / S2	6D0841
	601KR/DW12030BX Cable Rewinder	6D0814
	5m Grounding cord set blue cable KG/BSAB050	6D0815
	70AG Earthing Clamp	6D0821





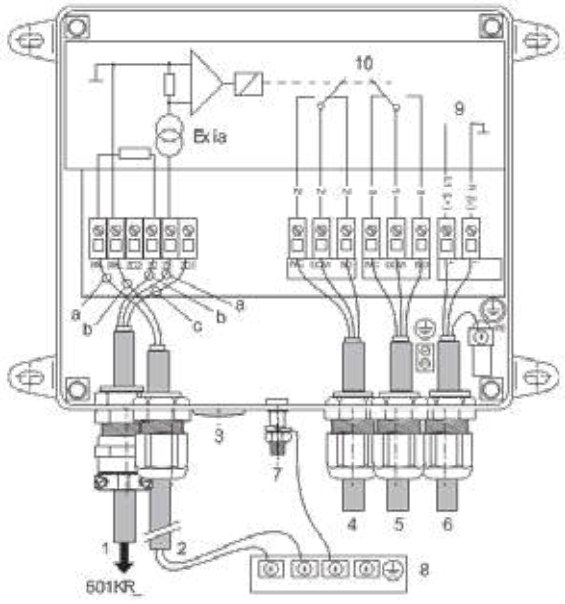
TECHNICAL SPECIFICATIONS	
Marking:	II 2(1)G Ex eb mb [ia Ga] IIC T5 Gb II 2(1)D Ex tb [ia Da] IIIC T100°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +70°C
Ambient humidity:	Max. 80 % r.h., non-dewing.
Supply voltage:	230 (210…250) V AC 50/60 Hz, 50 mA. Maximum safety voltage U_m = 250 V
Design:	Sheet metal steel with wall bracket, enameled
Ingress protection:	IP64 according to EN 60529
Dimensions:	211 x 211 x 123 mm
Weight:	Approx. 5 kg
Indicator signal: (Contact circuit)	2 floating changeover contacts Load capacity: U ≤230 V; I ≤5 A; P ≤100 VA Maximum safety voltage U_m = 250 V, Switching signaled by dual color indicator light red/green
Measurement circuit:	Intrinsically safe, EN 60079-11 Maximum voltage U_0: 35 V Maximum current I_0: 1.5 mA Maximum output P_0: 13 mW Maximum permissible connected load Capacity / inductance: C_0/L_0: 37nF/50mH or 45nF/2mH, linear characteristic
Operating points:	Standard TCB030/S_: ON <20 kOhm, OFF >50 kOhm / ±20%

VIEW OF APPLIANCE



1	Cable gland with kink guard (Ex)
2	Cable inlet
3	Blanking plug
4	Ground terminal
5	Cable inlet (3x)
6	Indicator lamp, dual color (green/red)
7	Mounting bracket (4x)
8	Type plate

CONNECTION EXAMPLE (601KR + 70AG)



1	Ground clamp supply lead
2	PAL connection (2 x 1,5mm²)
3	Blanking plug
4	Signal contact
5	Signal contact
6	Supply voltage lead
7	Ground terminal
8	Equipotential lead
9	Supply voltage 230 VAC, see type plate
10	Contact position diagram: no enabling, indicator lamp red
	core colors - a: blue / b: brown / c: green/yellow

TERRABOX TCB030/B2 GROUNDING SYSTEM - BIG BAG

Zones 1, 2, 21, 22

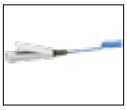
ATEX EARTHING SYSTEMS | **ZONES 1, 2 (gas) & 21, 22 (dust)**

Terrabox TCB030/B2 is designed for direct installation in explosion hazard areas and for connecting an active TERRA-C/B grounding clamp for Big Bag. The dual-color indicator lamp signals the correct grounding state, and the integrated contacts allow an enable circuit to be implemented.

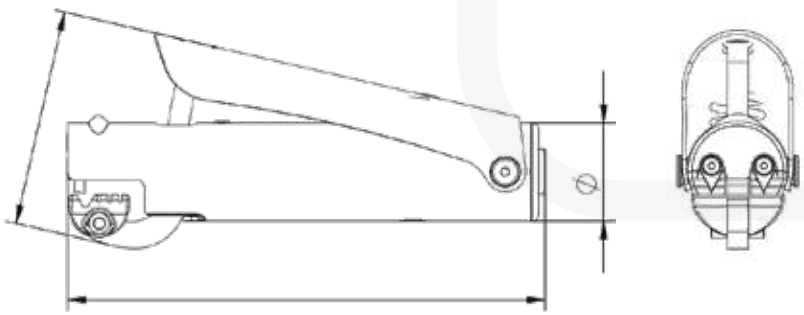
The active TERRA-C/B grounding clamps are used together with the Terrabox TCB030/B2 ground monitoring system to establish and monitor grounding connections. These devices are used when decanting or filling potentially explosive substances. Existing electrostatic changes are discharged effectively in a controlled manner.

The TERRA-C/B active grounding clamps feature extremely hard and sharp collet jaws. The jaws also feature a continuously high clamping force, ensuring a secure connection to the equipotential bonding at all times.

EU-Type Examination Certificate

ITEM REFERENCES		
Designation:		Item No.:
	TERRABOX TCB030 / B2	6D0851
	5m Grounding cord set blue cable KG/BSAB050	6D0815
	TERRA-C / BOSBX Grounding Clamp	6D0822

TERRA-C / B CLAMP TECHNICAL SPECIFICATIONS	
Marking:	II 1G Ex ia IIC T4 Ga II 1D Ex ia IIIC T135°C Da
Certificate:	EU-Type Examination Certificate
Operating temperature:	-40°C to +70°C
Ambient humidity:	Max. 80% rel. humidity, non-condensing
Clamp material:	Stainless steel, PP
Connection:	With integrated 4-poles coupling plug
Ingress protection:	IP67 according to EN 60529
Dimensions:	185 x 38 x 84 mm
Weight:	0,35 kg

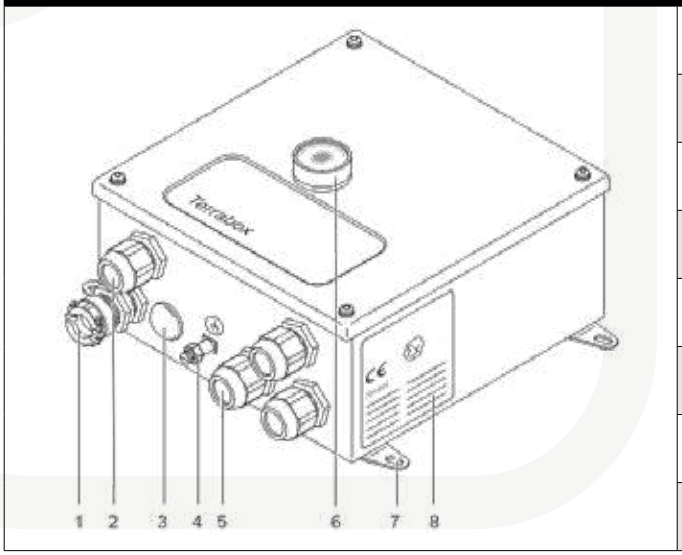


TERRABOX TCB030/B2 GROUNDING SYSTEM - BIG BAG

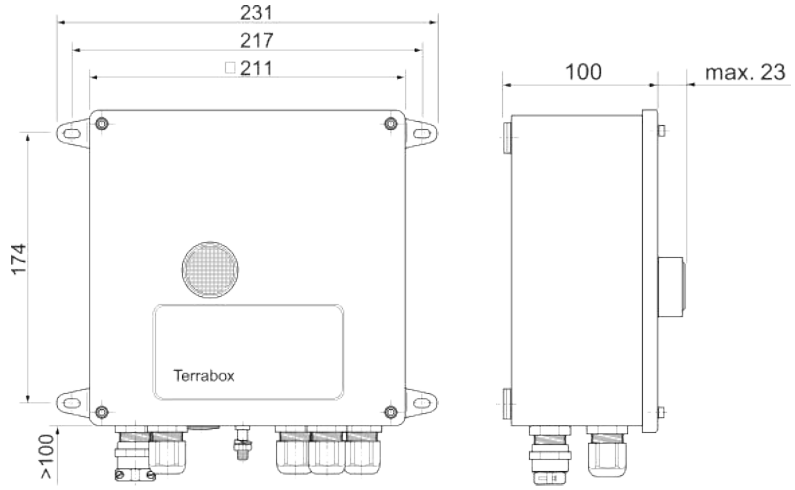
Zones 1, 2, 21, 22

TERRABOX TCB030 / B2 TECHNICAL SPECIFICATIONS	
Marking:	II 2(1)G Ex eb mb [ia Ga] IIC T5 Gb II 2(1)D Ex tb [ia Da] IIIC T100°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +70°C
Ambient humidity:	Max. 70 % r.h., non-dewing.
Supply voltage:	230 (210…250) V AC 50/60 Hz, 50 mA. Maximum safety voltage U_m = 250 V
Design:	Sheet metal steel with wall bracket, enameled
Ingress protection:	IP64 according to EN 60529
Dimensions:	211 x 211 x 123 mm
Weight:	Approx. 5 kg
Indicator signal: (Contact circuit)	2 floating changeover contacts Load capacity: U ≤230 V; I ≤5 A; P ≤100 VA Maximum safety voltage U_m = 250 V, Switching signaled by dual color indicator light red/green
Measurement circuit:	Intrinsically safe, EN 60079-11 Maximum voltage U_0: 35 V Maximum current I_0: 1.5 mA Maximum output P_0: 13 mW Maximum permissible connected load Capacity / inductance: C_0/L_0: 37nF/50mH or 45nF/2mH, linear characteristic
Operating points:	BIG BAG TCB030/B_: ON <50 MOhm, OFF >100 MOhm / ±20%

VIEW OF APPLIANCE



1	Cable gland with kink guard (Ex)
2	Cable inlet
3	Blanking plug
4	Ground terminal
5	Cable inlet (3x)
6	Indicator lamp, dual color (green/red)
7	Mounting bracket (4x)
8	Type plate



EARTH TERMINAL MSK / ESK

ATEX EARTHING SYSTEMS

Save ground connection for machines and devices. Terminals in nickel-plated brass and stainless steel.

Electrical components with metal body must have per standard 60079-0 a connection point of minimum 4 mm² to connect them with potential earth. These Earth Terminal fulfill these requirements in accordance to the standard EN 60079-0 for ground and bonding conductors.

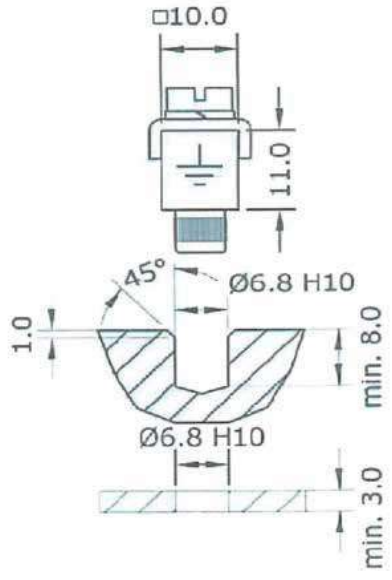
Also the requirements for terminals as per standard EN 60999-1 are kept.

By simply pressing the terminal in a prepared blind hole as per drawing below, the earth terminals supplies a longstanding ground and bonding connection for 1.5 mm² up to 6mm².

ITEM REFERENCES		
Designation:	Material:	Item No.:
MSK	Nickel plated brass	6E0101
ESK	Stainless steel	6E0102

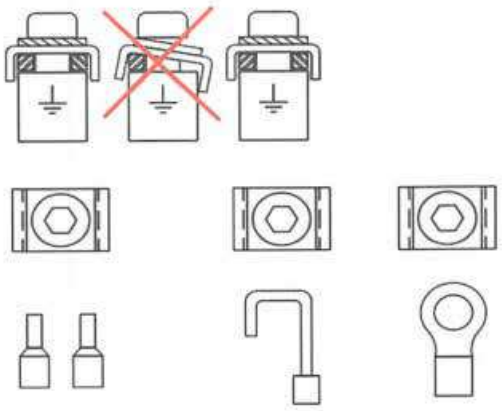
TECHNICAL SPECIFICATIONS			
Certificate:	Declaration of conformity acc. to EN 60999-1 / EN 600079-0		
Base:	Nickel plated brass (MSK) or Stainless steel (ESK)		
Clamp:	Stainless steel		
Screw:	M5 Stainless steel		
Washer:	Stainless steel		
Cross connection:	Rigid / Stranded / Unprepared	With sleeve: 1,5 ... 4 mm²	With cable lug: 1,5 ... 6 mm²
Tightening torque:	2,2 ... 3,0 Nm		

Drawing



Assembling instruction

First the metal body must be predrilled with a blind hole D=6.8 mm and a minimum depth of 8 mm. Flat material must have a minimum thickness of 3 mm. After that, press the body of the earth terminal (without clamp, screw and washer) completely plumb in the blank hole (do not hit them in). Finally complete the earth terminal with clamp, washer and screw. By using two wires, they must have the same cross section.



CONTACT – (+34) 943 530 095 | inpratex@inpratex.com

EARTH TERMINAL MSG / ESG

ATEX EARTHING SYSTEMS

Save ground connection for machines and devices. Terminals in nickel-plated brass and stainless steel.

Electrical components with metal body must have per standard 60079-0 a connection point of minimum 4 mm² to connect them with potential earth. These Earth Terminal fulfill these requirements in accordance to the standard EN 60079-0 for ground and bonding conductors.

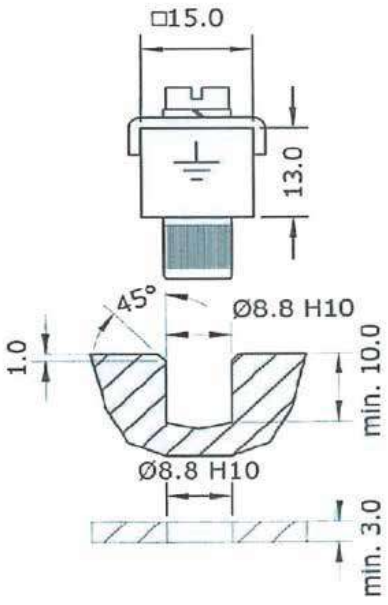
Also the requirements for terminals as per standard EN 60999-1 are kept.

By simply pressing the terminal in a prepared blind hole as per drawing below, the earth terminals supplies a longstanding ground and bonding connection for 4 mm² up to 16mm².

ITEM REFERENCES		
Designation:	**Material:**	**Item No.:**
MSG	Nickel plated brass	6E0103
ESG	Stainless steel	6E0104

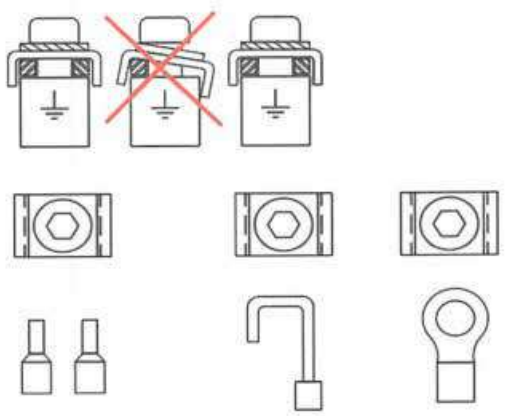
TECHNICAL SPECIFICATIONS			
Certificate:	Declaration of conformity acc. to EN 60999-1 / EN 600079-0		
Base:	Nickel plated brass (MSG) or Stainless steel (ESG)		
Clamp:	Stainless steel		
Screw:	M5 Stainless steel		
Washer:	Stainless steel		
Cross connection:	Rigid / Stranded / Unprepared	With sleeve: 4 ... 16 mm²	With cable lug: 4 ... 16 mm²
Tightening torque:	2,2 ... 3,0 Nm		

Drawing



Assembling instruction

First the metal body must be predrilled with a blind hole D=8.8 mm and a minimum depth of 10 mm. Flat material must have a minimum thickness of 3 mm. After that, press the body of the earth terminal (without clamp, screw and washer) completely plumb in the blank hole (do not hit them in). Finally complete the earth terminal with clamp, washer and screw. By using two wires, they must have the same cross section.



GROUND DISTRIBUTION BLOCKS EVK / EVG

ATEX EARTHING SYSTEMS

These ground distribution blocks are used on machinery and equipment as a central grounding point.

Available in two sizes:

- Up to 2 single cores with 16mm² and a maximum of 10 single cores up to 4 mm² can be connected to the EVG distribution block.

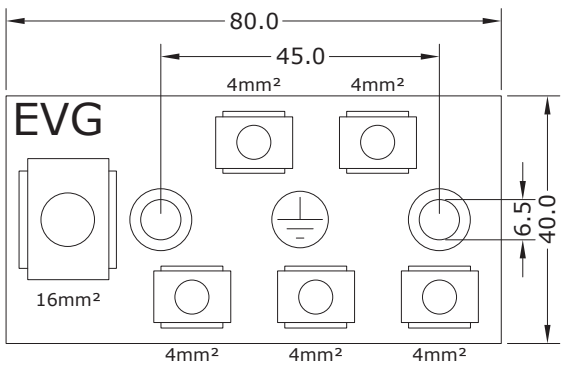
- At the EVK ground distribution block up to 10 single wires up to 4mm².

These ground distribution blocks are made of corrosion-resistant nickel-plated brass and they are rated according to EN60079-0 and EN60999-1 for safe use in potentially explosive atmospheres.

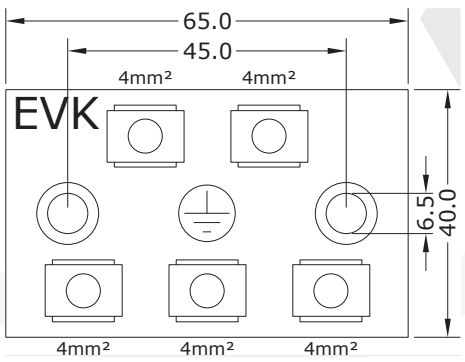
ITEM REFERENCES		
Designation:	**Dimensions:**	**Item No.:**
EVG	80x40x42 mm	6E0105
EVK	65x40x32 mm	6E0106

TECHNICAL SPECIFICATIONS	
Certificate:	Declaration of conformity acc. to EN 60999-1 / EN 600079-0
Operating temperature:	-50°C to +100°C
Material:	Nickel plated brass
EVG:	2x16 mm² + 10x4 mm²
EVK	10x4 mm²

EVG



EVK



5 EXPLOSION-PROOF ENCLOSURES

5 - EXPLOSION-PROOF ENCLOSURES

Inpratex designs and manufactures custom-made Ex d flameproof control panels, certified for use in explosive atmospheres classified as Zones 1 and 2 (gas) and Zones 21 and 22 (dust).

We provide fully customised solutions, supplied completely assembled and certified, with all the internal components required to meet the specific technical and functional needs of each installation.
Each project is developed in accordance with current ATEX regulations, ensuring maximum safety and operational reliability in hazardous industrial environments.

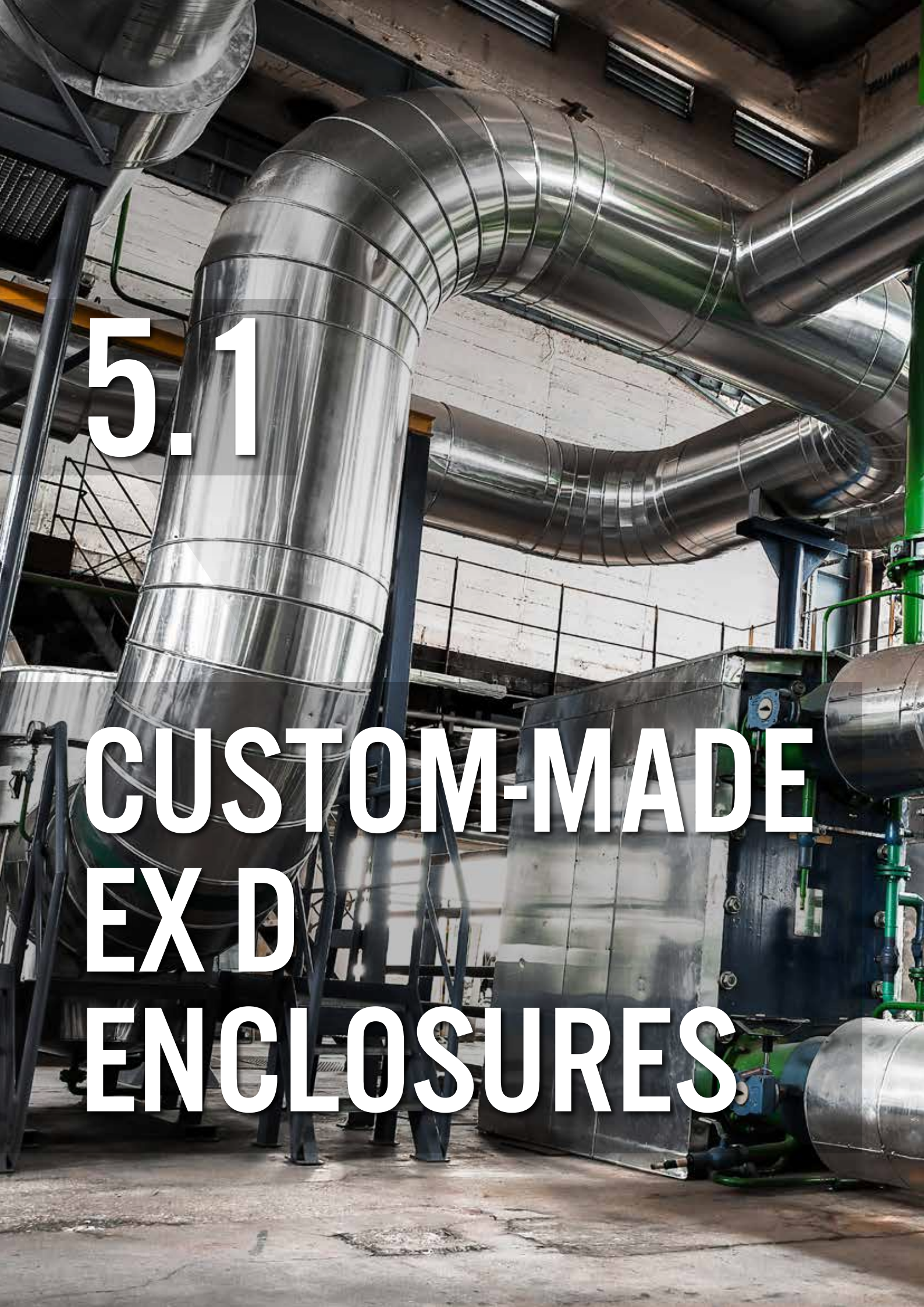
All our Ex d flameproof control panels are supplied with complete technical and legal documentation, including:

- CE marking
- ATEX marking
- Manufacturing drawings
- Declaration of conformity
- Instruction manual

5.1 - CUSTOM-MADE EXPLOSION-PROOF ENCLOSURES 350

5.2 - BOXES FOR EQUIPMENT AND INSTRUMENTATION 360

Our product ranges are constantly updated on our website: ***www.inpratex.com***



5.1

CUSTOM-MADE EX D ENCLOSURES

Ex d ENCLOSURES

ZONES 1, 2 (gas) & 21, 22 (dust)

Ex d explosion-proof enclosures made of aluminium light alloy for the installation of non-ATEX electrical equipment in hazardous areas. Excellent corrosion resistance.

EU-Type Examination Certificate

Painting: Epoxy RAL 7000

Internal anti-condense painting RAL 2004.

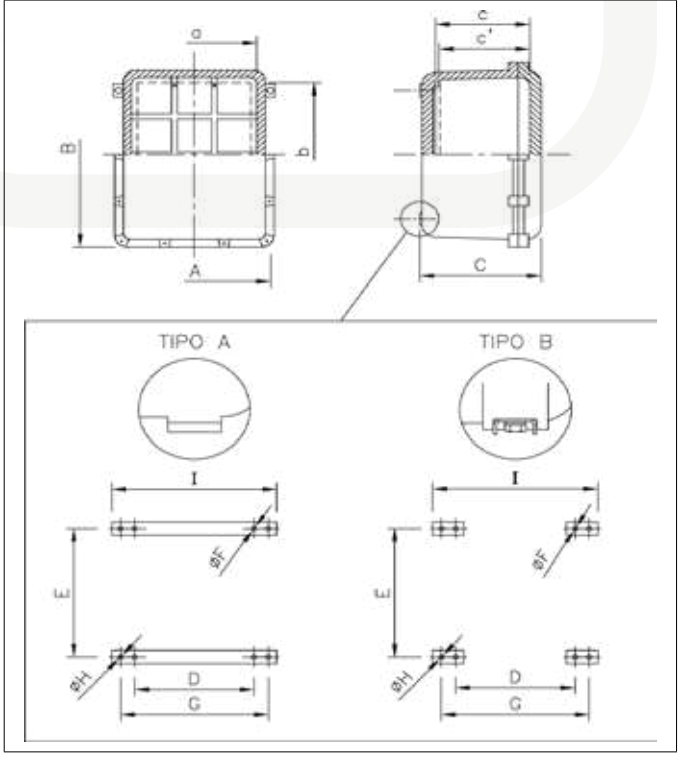
External screws in Stainless Steel.

Fixing brackets and lugs in zinc plated steel.

No empty enclosures supplied (ATEX U)

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex d IIB+H_2 T6-T3 Gb II 2D Ex tb IIIC T85°C-T200°C Db
Certificate:	EU-Type Examination Certificate
Material:	Aluminium
Operating temperature:	-25°C to +40°C
Ingress protection:	IP66
Cable entries:	Metric | NPT

MAIN DIMENSIONS AND INSTALLATION DETAILS



Custom-made Ex d enclosures according to the diameter, quantity and position of the cable entries or the type and quantity of accessories on the cover (push buttons, signal lights, levers, emergency mushrooms).

Possibility of manufacturing with rectangular or circular window in tempered glass, with internal or external frames, which facilitate the visual inspection of the elements installed inside.

Operating temperature range from -50°C to +60°C on request.

Standard delivery with RAL 7000 epoxy painting and RAL 2004 anti-condensation internal coating. Possibility of supply with finishes according to customer requirements.

Suitable for:

- Connection boards
- Control boxes
- Measurement and control instrumentation
- Installation of electrical equipment (fuses, relays, disconnectors, transformers, etc.)
- Installation of electronic equipment

ITEM REFERENCES															
Model:	External dimensions (mm):			Internal dimensions (mm):				Installation template (mm):							Weight (kg):
	A	B	C	a	b	c	c'	Type	D	E	F	G	H	I	
CCF 0G	150	150	127	93	93	96	94	A	104	60	M6	140	7	160	3,2
CCF 1G	150	200	127	93	143	96	94	A	104	110	M6	140	7	160	4,1
CCF 2G	200	250	150	140	190	124	122	A	154	160	M6	190	7	210	6,8
CCF 3G	250	300	150	175	225	117	112	A	185	180	M6	230	9	255	10,6
CCF 3AG	250	300	200	175	225	167	162	A	185	180	M6	230	9	255	11,9
CCF 4G	250	350	150	175	275	117	112	A	185	230	M6	230	9	255	12,0
CCF 4AG	250	350	200	175	275	167	162	A	185	230	M6	230	9	255	13,3
CCF 5G	300	400	200	218	318	164	159	A	225	275	M8	275	9	300	18,0
CCF5AG	300	400	250	218	318	214	209	A	225	275	M8	275	9	300	20,0
CCF 6G	300	450	200	218	368	164	159	A	225	325	M8	275	9	300	20,0
CCF 6AG	300	450	250	218	368	214	209	A	225	325	M8	275	9	300	22,5
CCF 7G	400	500	200	305	405	152	150	B	315	350	M8	370	9	400	31,0
CCF 7AG	400	500	250	305	405	202	200	B	315	350	M8	370	9	400	34,0
CCF 8G	350	550	200	255	455	152	150	A	265	400	M10	320	11	350	31,0
CCF 8AG	350	550	250	255	455	200	200	A	265	400	M10	320	11	350	34,0
CCF 9G	400	600	200	300	500	145	143	A	315	450	M10	370	11	400	38,0
CCF 9AG	400	600	250	300	500	195	193	A	315	450	M10	370	11	400	43,0
CCF 10G	450	650	200	356	548	145	141	B	360	500	M10	420	11	450	49,0
CCF 10AG	450	650	250	356	548	195	191	B	360	500	M10	420	11	450	55,0
CCF 10BG	450	650	300	356	548	245	241	B	360	500	M10	420	11	450	61,5
CCF 11G	500	700	250	386	586	194	183	B	395	520	M10	465	13	500	68,0
CCF 11AG	500	700	300	386	586	244	233	B	395	520	M10	465	13	500	76,0
CCF 11BG	500	700	350	386	586	294	283	B	395	520	M10	465	13	500	84,0
CCF 12G	550	750	250	436	636	190	180	B	445	570	M12	515	13	550	82,0
CCF 12AG	550	750	300	436	636	240	230	B	445	570	M12	515	13	550	90,0
CCF 12BG	550	750	350	436	636	290	280	B	445	570	M12	515	13	550	98,0
CCF 13G	200	600	140	120	520	105	100	A	135	470	M6	180	9	205	15,5
CCF 14G	200	750	175	140	670	130	125	A	150	610	M8	200	9	225	24,0
CCF 16G	670	920	330	550	800	245	240	A	560	650	M16	660	16	700	134,0
CCF 16AG	670	920	390	550	800	305	300	A	560	650	M16	660	16	700	145,0
CCF 16BG	670	920	450	550	800	365	360	A	560	650	M16	660	16	700	162,0
CCF 20BG	450	450	470	356	356	405	398	A	360	300	M10	420	11	450	51,0

EXAMPLES

Ex d ENCLOSURES

ZONES 1, 2 (gas) & 21, 22 (dust)

ATEX certified manual starter and overcurrent protectors specially designed for the protection of electric motors in hazardous areas.

They provide protection against motor overloads and short circuits.

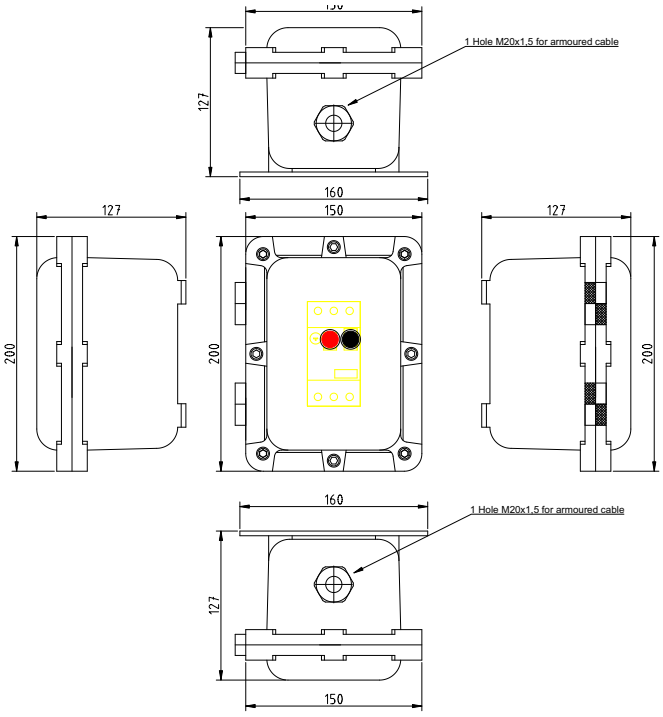
EU-Type Examination Certificate

ITEM REFERENCES

Designation:	AC-3 Category - 50/60 Hz									Setting range of thermal trips:	Magnetic tripping current Id ± 20 %	Item No.:
	400/415 V			500 V			690 V					
	P	Icu	Ics	P	Icu	Ics	P	Icu	Ics			
	kW	kA	%	kW	kA	%	kW	kA	%	A	A	
GM CCF1G 0.25	0.25						0.55	3	75	0.63...1	13	4D0105
GM CCF1G 0.55	0.55			0.55			0,75			1...16	22,5	4D0106
GM CCF1G 0.75	0.75			1.1			1.5	3	75	1.6...2.5	33.5	4D0107
GM CCF1G 1.1	1.1			1.5			2.2	3	75	2.5...4	51	4D0108
GM CCF1G 2.2	2.2			3	50	100	4	3	75	4...6.3	78	4D0110
GM CCF1G 3	3			4	10	100	5,5	3	75	6...10A	138	4D0114
GM CCF1G 5.5	5.5	15	50	7.5	6	75	9	3	75	9...14	170	4D0116
GM CCF1G 7.5	7.5	15	50	9	6	75	15	3	75	13...18	223	4D0120
GM CCF1G 15	15	10	50	18.5	4	75	22	3	75	24...32	416	4D0132

TECHNICAL SPECIFICATIONS

Marking:	II 2G Ex d IIB+H_2 T6 Gb II 2D Ex tb IIIC T85°C Db IP66
Certificate:	EU-Type Examination Certificate
Material:	Aluminium, grey RAL 7000
External dimensions:	200x150x127 mm
Internal dimensions:	143x93x96 mm
Pushbuttons:	2 Pushbuttons Red/Black 3/8" (DP 38)
Operating temperature:	-20°C to +40°C
Ingress protection:	IP66
Cable entries:	Top: 1xM20x1,5 Bottom: 1xM20x1,5



Ex d ENCLOSURES | **ZONES 1, 2 (gas) & 21, 22 (dust)**

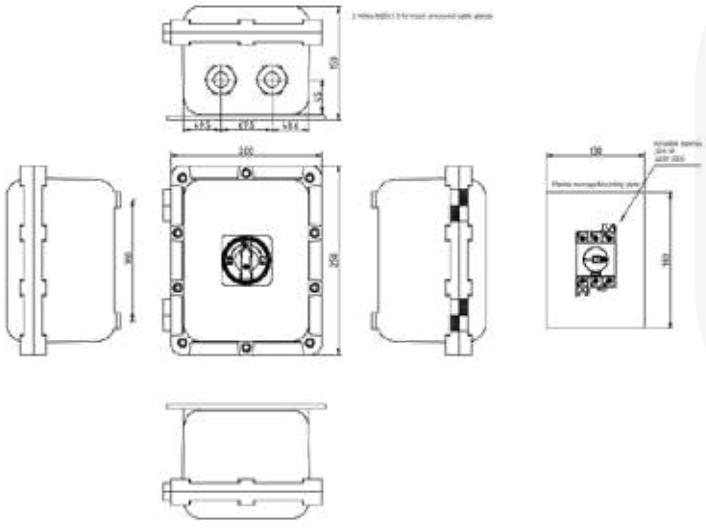
32A, 3-pole ATEX certified load break switch for use in explosive atmospheres. Suitable for classified zones 1, 2, 21 and 22.

Equipped with a lockable external handle, it allows to disconnect low voltage load lines or to control electrical machines under load, both in indoor and outdoor installations, near the sea, offshore plants and other aggressive environments.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
LOAD BREAK SWITCH 3P / 32A	4D0204

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db IIB+H2 T6 Gb II 2D Ex tb IIIC T85°C Db IP66
Certificate:	EU-Type Examination Certificate
Material:	Light aluminum alloy, stainless steel hinges
Operating temperature:	-20°C to +40°C
Ingress protection:	IP66
Dimensions:	External: 200x250x150 mm | Internal: 140x190x118 mm
Colour:	Grey RAL 7000
Interior:	Mounting Plate 130x180mm | 3P 32A Main Circuit Breaker
Lockable handle:	72x72 mm yellow/red ø M12 DPM M127S-L + I 332SR
Cable entries:	2x M25X1,5 (cable glands not included)



RATED VOLTAGE	BREAKING CAPACITY	RATED CURRENT I_e (A)
415 VAC	AC-23A AC-23B	32 A
500 VAC	AC-23A AC-23B	25 A
690 VAC	AC-23A AC-23B	25 A

LOAD BREAK SWITCH 3P / 40A

Zones 1, 2, 21, 22

Ex d ENCLOSURES | ZONES 1, 2 (gas) & 21, 22 (dust)

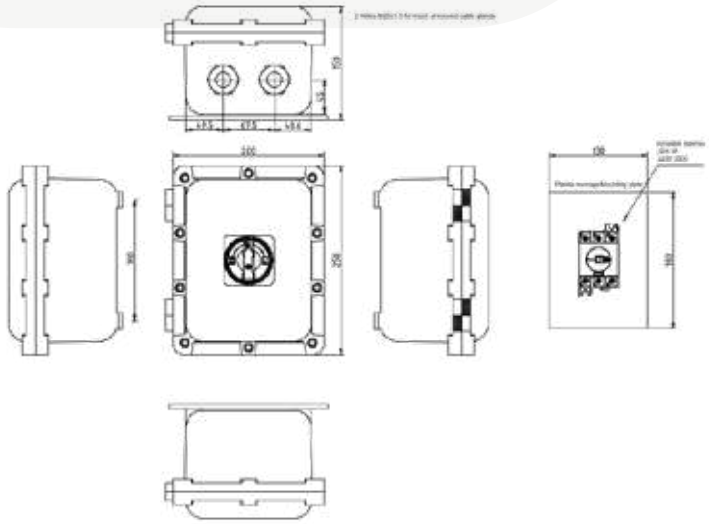
40A, 3-pole ATEX certified load break switch for use in explosive atmospheres. Suitable for classified zones 1, 2, 21 and 22.

Equipped with a lockable external handle, it allows to disconnect low voltage load lines or to control electrical machines under load, both in indoor and outdoor installations, near the sea, offshore plants and other aggressive environments.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
LOAD BREAK SWITCH 3P / 40A	4D0206

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db IIB+H2 T6 Gb II 2D Ex tb IIIC T85°C Db IP66
Certificate:	EU-Type Examination Certificate
Material:	Light aluminum alloy, stainless steel hinges
Operating temperature:	-20°C to +40°C
Ingress protection:	IP66
Dimensions:	External: 200x250x150 mm | Internal: 140x190x118 mm
Colour:	Grey RAL 7000
Interior:	Mounting Plate 130x180mm | 3P 40A Main Circuit Breaker
Lockable handle:	72x72 mm yellow/red ø M12 DPM M127S-L + I 332SR
Cable entries:	2x M25X1,5 (cable glands not included)



RATED VOLTAGE	BREAKING CAPACITY	RATED CURRENT I_e (A)
415 VAC	AC-23A AC-23B	40 A
500 VAC	AC-23A AC-23B	25 A
690 VAC	AC-23A AC-23B	25 A

Ex d ENCLOSURES | **ZONES 1, 2 (gas) & 21, 22 (dust)**

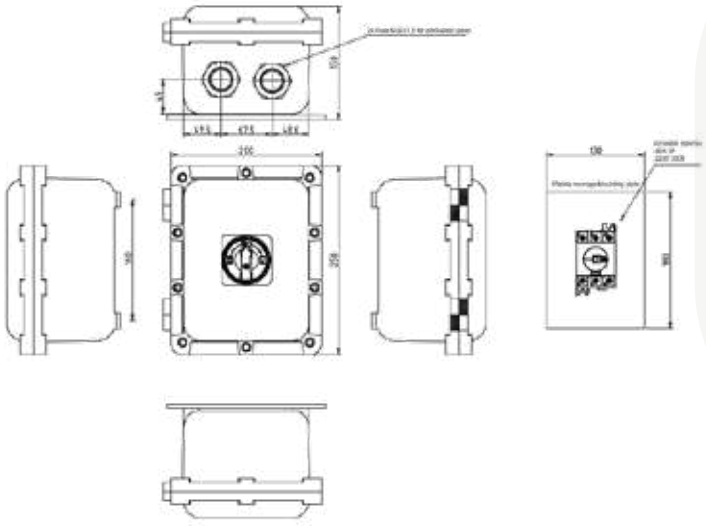
80A, 3-pole ATEX certified load break switch for use in explosive atmospheres. Suitable for classified zones 1, 2, 21 and 22.

Equipped with a lockable external handle, it allows to disconnect low voltage load lines or to control electrical machines under load, both in indoor and outdoor installations, near the sea, offshore plants and other aggressive environments.

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
LOAD BREAK SWITCH 3P / 80A	4D0205

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db IIB+H2 T6 Gb II 2D Ex tb IIIC T85°C Db IP66
Certificate:	EU-Type Examination Certificate
Material:	Light aluminum alloy, stainless steel hinges
Operating temperature:	-20°C to +40°C
Ingress protection:	IP66
Dimensions:	External: 200x250x150 mm | Internal: 140x190x118 mm
Colour:	Grey RAL 7000
Interior:	Mounting Plate 130x180mm | 3P 80A Main Circuit Breaker
Lockable handle:	72x72 mm yellow/red ø M12 DPM M127S-L + I 332SR
Cable entries:	2x M32X1,5 (cable glands not included)



RATED VOLTAGE	BREAKING CAPACITY	RATED CURRENT I_e (A)
415 VAC	AC-23A AC-23B	80 A
500 VAC	AC-23A AC-23B	63 A
690 VAC	AC-23A AC-23B	40 A

Ex d ENCLOSURES

ZONES 1, 2 (gas) & 21, 22 (dust)

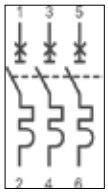
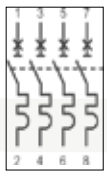
Circuit-breakers housed in an explosion-proof enclosure.

The enclosure has a non-lockable external handle to operate the conventional circuit-breaker in explosive atmospheres.

Standard cable entries: 2 M20x1.5 threaded holes.
Other options are available on request.

Optionally, the enclosure can be identified with a stainless steel plate riveted with black lettering. The text must be specified in advance.

EU-Type Examination Certificate

ITEM REFERENCES			
	Designation:	Rated current (A):	Item No.:
MINIATURE CIRCUIT-BREAKER 2P - C CURVE / iC60N - 2P | 50 kA (0,5 to 4 A) / 10 kA (6 to 63 A)			
	SCH-A9F74202	2	4D0304A
	SCH-A9F74204	4	4D0306A
	SCH-A9F74210	10	4D0308A
	SCH-A9F74220	20	4D0310A
MINIATURE CIRCUIT-BREAKER 3P - C CURVE / iC60N - 3P | 50 kA (0,5 to 4 A) / 10 kA (6 to 63 A)			
	SCH-A9F74302	2	4D0304B
	SCH-A9F74304	4	4D0307B
	SCH-A9F74306	6	4D0308B
	SCH-A9F74310	10	4D0310B
	SCH-A9F74316	16	4D0312B
	SCH-A9F74325	25	4D0314B
MINIATURE CIRCUIT-BREAKER 4P - C CURVE / iC60N - 4P | 50 kA (0,5 to 4 A) / 10 kA (6 to 63 A)			
	SCH-A9F74404	4	4D0306C
	SCH-A9F74410	10	4D0308C
	SCH-A9F74420	20	4D0310C
	SCH-A9F74425	25	4D0311C
	SCH-A9F74432	32	4D0312C

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db IIB+H2 T6 Gb II 2D Ex tb IIIC T85°C Db IP66
Certificate:	EU-Type Examination Certificate
Material:	Light aluminum alloy, stainless steel hinges
Operating temperature:	-20°C to +40°C
Ingress protection:	IP66
Dimensions:	External: 200x250x150 mm | Internal: 140x190x118 mm
Colour:	Grey RAL 7000
Interior:	Mounting Plate 130x180mm
Handle:	Black plastic rotary knob - NOT LOCKABLE TYPE
Cable entries:	2x M20X1,5 (cable glands not included)

Ex d ENCLOSURES

ZONES 1, 2 (gas) & 21, 22 (dust)

CCF7AG series Ex d enclosure designed to house different types of electrical protections in explosive atmospheres, suitable for use in zones 1, 2, 21 and 22. Each block is operated by means of a robust and reliable non-lockable handle.

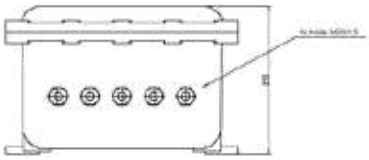
In this particular case we present a head-end and four services consisting of:
1x 2x32A Miniature Circuit Breaker (SCH iC60L A9F94232) -> As a head-end.
4x Blocks (Residual Current Circuit Breaker + Miniature Circuit Breaker / SCH A9F94216 + A9Q41225) -> As services. Each block is associated with a handle

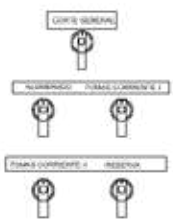
Other protection sizes are possible on request.

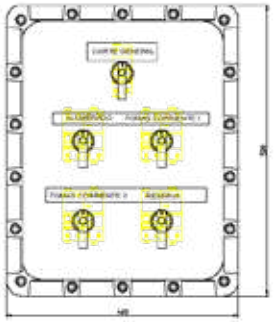
EU-Type Examination Certificate

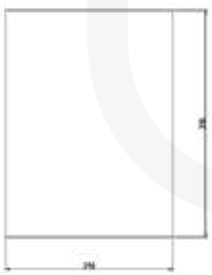
ITEM REFERENCES	
Designation:	**Item No.:**
Ex d control panel - 1 Miniature Circuit Breaker / 4 Residual Current + Miniature Circuit Breaker	4D1001

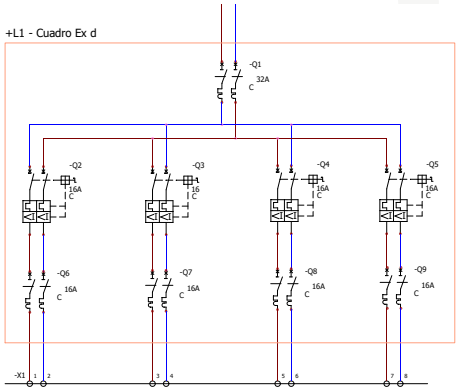
TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db IIB+H2 T6 Gb II 2D Ex tb IIIC T85°C Db IP66
Certificate:	EU-Type Examination Certificate
Material:	Aluminium, Grey RAL 7000
Operating temperature:	-20°C to +40°C
Ingress protection:	IP66
Dimensions:	External: 400x500x250 mm | Internal: 305x405x202 mm
Interior:	Mounting Plate 290x390mm
Content:	1x 2x32A Miniature Circuit Breaker (SCH iC60L A9F94232) -> As a head-end. 4x Blocks (Residual Current Circuit Breaker + Miniature Circuit Breaker / SCH A9F94216 + A9Q41225) -> As services. Each block is associated with a handle
Cable entries:	5x M20X1,5 (cable glands/plugs not included)











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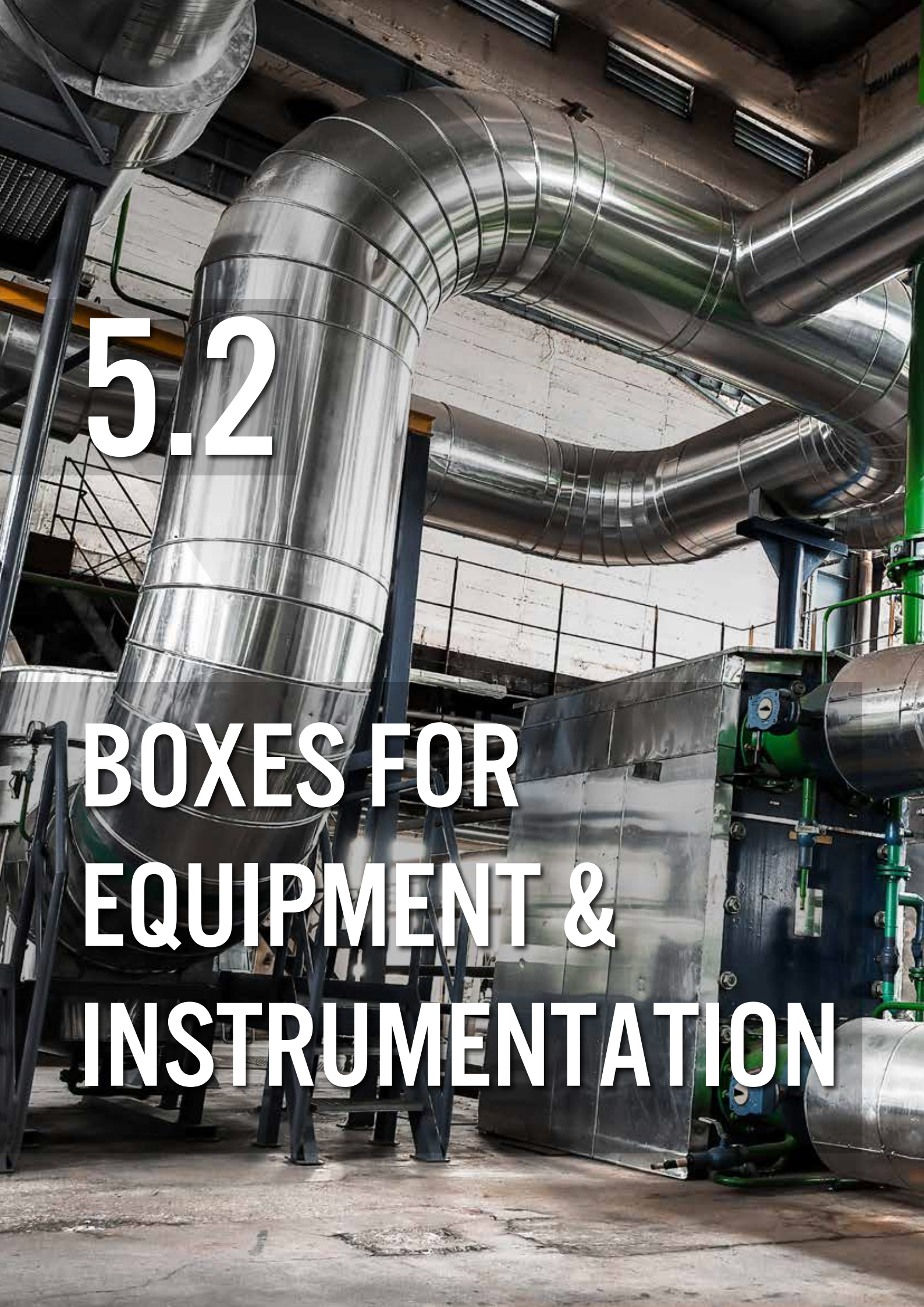


5.2

BOXES FOR EQUIPMENT & INSTRUMENTATION

Ex d ENCLOSURES

ZONES 1, 2 (gas) & 21, 22 (dust)

EU-Type Examination Certificate

Explosion proof enclosures specifically designed to house electrical equipment and instrumentation.

Aluminium body and tempered glass window.

Possibility of manufacture in Aluminox, with higher hardness and anti-corrosion properties than stainless steel.

Supplied with rough surface or outside painted according to customer specifications.

TECHNICAL DATA		
Marking:	II 2G Ex d IIC T6-T4 Gb II 2D Ex tb IIIC T85°C Db	NOTE: The temperature class and the maximum surface temperature may vary depending on the ambient temperature and the power dissipation of the equipment contained in the box.
Certificate:	EU-Type Examination Certificate	
Housing:	Aluminium light alloy (Aluminox on request)	
Operating temperature:	-20°C to +40°C (-50°C to +85°C on request)	
Ingress protection:	IP66/67	
Max. voltage:	660 VAC / 440 VDC	
NOTE: All the electrical equpment shall conform to their respective IEC/CENELEC standards.		

TYPES OF EQUIPMENT / INSTRUMENTATION	
Alarm & alerting module	Amperometric relay (electronic)
Ambient thermostat	Programmable switch (hourly, daily, weekly)
Amperometer (analog / digital)	Programmer (electronic digital)
Anti-surge device (single-phase)	Programmer (analog, with up to 10 LED's)
Anti-surge device (three-phase)	Programmer (electronic with transponder)
Control relay	Pulse counter (electric)
Cosfimeter 0,1 - 1 or cosfimeter 0,2 - 1 (electrodynamic)	Pulse counter (electronic, with built-in relay)
Current relay	Stepping relay
Cycles programmer	Strain gauge signal converter series ICA...
Digital clock (electronic)	Temperature controller (electronic, Digital, adjustable up to 1600°C)
Electromechanical timer (electronic, analog / digital)	Temperature transmitter (2-wires series T...)
Electronic control & measurement board	Time ralay (electronic)
Frequency meter 5 to 500 Hz and 36 to 60 Hz	Transmitter (2-wire series PR)
Fuse-holder (for fuses 8,5x31,5 or 10,3x38 mm)	Twilight swith
Hour counter (electric)	Voltage relay
Isolation controller	Voltmeter (electromagnetic or with permanent magnet up to 600 V)
LCD indicator Mod. E4... (self powered)	Wattmeter up to 999 kW or electrodinamic up to 300 kW
Light barrier (with built-in relay)	Thermometer (electronic, digital up to 1600°C)
Light intensity switch	

Ex d ENCLOSURES

ZONES 1, 2 (gas) & 21, 22 (dust)

Explosion proof enclosures specifically designed to house electrical equipment and instrumentation.

Aluminium body and tempered glass window.

Possibility of manufacture in Aluminox, with higher hardness and anti-corrosion properties than stainless steel.

EU-Type Examination Certificate

TECHNICAL DATA		
Marking:	II 2G Ex d IIC T6-T4 Gb II 2D Ex tb IIIC T85°C-T135°C Db	NOTE: The temperature class and the maximum surface temperature may vary depending on the ambient temperature and the power dissipation of the equipment contained in the box.
Certificate:	EU-Type Examination Certificate	
Housing:	Aluminium light alloy (Aluminox on request)	
Operating temperature:	-20°C to +40°C (-50°C to +80.°C on request)	
Ingress protection:	IP66/67	
Max. voltage:	1000 V AC/DC (as long as it does not contain Ex ia equipment)	
Current:	12 A - 240 A	
NOTE: All the electrical equpment shall conform to their respective IEC/CENELEC standards.		

TYPES OF EQUIPMENT / INSTRUMENTATION	
Alarm & alerting module	Amperometric relay (electronic)
Ambient thermostat	Programmable switch (hourly, daily, weekly)
Amperometer (analog / digital)	Programmer (electronic digital)
Anti-surge device (single-phase)	Programmer (analog, with up to 10 LED's)
Anti-surge device (three-phase)	Programmer (electronic with transponder)
Control relay	Pulse counter (electric)
Cosfimeter 0,1 - 1 or cosfimeter 0,2 - 1 (electrodynamic)	Pulse counter (electronic, with built-in relay)
Current relay	Stepping relay
Cycles programmer	Strain gauge signal converter series ICA...
Digital clock (electronic)	Temperature controller (electronic, Digital, adjustable up to 1600°C)
Electromechanical timer (electronic, analog / digital)	Temperature transmitter (2-wires series T...)
Electronic control & measurement board	Time ralay (electronic)
Frequency meter 5 to 500 Hz and 36 to 60 Hz	Transmitter (2-wire series PR)
Fuse-holder (for fuses 8,5x31,5 or 10,3x38 mm)	Twilight swith
Hour counter (electric)	Voltage relay
Isolation controller	Voltmeter (electromagnetic or with permanent magnet up to 600 V)
LCD indicator Mod. E4... (self powered)	Wattmeter up to 999 kW or electrodinamic up to 300 kW
Light barrier (with built-in relay)	Thermometer (electronic, digital up to 1600°C)
Light intensity switch	

6

CABLE GLANDS & INSTALLATION MATERIAL

6 - CABLE GLANDS & INSTALLATION MATERIAL

Inpratex offers a comprehensive range of ATEX-certified cable glands and installation accessories, designed to provide maximum safety and reliability in hazardous areas within industrial plants. These components ensure fully watertight and dust-tight connections, protecting against dust, moisture and dirt in potentially explosive atmospheres.

The range of ATEX cable glands includes:

- Polyamide cable glands with increased safety (Ex e) and intrinsic safety (Ex i) protection, suitable for non-armoured cable installations.
- Metal cable glands manufactured from brass, nickel-plated brass or stainless steel, suitable for armoured and non-armoured cables, and certified for use with Ex d flameproof enclosures and junction boxes.

The range is completed with polyamide and metal stopping plugs, intended for the protection of unused cable entries in junction boxes and flameproof enclosures.

Inpratex also supplies metal adaptors and reducers, enabling a safe and secure connection between the cable entry and the equipment when different thread types or sizes are required, ensuring a compliant and reliable installation.

6.1 - CABLE GLANDS FOR ARMOURED CABLE 366

6.2 - CABLE GLANDS FOR NON-ARMOURED CABLE 372

6.3 - INSTALLATION MATERIAL 380

Our product ranges are constantly updated on our website: ***www.inpratex.com***

6.1

CABLE GLANDS FOR ARMOURED CABLE

OS-E1UF CABLE GLAND - WIRE ARMOURED CABLE

Zones 1, 2, 21, 22

ATEX CABLE GLANDS | ZONES 1, 2 (gas) & 21, 22 (dust)

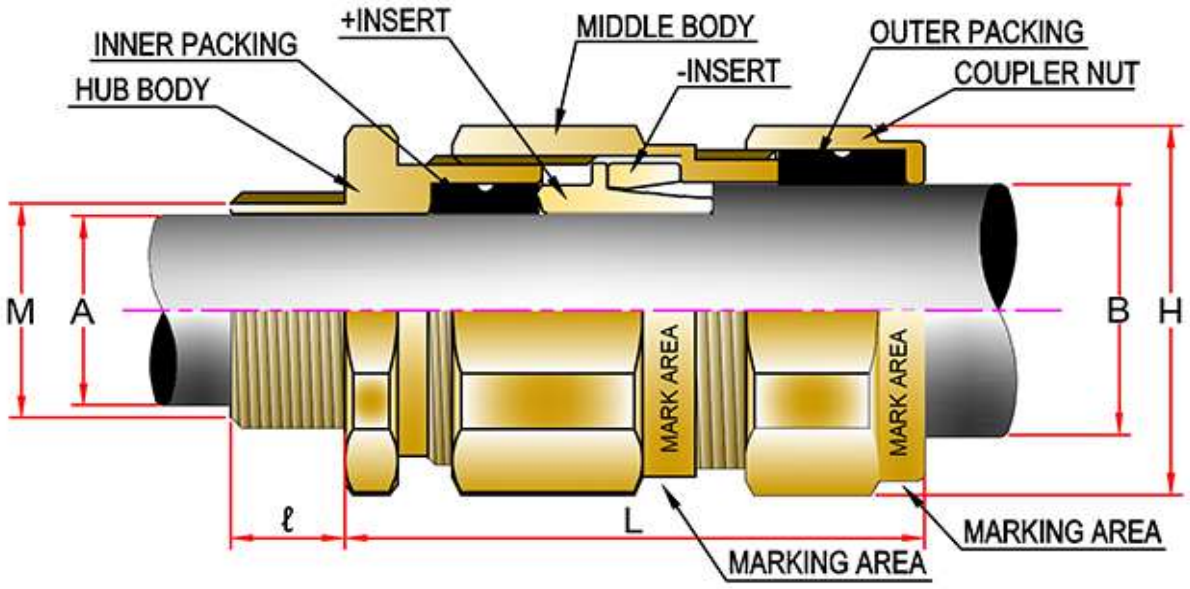
ATEX certified double compression cable glands for use with any type of armoured cable

Manufactured in brass and nickel plated brass.
Stainless steel on request.

EU-Type Examination Certificate

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db IIC Gb II 2G Ex eb IIC Gb II 2D Ex tb IIIC Db
Certificate:	EU-Type Examination Certificate
Operating conditions:	Indoor / Outdoor
Material:	Brass, nickel plated brass Stainless steel (on request)
Protection class:	IP66/67
Operating temperature:	-60°C to +110°C

ARMOUR	
Single wire armoured SWA	W
Wire braided SWB	X
Aluminium strip armoured ASA	Y
Double steel tape armoured STA	Z



OS-E1UF CABLE GLAND - WIRE ARMOURED CABLE

Zones 1, 2, 21, 22

ITEM REFERENCES (METRIC)											
Metric:	Inner A:		Outer B:		Thread Length (l):	Armour size		Hexagon Dimensions (H):	Weight (g):	Length (L):	Item No.:
	Mín.:	Máx.:	Mín.:	Máx.:		Wire:	Braid:				
M16x1,5	5	11,5	9	15,5	15	0,9~1,25	0,05 ~ 0,8	H25 x P27	137	56	7B0701
M20x1,5	5	11,5	9	15,5	15	0,9~1,25	0,05 ~ 0,8	H25 x P27	137	56	7B0702
M20x1,5	7,5	15,2	13,2	20,5	15	0,9~1,25	0,05 ~ 0,8	H31 x P34	212	63	7B0703B
M25x1,5	7,5	15,2	13,2	20,5	15	0,9~1,25	0,05 ~ 0,8	H31 x P34	212	63	7B0704B
M25x1,5	13	19,6	17	26	15	1,25~1,6	0,05 ~ 0,8	H37 x P40	325	68	7B0705
M32x1,5	16,5	26,2	24	33,5	15	1,6~2,0	0,05 ~ 1,2	H47 x P50	570	75	7B0706
M40x1,5	23	32,3	30	41,5	15	1,6~2,0	0,05 ~ 1,2	H56 x P60	876	83	7B0707
M50x1,5	29	41,5	38	50	15	1,8~2,5	0,05 ~ 1,2	H70 x P75	1445	89	7B0708
M63x1,5	39	50	45	60	15	1,8~2,5	0,05 ~ 1,2	H77 x P82	1740	98	7B0709
M63x1,5	46	55	55	66	15	1,8~2,5	0,05 ~ 1,2	H82 x P88	1907	98	7B0710
M75x1,5	52	61	58	72	20	1,8~2,5	0,05 ~ 1,2	H92 x P100	3270	109	7B0711
M75x1,5	59	67	66,1	79	20	1,8~2,5	0,05 ~ 1,2	H98 x P106	2912	109	7B0712
M90x2	66	80	72	90	25	1,8~3,0	0,05 ~ 1,6	H110 x P120	4600	111	7B0713
M100x2	76	90,5	84	101,5	25	1,8~3,0	0,05 ~ 1,6	H125 x P135	5500	123	7B0714
M115x2	88	102	100	116	25	1,8~3,0	0,05 ~ 1,6	H135 x P143	5500	123	7B0715

ITEM REFERENCES (NPT)											
NPT:	Inner A:		Outer B:		Thread Length (l):	Armour size		Hexagon Dimensions (H):	Weight (g):	Length (L):	Item No.:
	Mín.:	Máx.:	Mín.:	Máx.:		Wire:	Braid:				
1/2”	5	11,5	9	15,5	15	0,9~1,25	0,05 ~ 0,8	H25 x P27	137	56	7B0801
1/2”	7,5	15,2	13,2	20,5	15	0,9~1,25	0,05 ~ 0,8	H31 x P34	212	63	7B0802B
3/4”	7,5	15,2	13,2	20,5	16	0,9~1,25	0,05 ~ 0,8	H31 x P34	212	63	7B0803B
3/4”	13	19,6	17	26	16	1,25~1,6	0,05 ~ 0,8	H37 x P40	325	68	7B0804
1”	13	19,6	17	26	18	1,25~1,6	0,05 ~ 0,8	H37 x P40	325	68	7B0805
1”	16,5	26,2	24	33,5	18	1,6~2,0	0,05 ~ 1,2	H47 x P50	570	75	7B0806
1-1/4”	16,5	26,2	24	33,5	19	1,6~2,0	0,05 ~ 1,2	H47x P50	570	75	7B0807
1-1/4”	23	32,3	30	41,5	19	1,6~2,0	0,05 ~ 1,2	H56 x P60	876	83	7B0808
1-1/2”	23	32,3	30	41,5	21	1,6~2,0	0,05 ~ 1,2	H56 x P60	876	83	7B0809
1-1/2”	29	41,5	38	50	21	1,8~2,5	0,05 ~ 1,2	H70 x P75	1445	89	7B0810
2”	29	41,5	38	50	24	1,8~2,5	0,05 ~ 1,2	H70 x P75	1445	89	7B0811
2”	39	50	45	60	24	1,8~2,5	0,05 ~ 1,2	H77 x P82	1740	98	7B0812
2-1/2”	46	55	55	66	27	1,8~2,5	0,05 ~ 1,2	H82 x P88	1907	98	7B0814
2-1/2”	52	61	58	72	27	1,8~2,5	0,05 ~ 1,2	H92 x P100	3270	109	7B0815
3”	59	67	66,1	79	30	1,8~2,5	0,05 ~ 1,2	H98 x P106	2912	109	7B0817
3”	66	80	72	90	30	1,8~3,0	0,05 ~ 1,6	H110 x P120	4600	111	7B0818
3-1/2”	66	80	72	90	32	1,8~3,0	0,05 ~ 1,6	H110 x P120	4600	111	7B0819
3-1/2”	76	90,5	84	101,5	32	1,8~3,0	0,05 ~ 1,6	H125 x P135	5500	123	7B0820
4”	76	95,5	84	101,5	32	1,8~3,0	0,05 ~ 1,6	H125 x P135	5500	123	7B0821
4”	88	102	100	116	32	1,8~3,0	0,05 ~ 1,6	H135 x P143	5500	123	7B0822

ATEX CABLE GLANDS

ZONES 1, 2 (gas) & 21, 22 (dust)

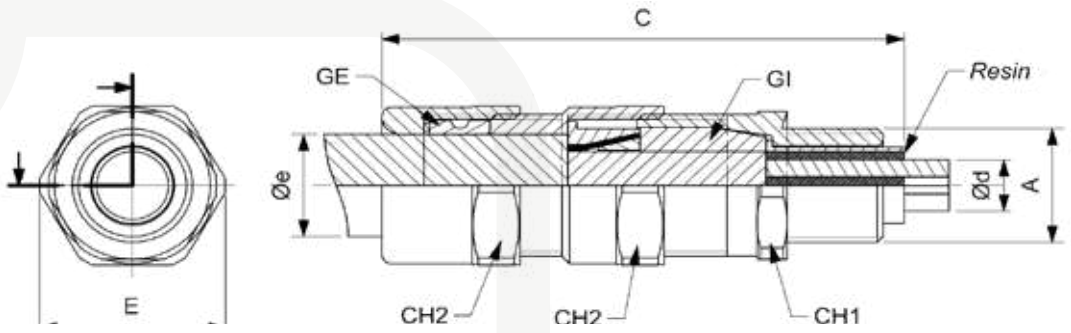
ATEX certified sealing cable glands for explosion-proof Ex d enclosures.

They need an internal airtight seal that prevents the transmission of an internal explosion.

Necessary when using Ex-d flameproof enclosures, with an internal volume greater than 2 litres in Zone 1, containing any source of ignition.

EU-Type Examination Certificate

PMAX DIMENSIONS



PMAX ITEM REFERENCES - METRIC

Metric:	C:	CH1:	CH2:	E:	GI:	Ød shealth:	GE:	Øe cable:	Weight:	Item No.:
M20x1,5	87	26	28	31	1GI1	4 - 7 mm	1GE1	6 - 10 mm	0,198 kg	7G0101
M20x1,5	87	26	28	31	1GI2	7 - 9,5 mm	1GE2	10 - 13 mm	0,198 kg	7G0102
M20x1,5	87	26	28	31	1GI3	9 - 12 mm	1GE3	13 - 18 mm	0,198 kg	7G0103
M25x1,5	87	31	34	37	2GI1	9 - 12 mm	2GE1	13 - 18 mm	0,262 kg	7G0104
M25x1,5	87	31	34	37	2GI2	12 - 14,5 mm	2GE2	13 - 18 mm	0,262 kg	7G0105
M25x1,5	87	31	34	37	2GI3	14 - 17 mm	2GE3	18 - 23 mm	0,262 kg	7G0106
M32x1,5	109	42	45	49	3GI1	14 - 17 mm	3GE1	18 - 23 mm	0,566 kg	7G0107
M32x1,5	109	42	45	49	3GI2	17 - 20 mm	3GE2	21 - 26 mm	0,566 kg	7G0108
M32x1,5	109	42	45	49	3GI3	20 - 23 mm	3GE3	24 - 30 mm	0,566 kg	7G0109
M40x1,5	109	46	48	53	4GI1	20 - 23 mm	4GE1	24 - 30 mm	0,624 kg	7G0110
M40x1,5	109	46	48	53	4GI2	23 - 26 mm	4GE2	29 - 35 mm	0,624 kg	7G0111
M40x1,5	109	46	48	53	4GI3	26 - 29 mm	4GE3	29 - 35 mm	0,624 kg	7G0112
M50x1,5	109	56	58	64	5GI1	20 - 23 mm	5GE1	26 - 31 mm	0,914 kg	7G0113
M50x1,5	109	56	58	64	5GI2	23 - 26 mm	5GE2	31 - 37 mm	0,914 kg	7G0114
M50x1,5	109	56	58	64	5GI3	26 - 29 mm	5GE3	31 - 37 mm	0,914 kg	7G0115
M50x1,5	109	56	58	64	5GI4	29 - 32 mm	5GE4	36 - 43 mm	0,914 kg	7G0116
M50x1,5	109	56	58	64	5GI5	32 - 35 mm	5GE5	36 - 43 mm	0,914 kg	7G0117
M63x1,5	109	65	68	75	6GI1	35 - 39 mm	6GE1	42 - 46 mm	1,087 kg	7G0118
M63x1,5	109	65	68	75	6GI2	39 - 42 mm	6GE2	45 - 49 mm	1,087 kg	7G0119
M63x1,5	109	65	68	75	6GI3	42 - 45 mm	6GE3	48 - 52 mm	1,087 kg	7G0120

PMAX ITEM REFERENCES - NPT										
NPT:	C:	CH1:	CH2:	E:	GI:	Ød shealth:	GE:	Øe cable:	Weight:	Item No.:
1/2” NPT	87	26	28	31	1GI1	4 - 7 mm	1GE1	6 - 10 mm	0,198 kg	7G0201
1/2” NPT	87	26	28	31	1GI2	7 - 9,5 mm	1GE2	10 - 13 mm	0,198 kg	7G0202
1/2” NPT	87	26	28	31	1GI3	9 - 12 mm	1GE3	13 - 18 mm	0,198 kg	7G0203
3/4” NPT	87	31	34	37	2GI1	9 - 12 mm	2GE1	13 - 18 mm	0,262 kg	7G0204
3/4” NPT	87	31	34	37	2GI2	12 - 14,5 mm	2GE2	13 - 18 mm	0,262 kg	7G0205
3/4” NPT	87	31	34	37	2GI3	14 - 17 mm	2GE3	18 - 23 mm	0,262 kg	7G0206
1” NPT	109	42	45	49	3GI1	14 - 17 mm	3GE1	18 - 23 mm	0,566 kg	7G0207
1” NPT	109	42	45	49	3GI2	17 - 20 mm	3GE2	21 - 26 mm	0,566 kg	7G0208
1” NPT	109	42	45	49	3GI3	20 - 23 mm	3GE3	24 - 30 mm	0,566 kg	7G0209
1.1/4” NPT	109	46	48	53	4GI1	20 - 23 mm	4GE1	24 - 30 mm	0,624 kg	7G0210
1.1/4” NPT	109	46	48	53	4GI2	23 - 26 mm	4GE2	29 - 35 mm	0,624 kg	7G0211
1.1/4” NPT	109	46	48	53	4GI3	26 - 29 mm	4GE3	29 - 35 mm	0,624 kg	7G0212
1.1/2” NPT	109	56	58	64	5GI1	20 - 23 mm	5GE1	26 - 31 mm	0,914 kg	7G0213
1.1/2” NPT	109	56	58	64	5GI2	23 - 26 mm	5GE2	31 - 37 mm	0,914 kg	7G0214
1.1/2” NPT	109	56	58	64	5GI3	26 - 29 mm	5GE3	31 - 37 mm	0,914 kg	7G0215
1.1/2” NPT	109	56	58	64	5GI4	29 - 32 mm	5GE4	36 - 43 mm	0,914 kg	7G0216
1.1/2” NPT	109	56	58	64	5GI5	32 - 35 mm	5GE5	36 - 43 mm	0,914 kg	7G0217
2” NPT	109	65	68	75	6GI1	35 - 39 mm	6GE1	42 - 46 mm	1,087 kg	7G0218
2” NPT	109	65	68	75	6GI2	39 - 42 mm	6GE2	45 - 49 mm	1,087 kg	7G0219
2” NPT	109	65	68	75	6GI3	42 - 45 mm	6GE3	48 - 52 mm	1,087 kg	7G0220

TECHNICAL SPECIFICATIONS	
Marking:	Ex II 2G Ex d IIC / Ex e II Ex II 2D Ex tD A21
Certificate:	EU-Type Examination Certificate
Operating conditions:	Indoor / Outdoor
Material:	Nickel plated brass
Ingress protection:	IP66
Operating temperature:	-40°C to +100°C

ACCESSORIES	
Designation:	Item No.:
Bicomponent resin REPM-1 50 ml	7G0501
Manual applicator for 50 ml cartridges	7G0502

6.2

CABLE GLANDS FOR NON-ARMOURED CABLE

EX E PLASTIC CABLE GLAND - NON-ARMOURED CABLE

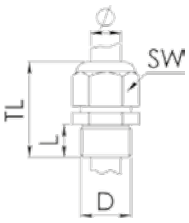
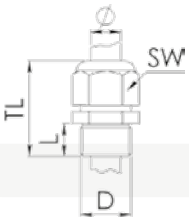
Zones 1, 2, 21, 22

ATEX CABLE GLANDS | ZONES 1, 2 (gas) & 21, 22 (dust)

Ex e plastic cable glands (black) and Ex i plastic cable glands (blue), suitable for use in potentially explosive atmospheres.

For hazardous environments—such as offshore oil platforms, dangerous goods storage facilities, or chemical processing plants—we supply EX cable glands offering various protection types in full compliance with ATEX and IECEx standards.

EU-Type Examination Certificate

ITEM REFERENCES								
	Metric:	Type:	Cable diameter:		Length L:	Length TL:	Width SW:	Item No.:
			Min:	Max:				
Ex e 	M12x1,5	HIBM	3	6,5	10	29-34	15	7A0201
	M16x1,5	HIBM	4	10	10	31-37	19	7A0202
	M20x1,5 (*)	ESKE/1-e-RDE	7	13	10	36-45	24	7A0102
	M25x1,5	ESKE/1	10	17	10	38-47	29	7A0103
	M32x1,5	ESKE/1	13	21	12	42-51	36	7A0104
	M40x1,5	ESKE/1	17	28	12	52-65	46	7A0105
	M50x1,5	ESKE/1	23	35	14	59-72	55	7A0106
	M63x1,5	ESKE/1	34	48	15	64-78	68	7A0107
Ex i 	M12x1,5	HIBM	3	6,5	10	29-34	15	7A0301
	M16x1,5	HIBM	4	10	10	31-37	19	7A0302
	M20x1,5 (*)	ESKE/1-i-RDE	7	13	10	36-45	24	7A0109
	M25x1,5	ESKE/1	10	17	10	38-47	29	7A0110
	M32x1,5	ESKE/1	13	21	12	42-51	36	7A0111
	M40x1,5	ESKE/1	17	28	12	52-65	46	7A0112
	M50x1,5	ESKE/1	23	35	14	59-72	55	7A0113
	M63x1,5	ESKE/1	34	48	15	64-78	68	7A0114

(*) Reduced Sealing Range (4 - 8 mm)

TECHNICAL SPECIFICATIONS TYPE HIBM	
Marking:	II 2G Ex e IIC Gb II 2D Ex tb IIIC Db IP66/68
Certificate:	EU-Type Examination Certificate
Operating conditions:	Indoor / Outdoor
Material:	Polyamide
Protection class:	IP66 / IP68
Operating temperature:	-40°C to +70°C

TECHNICAL SPECIFICATIONS TYPE ESKE/1	
Marking:	II 2G Ex eb IIC Gb II 2D Ex tb IIIC Db
Certificate:	EU-Type Examination Certificate
Operating conditions:	Indoor / Outdoor
Material:	Gland Polyamide, Gasket EPDM
Protection class:	IP66 / IP68 (5 bar 30 min)
Operating temperature:	-40°C to +75°C

EX E PLASTIC CABLE GLAND - NON-ARMOURED CABLE

Zones 1, 2, 21, 22

ACCESSORIES

Polyamide blind plugs for exclusive use in the cable glands proposed in this technical data sheet.

Material:	Polyamide
Hazard level EN acc. 45545	R22=HL3 / R23=HL3 / R24=HL3
Temp. range min/ max.	-60°C to +100°C
Colour:	Red
Total length TL:	See table below

ITEM REFERENCES

Type:	Gland thread:	Length TL:	Item No.:
BS 8	M20x1,5 (*)	16 mm	BS 8
BS 13	M20x1,5	22 mm	BS 13
BS 17	M25x1,5	22 mm	BS 17
BS 21	M32x1,5	30 mm	BS 21
BS 28	M40x1,5	30 mm	BS 28
BS 35	M50x1,5	35 mm	BS 35
BS 48	M63x1,5	35 mm	BS 48

(*) Reduced Sealing Range (4 - 8 mm)

OS-A2F-U CABLE GLAND - NON-ARMOURED CABLE

Zones 1, 2, 21, 22

ATEX CABLE GLANDS | ZONES 1, 2 (gas) & 21, 22 (dust)

Flameproof & Increased Safety cable glands for use with non armoured cable.

Single compression.

Manufactured in brass and nickel plated brass.
Stainless steel on request.

EU-Type Examination Certificate

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db IIC Gb II 2G Ex eb IIC Gb II 2D Ex tb IIIC Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-60° to +110°C
Material:	Brass, nickel plated brass and stainless steel (on request)
Gasket (washer):	Nylon
Ingress protection:	IP66/68

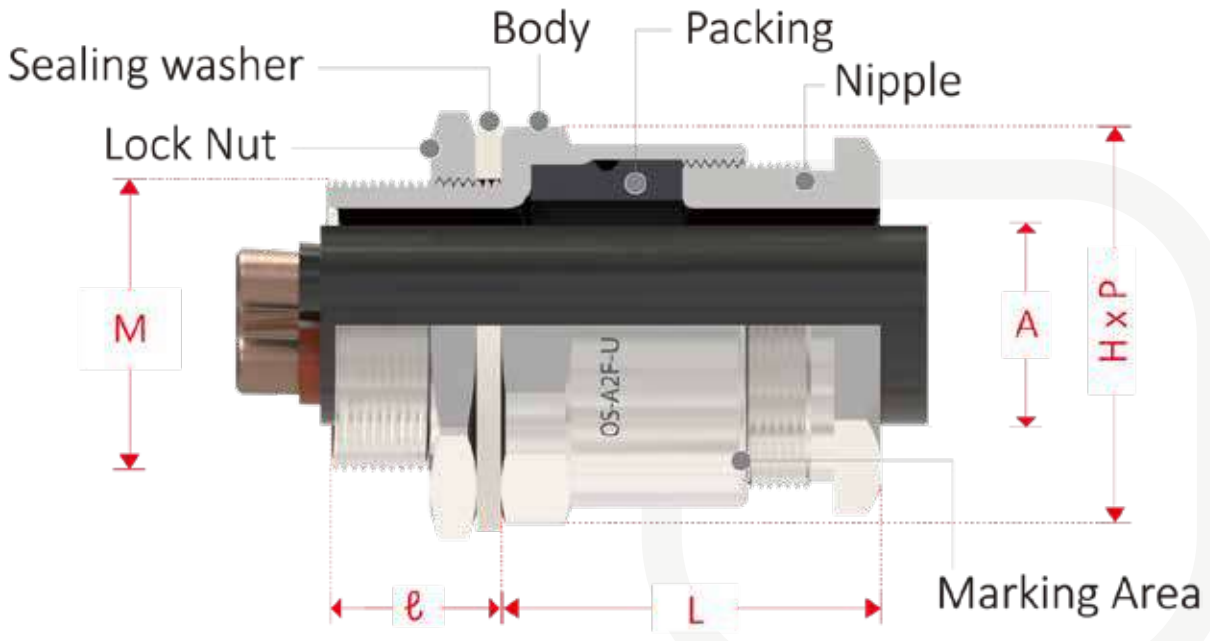
ITEM REFERENCES (METRIC)

Metric:	Cable diameter:		Thread Length (l):	Hexagon Dimensions (H):	Weight (g):	Length (L):	Item No.:
	Min.:	Max.:					
M12x1,5	3	7	15	H24 x P26	72	29	7B0900
M16x1,5	3	7	15	H24 x P26	72	29	7B0901
M16x1,5	5	10,3	15	H24 x P26	72	29	7B0902
M20x1,5	3	7	15	H24 x P26	72	29	7B0903
M20x1,5	5	10,3	15	H24 x P26	72	29	7B0904
M20x1,5	9	15,3	15	H27 x P29	79	31	7B0905
M25x1,5	13	20	15	H32 x P34	108	33	7B0906
M32x1,5	17	26,5	15	H39 x P41,5	168	36	7B0907
M40x1,5	22	32	15	H48 x P51	272	38	7B0908
M50x1,5	30	42	15	H58 x P62	371	41	7B0909
M63x1,5	39	51	15	H73 x P78	720	44	7B0910
M63x1,5	46	55	15	H73 x P78	600	44	7B0911
M75x1,5	54	61	20	H85 x P90	950	48	7B0912
M75x1,5	58	68	20	H94 x P99	1070	49	7B0913
M90x2	66	78	25	H103 x P109	1480	53	7B0914
M100x2	77	89	25	H112 x P120	2250	59	7B0915
M115x2	88	101	25	H125 x P135	2400	59	7B0916

OS-A2F-U CABLE GLAND - NON-ARMOURED CABLE

Zones 1, 2, 21, 22

ITEM REFERENCES (NPT)							
NPT:	Cable diameter:		Thread Length (l):	Hexagon Dimensions (H):	Weight (g):	Length (L):	Item No.:
	Min.:	Max.:					
1/2”	3	7	15	H24 x P26	72	29	7B1001
1/2”	5	10,3	15	H24 x P26	72	29	7B1002
1/2”	9	15,3	15	H27 x P29	79	31	7B1003
3/4”	9	15,3	16	H27 x P29	79	31	7B1004
3/4”	13	20	16	H32 x P34	108	33	7B1005
1”	13	20	18	H32 x P34	108	33	7B1006
1”	17	26,5	18	H39 x P41,5	168	36	7B1007
1-1/4”	17	26,5	19	H39 x P41,5	168	36	7B1008
1-1/4”	22	32	19	H48 x P51	272	38	7B1009
1-1/2”	22	32	21	H48 x P51	272	38	7B1010
1-1/2”	30	42	21	H58 x P62	371	41	7B1011
2”	30	42	24	H58 x P62	371	41	7B1012
2”	39	51	24	H73 x P78	720	44	7B1013
2-1/2”	46	55	27	H73 x P78	600	44	7B1015
2-1/2”	54	61	27	H85 x P90	950	48	7B1016
3”	58	68	30	H94 x P99	1070	49	7B1018
3”	66	78	30	H103 x P109	1480	53	7B1019
3-1/2”	66	78	32	H103 x P109	1480	53	7B1020
3-1/2”	77	89	32	H112 x P120	2250	59	7B1021
4”	77	89	32	H112 x P120	2250	59	7B1022
4”	88	101	32	H125 x P135	2400	59	7B1023



ATEX CABLE GLANDS

ZONES 1, 2 (gas) & 21, 22 (dust)

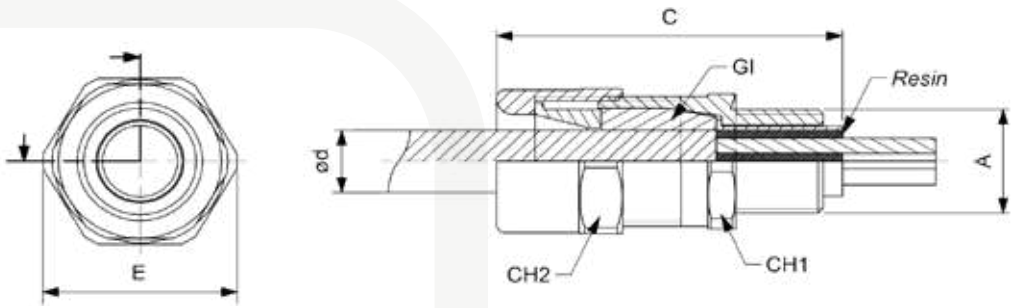
ATEX certified sealing cable glands for explosion-proof Ex d enclosures.

They need an internal airtight seal that prevents the transmission of an internal explosion.

Necessary when using Ex-d flameproof enclosures, with an internal volume greater than 2 litres in Zone 1, containing any source of ignition.

EU-Type Examination Certificate

DIMENSIONS SERIE PMX



PMX ITEM REFERENCES - METRIC

Metric:	C:	CH1:	CH2:	E:	GI:	Ød shealth:	Weight:	Item No.:
M20x1,5	63	26	28	31	1GI1	4 - 7 mm	0,142 kg	7G0301
M20x1,5	63	26	28	31	1GI2	7 - 9,5 mm	0,142 kg	7G0302
M20x1,5	63	26	28	31	1GI3	9 - 12 mm	0,142 kg	7G0303
M25x1,5	63	31	34	37	2GI1	9 - 12 mm	0,183 kg	7G0304
M25x1,5	63	31	34	37	2GI2	12 - 14,5 mm	0,183 kg	7G0305
M25x1,5	63	31	34	37	2GI3	14 - 17 mm	0,183 kg	7G0306
M32x1,5	78	42	45	49	3GI1	14 - 17 mm	0,405 kg	7G0307
M32x1,5	78	42	45	49	3GI2	17 - 20 mm	0,405 kg	7G0308
M32x1,5	78	42	45	49	3GI3	20 - 23 mm	0,405 kg	7G0309
M40x1,5	78	46	48	53	4GI1	20 - 23 mm	0,453 kg	7G0310
M40x1,5	78	46	48	53	4GI2	23 - 26 mm	0,453 kg	7G0311
M40x1,5	78	46	48	53	4GI3	26 - 29 mm	0,453 kg	7G0312
M50x1,5	79	56	58	64	5GI1	20 - 23 mm	0,685 kg	7G0313
M50x1,5	79	56	58	64	5GI2	23 - 26 mm	0,685 kg	7G0314
M50x1,5	79	56	58	64	5GI3	26 - 29 mm	0,685 kg	7G0315
M50x1,5	79	56	58	64	5GI4	29 - 32 mm	0,685 kg	7G0316
M50x1,5	79	56	58	64	5GI5	32 - 35 mm	0,685 kg	7G0317
M63x1,5	79	65	68	75	6GI1	35 - 39 mm	0,836 kg	7G0318
M63x1,5	79	65	68	75	6GI2	39 - 42 mm	0,836 kg	7G0319
M63x1,5	79	65	68	75	6GI3	42 - 45 mm	0,836 kg	7G0320

PMX ITEM REFERENCES - NPT								
NPT:	C:	CH1:	CH2:	E:	GI:	Ød shealth:	Weight:	Item No.:
1/2” NPT	63	26	28	31	1GI1	4 - 7 mm	0,142 kg	7G0401
1/2” NPT	63	26	28	31	1GI2	7 - 9,5 mm	0,142 kg	7G0402
1/2” NPT	63	26	28	31	1GI3	9 - 12 mm	0,142 kg	7G0403
3/4” NPT	63	31	34	37	2GI1	9 - 12 mm	0,183 kg	7G0404
3/4” NPT	63	31	34	37	2GI2	12 - 14,5 mm	0,183 kg	7G0405
3/4” NPT	63	31	34	37	2GI3	14 - 17 mm	0,183 kg	7G0406
1” NPT	78	42	45	49	3GI1	14 - 17 mm	0,405 kg	7G0407
1” NPT	78	42	45	49	3GI2	17 - 20 mm	0,405 kg	7G0408
1” NPT	78	42	45	49	3GI3	20 - 23 mm	0,405 kg	7G0409
1.1/4” NPT	78	46	48	53	4GI1	20 - 23 mm	0,453 kg	7G0410
1.1/4” NPT	78	46	48	53	4GI2	23 - 26 mm	0,453 kg	7G0411
1.1/4” NPT	78	46	48	53	4GI3	26 - 29 mm	0,453 kg	7G0412
1.1/2” NPT	79	56	58	64	5GI1	20 - 23 mm	0,685 kg	7G0413
1.1/2” NPT	79	56	58	64	5GI2	23 - 26 mm	0,685 kg	7G0414
1.1/2” NPT	79	56	58	64	5GI3	26 - 29 mm	0,685 kg	7G0415
1.1/2” NPT	79	56	58	64	5GI4	29 - 32 mm	0,685 kg	7G0416
1.1/2” NPT	79	56	58	64	5GI5	32 - 35 mm	0,685 kg	7G0417
2” NPT	79	65	68	75	6GI1	35 - 39 mm	0,836 kg	7G0418
2” NPT	79	65	68	75	6GI2	39 - 42 mm	0,836 kg	7G0419
2” NPT	79	65	68	75	6GI3	42 - 45 mm	0,836 kg	7G0420

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex d IIC / Ex e II II 2D Ex tD A21
Certificate:	EU-Type Examination Certificate
Operating conditions:	Indoor / Outdoor
Material:	Nickel plated brass
Ingress protection:	IP66
Operating temperature:	-40°C to +100°C

ACCESSORIES	
Designation:	Item No.:
Bicomponent resin REPM-1 50 ml	7G0501
Manual applicator for 50 ml cartridges	7G0502

6.3

INSTALLATION MATERIAL

OS-A2F-UH CABLE GLAND - HEAT TRACING/FLAT FORM CABLE

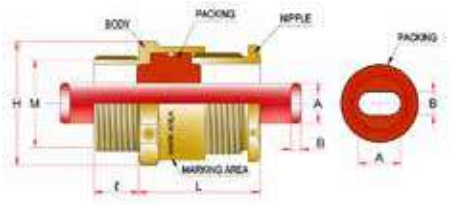
Zones 1, 2, 21, 22

ATEX CABLE GLANDS | **ZONES 1, 2 (gas) & 21, 22 (dust)**

OS-A2F-UH is a hazardous area approved cable gland for use with all types of Flat-Form Unarmoured & Braid Armour Cables.

- Increased safety
- Suitable for heat tracing / Flat form cable
- Single compression

EU-Type Examination Certificate



ITEM REFERENCES (METRIC)							
Metric:	Cable dimensions:		Thread Length (l)-Min.:	Hexagon Dimensions:	Weight (g):	Length (L):	Item No.:
	A:	B:					
M20x1,5	12	5	15	H32 x P34	125	48	7B1501A
	13	6,5					7B1501B
	14	6					7B1501C
	15	6,5					7B1501D
	12	7,5					7B1501E
M25x1,5	12	5	15	H32 x P34	110	48	7B1502A
	13	6,5					7B1502B
	14	6					7B1502C
	15	6,5					7B1502D
	16,5	7					7B1502E
	12	7,5					7B1502F

ITEM REFERENCES (NPT)							
NPT:	Cable dimensions:		Thread Length (l)-Min.:	Hexagon Dimensions:	Weight (g):	Length (L):	Item No.:
	A:	B:					
1/2”	12	5	15	H32 x P34	125	48	7B1601A
	13	6,5					7B1601B
	14	6					7B1601C
	15	6,5					7B1601D
	12	7,5					7B1601E
3/4”	12	5	16	H32 x P34	110	48	7B1602A
	13	6,5					7B1602B
	14	6					7B1602C
	15	6,5					7B1602D
	16,5	7					7B1602E
	12	7,5					7B1602F

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb IIC Gb II 2D Ex tb IIIC Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-60°C to +121°C
Ingress protection:	IP66
Operating conditions:	Indoor / Outdoor
Material:	Nickel plated brass
Gasket (washer):	Nylon
Packing:	Silicone

OSER-Z EMC CABLE GLAND - SHIELDED/SCREENED CABLE

Zones 1, 2, 21, 22

ATEX CABLE GLANDS | **ZONES 1, 2 (gas) & 21, 22 (dust)**

Nickel plated brass EMC cable glands to provide earth continuity for shielded and screened cables, where required. EMC is used within the automation, telecommunication and measurement and control rechnologies. Another industry that benefits from EMC glands is industrial machinery and industrial engineering.

- Outdoor & Indoor use
- EMC cable gland. (360˚ contact)
- Increased safety
- Single compression

EU-Type Examination Certificate

(in mm)*

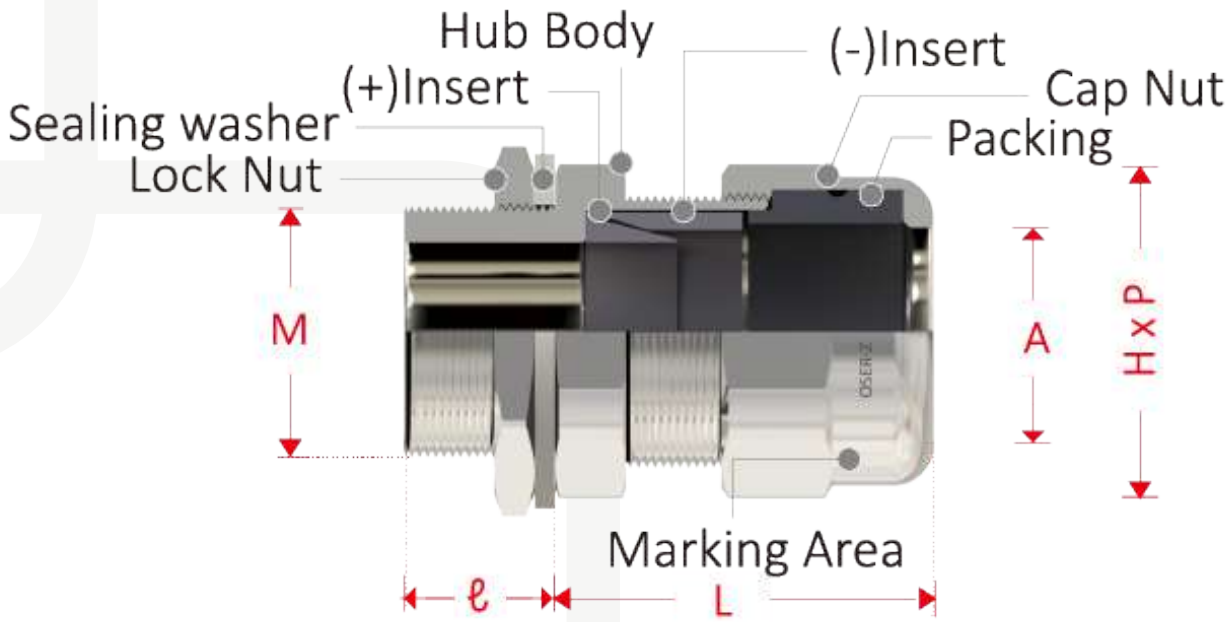
ITEM REFERENCES (METRIC)

Metric:	Cable Diameter:		Thread Length (l):	Hexagon Dimensions:	Weight (g):	Length (L):	Item No.:
	Min.:	Max.:					
M16x1,5	5	11,5	15	H21 x P23	68	30	7B1101A
M20x1,5	5	11,5	15	H21 x P23	68	30	7B1101B
M20x1,5	9	16	15	H25 x P27	75	32	7B1101
M20x1,5	13	17,5	15	H31 x P33	130	36	7B1102
M25x1,5	9	16	15	H25 x P27	75	32	7B1103
M25x1,5	14	20	15	H31 x P33	130	36	7B1104
M32x1,5	20	26	15	H37 x P40	190	40	7B1105
M40x1,5	25	34	15	H47 x P50	294	41	7B1106
M50x1,5	33	42	15	H56 x P60	393	44	7B1107
M63x1,5	42	52	15	H70 x P75	742	47	7B1108

ITEM REFERENCES (NPT)

NPT:	Cable Diameter:		Thread Length (l):	Hexagon Dimensions:	Weight (g):	Length (L):	Item No.:
	Min.:	Max.:					
1/2”	5	11,5	15	H21 x P23	68	30	7B1200
1/2”	9	16	15	H25 x P27	75	32	7B1201
1/2”	13	17,5	15	H31 x P33	130	36	7B1202
3/4”	9	16	15	H25 x P27	75	32	7B1203
3/4”	14	20	16	H31 x P33	130	36	7B1204
1”	14	20	16	H31 x P33	130	36	7B1205
1”	20	26	18	H37 x P40	190	40	7B1206
1-1/4”	20	26	18	H37 x P40	190	40	7B1207
1-1/4”	25	34	19	H47 x P50	294	41	7B1208
1-1/2”	25	34	19	H47 x P50	294	41	7B1209
1-1/2”	33	42	21	H56 x P60	393	44	7B1210
2”	33	42	21	H56 x P60	393	44	7B1211
2”	42	52	24	H70 x P60	742	47	7B1212
2-1/2”	42	52	24	H70 x P60	742	47	7B1213

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb IIC Gb II 2D Ex tb IIIC Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-60°C to +130°C
Ingress protection:	IP66/67
Material:	Nickel plated brass (standard), Brass (Only), Stainless steel (316L)
Gasket (washer):	Nylon
Packing:	Silicone



OSBD BREATHER DRAIN

Zones 1, 2, 21, 22

ATEX INSTALLATION MATERIAL | ZONES 1, 2 (gas) & 21, 22 (dust)

The ATEX/IECEx OSBD breather drains enable pressure compensation between enclosures and surrounding atmosphere, thereby minimizing moisture build-up caused by temperature fluctuation and humid environments. Furthermore, they effectively drain any condensed water present within the device.

EU-Type Examination Certificate

ITEM REFERENCES (METRIC)		
Metric:	Hexagon Dimensions:	Item No.:
M20x1,5	H25 x P28	7B1301
M25x1,5	H31 x P34	7B1302

ITEM REFERENCES (NPT)		
NPT:	Hexagon Dimensions:	Item No.:
1/2”	H25 x P28	7B1401
3/4”	H31 x P34	7B1402

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb IIC Gb II 2D Ex tb IIIC Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-60°C to +110°C
Ingress protection:	IP66
Operating conditions:	Indoor / Outdoor
Material:	Nickel plated brass (standard), Brass (Only), Stainless steel (316L)
Gasket (washer):	PTFE (Teflon)
Filter:	Copper compressed metallic sinter

EX E PLASTIC STOPPING PLUGS

Zones 1, 2, 21, 22

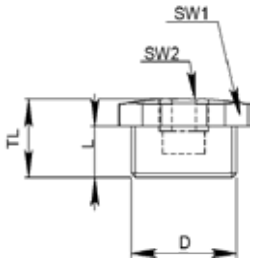
ATEX INSTALLATION MATERIAL | ZONES 1, 2 (gas) & 21, 22 (dust)

Ex e plastic plugs valid for potentially explosive atmospheres.

The locking screws are used to close unused openings of electrical equipment of the “e” and “t” protection type.

Black colour (RAL 9005)

EU-Type Examination Certificate

ITEM REFERENCES						
	Metric:	Length L:	Length TL:	SW1:	SW2:	Item No.:
	M12x1,5	15	19	16	6	7C0100
	M16x1,5	15	19	20	8	7C0101
	M20x1,5	15	19	24	8	7C0102
	M25x1,5	15	20	29	8	7C0103
	M32x1,5	15	20	36	8	7C0104
	M40x1,5	15	20	46	8	7C0105
	M50x1,5	15	20	55	8	7C0106
	M63x1,5	15	20	68	8	7C0107

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb IIC Gb II 2D Ex tb IIIC Db
Certificate:	EU-Type Examination Certificate
Operating conditions:	Indoor / Outdoor
Material:	Polyamide
Protection class:	IP68
Operating temperature:	-40°C to +75°C

OSSP(H) STOPPING PLUGS, METAL

Zones 1, 2, 21, 22

ATEX INSTALLATION MATERIAL | **ZONES 1, 2 (gas) & 21, 22 (dust)**

Flameproof & Increased Safety stopping plugs, to block entries for maintenance of the flameproof and increased safety integrity of the equipment. Provides a means of blanking unused or spare entries.

Manufactured in brass and nickel plated brass.

Stainless steel 316L on request.

EU-Type Examination Certificate

For NPT threads in Ex d enclosures, no shoulder plugs must be used, in accordance with EN 60079-1.

ITEM REFERENCES				
Metric:	Thread Length [ℓ]:	Hexagon/Round Dimensions H (mm):	Weight (g):	Item No.:
M16x1,5	15	21	50	7D0101
M20x1,5	15	27	75	7D0102
M25x1,5	15	31	100	7D0103
M32x1,5	15	38	120	7D0104
M40x1,5	15	46	195	7D0105
M50x1,5	15	57	310	7D0106
M63x1,5	15	70	475	7D0107
M75x1,5	20	82	730	7D0108
M90x2	20	98	950	7D0109
M100x2	20	112	1285	7D0110

NPT:	Thread Length [ℓ]:	Hexagon/Round Dimensions H (mm):	Weight (g):	Item No.:
1/2”	15	27	75	7D0111
3/4”	16	31	100	7D0112
1”	18	38	120	7D0113
1-1/4”	19	46	195	7D0114
1-1/2”	21	57	310	7D0115
2”	24	70	475	7D0116
2-1/2”	27	82	730	7D0117
3”	30	98	950	7D0118
3-1/2”	32	112	1285	7D0119
4”	32	125	1285	7D0120

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db IIC Gb, Ex eb IIC Gb II 2D Ex tb IIIC Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-60°C to +110°C
Material:	Brass, nickel plated brass and stainless steel 316L (on request)
Gasket (washer):	Nylon
Ingress protection:	IP66/68

OSSP(R) STOPPING PLUGS, METAL (ON REQUEST)

Zones 1, 2, 21, 22

ATEX INSTALLATION MATERIAL | ZONES 1, 2 (gas) & 21, 22 (dust)

Flameproof & Increased Safety stopping plugs, to block entries for maintenance of the flameproof and increased safety integrity of the equipment. Provides a means of blanking unused or spare entries.

Manufactured in brass and nickel plated brass.

Stainless steel 316L on request.

EU-Type Examination Certificate

For NPT threads in Ex d enclosures, no shoulder plugs must be used, in accordance with EN 60079-1.

ITEM REFERENCES (SUPPLIED ON REQUEST)				
Metric:	Thread Length[ℓ]:	Hexagon/Round Dimensions D (mm):	Weight (g):	Item No.:
M16x1,5	15	22	35	7D0201
M20x1,5	15	27	55	7D0202
M25x1,5	15	32	90	7D0203
M32x1,5	15	40	155	7D0204
M40x1,5	15	50	250	7D0205
M50x1,5	15	57	410	7D0206
M63x1,5	15	70	655	7D0207
M75x1,5	20	82	890	7D0208
M90x2	20	98	1150	7D0209
M100x2	20	112	1550	7D0210

NPT:	Thread Length[ℓ]:	Hexagon/Round Dimensions D (mm):	Weight (g):	Item No.:
1/2”	15	27	55	7D0211
3/4”	16	32	90	7D0212
1”	18	40	155	7D0213
1-1/4”	19	50	250	7D0214
1-1/2”	21	55	410	7D0215
2”	24	70	655	7D0216
2-1/2”	27	82	890	7D0217
3”	30	98	1150	7D0218
3-1/2”	32	112	1550	7D0219
4”	32	123	1550	7D0220

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db IIC Gb, Ex eb IIC Gb II 2D Ex tb IIIC Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-60°C to +110°C
Material:	Brass, nickel plated brass and stainless steel 316L (on request)
Gasket (washer):	Nylon
Ingress protection:	IP66/68

OSSP(T) STOPPING PLUGS, METAL (ON REQUEST)

Zones 1, 2, 21, 22

ATEX INSTALLATION MATERIAL | **ZONES 1, 2 (gas) & 21, 22 (dust)**

Flameproof & Increased Safety stopping plugs, to block entries for maintenance of the flameproof and increased safety integrity of the equipment. Provides a means of blanking unused or spare entries.

Manufactured in brass and nickel plated brass.

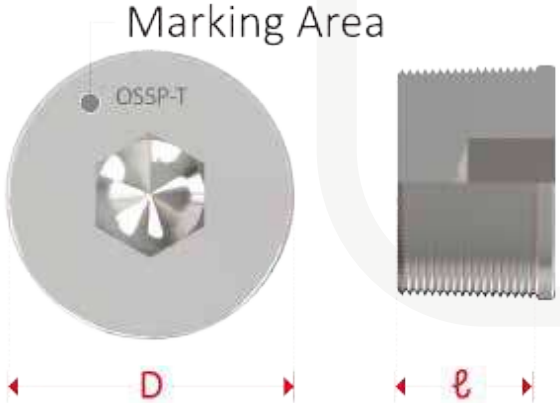
Stainless steel 316L on request.

EU-Type Examination Certificate

For NPT threads in Ex d enclosures, no shoulder plugs must be used, in accordance with EN 60079-1.

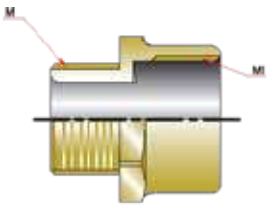
ITEM REFERENCES (SUPPLIED ON REQUEST)				
NPT:	Thread Length[ℓ]:	Hexagon/Round Dimensions D (mm):	Weight (g):	Item No.:
1/2”	15	27	30	7D0301
3/4”	16	32	55	7D0302
1”	18	40	100	7D0303
1-1/4”	19	50	160	7D0304
1-1/2”	21	55	265	7D0305
2”	24	70	430	7D0306
2-1/2”	27	82	650	7D0307
3”	30	98	920	7D0308
3-1/2”	32	112	1210	7D0309

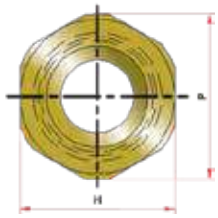
TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db IIC Gb, Ex eb IIC Gb II 2D Ex tb IIIC Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-60°C to +110°C
Material:	Brass, nickel plated brass and stainless steel 316L (on request)
Gasket (washer):	Nylon
Ingress protection:	IP66/68



CONTACT - (+34) 943 530 095 | inpratex@inpratex.com

ATEX INSTALLATION MATERIAL | **ZONES 1, 2 (gas) & 21, 22 (dust)**





Provides a means of thread conversion.

Flameproof & Increased Safety adaptors for use in hazardous areas.

EU-Type Examination Certificate

Part No Example : OSAJ 0809 (OSAJ, NPT 3" x NPT 3-1/2") => Please refer to the below table

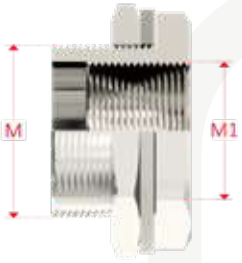
ITEM REFERENCES

OSAJ			Female thread size (M1)																				
			METRIC										NPT										
			M16	M20	M25	M32	M40	M50	M63	M75	M90	M100	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"
Male thread size (M)	METRIC	M16	00	01	02	03							000	001	002	003							
		M20		11	12	13	14							101	102	103	104						
		M25			22	23	24	25							202	203	204	205					
		M32				33	34	35	36							303	304	305	306				
		M40					44	45	46	47							404	405	406	407			
		M50						55	56	57	58							505	506	507	508		
		M63							66	67	68	69							606	607	608	609	
		M75								77	78	79								707	708	709	710
		M90									88	89									808	809	810
		M100										99										909	910
	NPT	3/8"	000	001	002	003							0000	0001	0002	0003							110
		1/2"		011	012	013	014							0101	0102	0103	0104						
		3/4"			022	023	024	025							0202	0203	0204	0205					
		1"				033	034	035	036							0303	0304	0305	0306				
		1-1/4"					044	045	046	047							0404	0405	0406	0407			
		1-1/2"						055	056	057	058							0505	0506	0507	0508		
		2"							066	067	068	069							0606	0607	0608	0609	
		2-1/2"								077	078	079								0707	0708	0709	0710
		3"									088	089									0808	0809	0810
		3-1/2"										099										0909	0910
		4"																					1010

TECHNICAL SPECIFICATIONS

Marking:	II 2G Ex db IIC Gb II 2G Ex eb IIC Gb II 2D Ex tb IIIC Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-60° to +60°C
Material:	Brass, nickel plated brass and stainless steel 316L (on request)
Gasket (washer):	Nylon
Ingress protection:	IP66/68

ATEX INSTALLATION MATERIAL | **ZONES 1, 2 (gas) & 21, 22 (dust)**



Flameproof & Increased Safety reducers for use in hazardous areas.

EU-Type Examination Certificate

Part No Example : OSRA20 (OSRA, M25 x M16) => Please refer to the below table

ITEM REFERENCES

OSRA			Female thread size (M1)																			
			METRIC										NPT									
			M16	M20	M25	M32	M40	M50	M63	M75	M90	M100	3/8”	1/2”	3/4”	1”	1-1/4”	1-1/2”	2”	2-1/2”	3”	3-1/2”	4”
Male thread size (M)	METRIC	M16																					
		M20	10										100										
		M25	20	21									200	201									
		M32	30	31	32								300	301	302								
		M40	40	41	42	43							400	401	402	403							
		M50	50	51	52	53	54						500	501	502	503	504						
		M63	60	61	62	63	64	65					600	601	602	603	604	605					
		M75		71	72	73	74	75	76					701	702	703	704	705	706				
		M90			82	83	84	85	86	87					802	803	804	805	806	807			
		M100				93	94	95	96	97	98					903	904	905	906	907	908		
	NPT	3/8”																					
		1/2”	010										0100										
		3/4”	020	021									0200	0201									
		1”	030	031	032								0300	0301	0302								
		1-1/4”	040	041	042	043							0400	0401	0402	0403							
		1-1/2”	050	051	052	053	054						0500	0501	0502	0503	0504						
		2”	060	061	062	063	064	065					0600	0601	0602	0603	0604	0605					
		2-1/2”		071	072	073	074	075	076					0701	0702	0703	0704	0705	0706				
		3”			082	083	084	085	086	087					0802	0803	0804	0805	0806	0807			
		3-1/2”				093	094	095	096	097	098					0903	0904	0905	0906	0907	0908		
		4”					104	105	106	107	108	109					1004	1005	1006	1007	1008	1009	

TECHNICAL SPECIFICATIONS

Marking:	II 2G Ex db IIC Gb II 2G Ex eb IIC Gb II 2D Ex tb IIIC Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-60° to +110°C
Material:	Brass, nickel plated brass and stainless steel (on request)
Gasket (washer):	Nylon
Ingress protection:	IP66/68

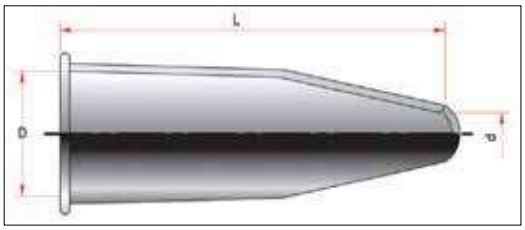
OSSH SHROUD (ON REQUEST)

INSTALLATION MATERIAL

Shrouds for fitting over cable glands when additional environmental conditions are required.

Material: CR70 (PCP)

For outdoor or indoor use.



ITEM REFERENCES E1WF TYPE CABLE GLANDS (SUPPLIED ON REQUEST)				
Type:	Size:	D	d	L
OSSH-A-16	16	28	6	93
OSSH-A-20	20	35	10	98
OSSH-A-25	25	40	14	102
OSSH-A-32	32	50	18	115
OSSH-A-40	40	60	24	124
OSSH-A-50	50	74	30	132
OSSH-A-63	63	89	38	152
OSSH-A-75	75	107	53	171
OSSH-A-90	90	121	72	175
OSSH-A-100	100	131	86	190

ITEM REFERENCES OSNJ TYPE CABLE GLANDS (SUPPLIED ON REQUEST)				
Type:	Size:	D	d	L
OSSH-B-16	16	24	4	52
OSSH-B-20	20	28	7	55
OSSH-B-25	25	32	12	59
OSSH-B-32	32	40	15	65
OSSH-B-40	40	50	21	71
OSSH-B-50	50	60	28	79
OSSH-B-63	63	78	30	111
OSSH-A-63	75	89	38	152
OSSH-A-75	90	107	53	171
OSSH-A-90	100	121	72	175

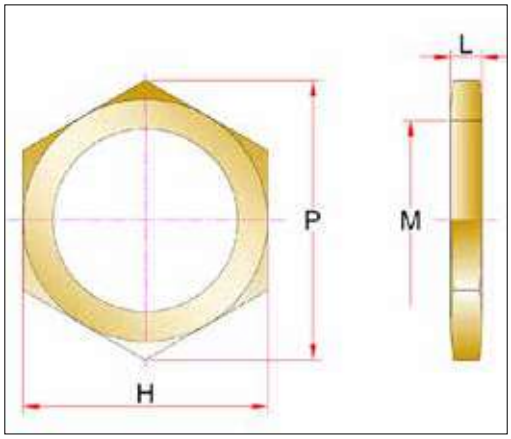
All dimensions in milimeters.

OSLN LOCK NUT (ON REQUEST)

INSTALLATION MATERIAL

Lock nut designed for securing a cable gland in position of the equipment.

Material: Brass, Nickel plated brass, Stainless steel (316L)



ITEM REFERENCES - METRIC THREAD (SUPPLIED ON REQUEST)			
Size:	**H**	**P**	**L**
OSLN M16	22	25	4
OSLN M20	27	31	4
OSLN M25	32	36,5	4
OSLN M32	39	44,5	5
OSLN M40	48	55	5
OSLN M50	60	69	5
OSLN M63	73	84	6
OSLN M75	85	98	6
OSLN M90	102	117	10
OSLN M100	112	128	12
OSLN M115	125	144	12

ITEM REFERENCES - NPT THREAD (SUPPLIED ON REQUEST)			
Size:	**H**	**P**	**L**
OSLN 1/2”	27	31	4
OSLN 3/4”	32	36	4
OSLN 1”	39	45	5
OSLN 1-1/4”	48	55,5	5
OSLN 1-1/2”	60	67	5
OSLN 2”	73	87	6
OSLN 2-1/2”	85	98	6
OSLN 3”	102	119	10
OSLN 3-1/2”	112	126	12
OSLN 4”	125	144	12

All dimensions in milimeters.

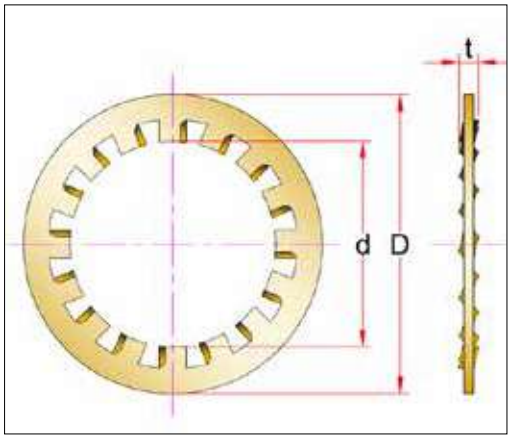
OSTW SERRATED WASHER / TEETH WASHER (ON REQUEST)

INSTALLATION MATERIAL

Serrated washer / Teeth washer for use on cable gland entry threads.

To dampen vibrations of the cable gland / equipment assembly which may loosen the cable gland or lock nut.

Stainless steel. Outdoor or indoor use.



ITEM REFERENCES - METRIC THREAD (SUPPLIED ON REQUEST)			
Size:	D	d	t
OSTW M16	26	17,5	2
OSTW M20	32	21,5	3
OSTW M25	38	27	3
OSTW M32	46	33,4	3,5
OSTW M40	57	42,4	3,5
OSTW M50	72	50,5	3,5
OSTW M63	87	64	4
OSTW M75	98	76	4
OSTW M90	113	91	4
OSTW M100	124	103	4
OSTW M115	140	116	4

ITEM REFERENCES - NPT THREAD (SUPPLIED ON REQUEST)			
Size:	D	d	t
OSTW 3/8”	26	17,5	2
OSTW 1/2”	32	21,5	3
OSTW 3/4”	38	27	3
OSTW 1”	46	33,4	3,5
OSTW 1-1/4”	57	42,4	3,5
OSTW 1-1/2”	72	50,5	3,5
OSTW 2”	87	64	4
OSTW 2-1/2”	98	76	4
OSTW 3”	113	91	4
OSTW 3-1/2”	124	103	4
OSTW 4”	140	116	4

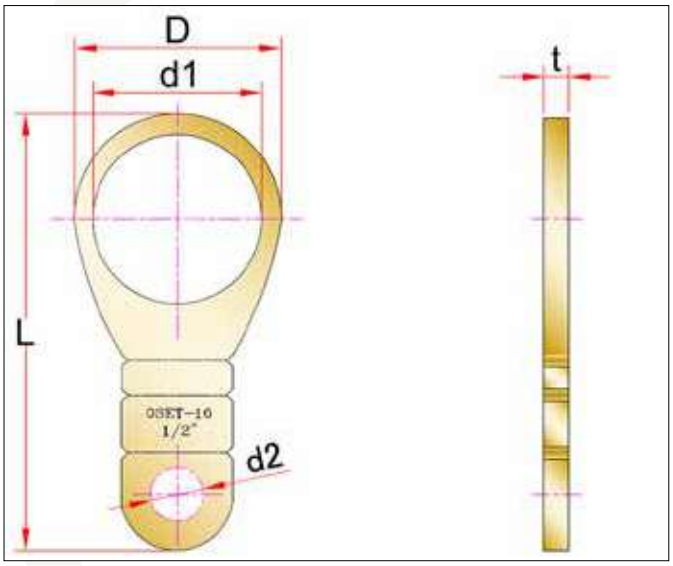
All dimensions in milimeters.

OSET EARTH TAG (ON REQUEST)

INSTALLATION MATERIAL

Metallic earth tags for use with metallic cable glands to provide an earthing/bonding point.

Material: Brass, Nickel plated brass, Stainless steel (316L)



ITEM REFERENCES - METRIC THREAD (SUPPLIED ON REQUEST)					
Size:	D	d1	d2	t	L
OSET M16	24	17,5	7	1,5	59
OSET M20	30	21,5	7	1,5	72
OSET M25	35	27	7	1,5	82,5
OSET M32	44	33,5	13,5	1,5	99
OSET M40	54	42,5	13,5	1,5	112
OSET M50	67	50,5	13,5	1,5	125
OSET M63	81	63,5	13,5	1,5	154
OSET M75	97	76	14	1,5	163
OSET M90	110	91	14	1,5	178
OSET M100	120	103	14	1,5	195
OSET M115	130	116	14	1,5	208

ITEM REFERENCES - NPT THREAD (SUPPLIED ON REQUEST)					
Size:	D	d1	d2	t	L
OSET 3/8”	24	17,5	7	1,5	59
OSET 1/2”	30	21,5	7	1,5	72
OSET 3/4”	35	27	7	1,5	82,5
OSET 1”	44	33,5	13,5	1,5	99
OSET 1-1/4”	54	42,5	13,5	1,5	112
OSET 1-1/2”	67	50,5	13,5	1,5	125
OSET 2”	81	63,5	13,5	1,5	154
OSET 2-1/2”	97	76	14	1,5	163
OSET 3”	110	91	14	1,5	178
OSET 3-1/2”	120	103	14	1,5	195
OSET 4”	130	116	14	1,5	208

All dimensions in milimeters.

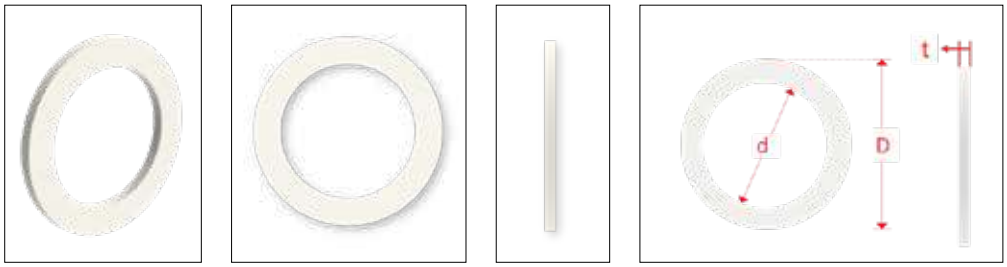
CONTACT - (+34) 943 530 095 | inpratex@inpratex.com

OSSR SEALING WASHER (ON REQUEST)

INSTALLATION MATERIAL

Sealing washer for use on cable gland entry threads.

- Sealing for IP Grade
- Material : Nylon



ITEM REFERENCES - METRIC THREAD - ARMOUR TYPE (SUPPLIED ON REQUEST)			
Size:	D	d	t
OSSR M16 Armour type	26	16	2
OSSR M20 Armour type	30	20	2
OSSR M25 Armour type	35	25	2
OSSR M32 Armour type	44	32	2
OSSR M40 Armour type	53	40	2
OSSR M50 Armour type	66	50	2
OSSR M63 Armour type	81	64	2
OSSR M75 Armour type	97	75	2
OSSR M90 Armour type	110	90	2
OSSR M100 Armour type	119	100	2
OSSR M115 Armour type	134	115	2

ITEM REFERENCES - METRIC THREAD - NON ARMOUR TYPE (SUPPLIED ON REQUEST)			
Size:	D	d	t
OSSR M16 Non Armour type	24	16	2
OSSR M20 Non Armour type	27	20	2
OSSR M25 Non Armour type	32	25	2
OSSR M32 Non Armour type	40	32	2
OSSR M40 Non Armour type	48	40	2
OSSR M50 Non Armour type	58	50	2
OSSR M63 Non Armour type	73	64	2
OSSR M75 Non Armour type	85	75	2
OSSR M90 Non Armour type	100	90	2
OSSR M100 Non Armour type	112	100	2
OSSR M115 Non Armour type	116	115	2

ITEM REFERENCES - NPT THREAD (SUPPLIED ON REQUEST)			
Size:	D	d	t
OSSR 1/2”	30	22	2
OSSR 3/4”	35	27	2
OSSR 1”	44	34	2
OSSR 1-1/4”	54	43	2
OSSR 1-1/2”	67	49	2
OSSR 2”	72	61	2
OSSR 2-1/2”	86	73	2
OSSR 3”	110	90	2
OSSR 3-1/2”	120	102	2
OSSR 4”	125	114	2

7

COMMUNICATION

7 - COMMUNICATION

Inpratex offers a comprehensive range of ATEX-certified communication equipment, designed to ensure safe and reliable communication in potentially explosive atmospheres, caused by the presence of gases and vapours as well as combustible dust, even under extreme environmental conditions.

The range includes ATEX fixed telephones, robust and heavy-duty, especially suitable for installation in industrial hazardous areas where continuous and secure communication is required.

Inpratex also supplies professional ATEX-certified walkie-talkies, designed and manufactured to prevent any risk of ignition of the surrounding explosive atmosphere. Their certification allows safe operation in potentially explosive areas, ensuring clear and efficient communications.

The catalogue is completed with ATEX-certified sound-powered telephones, particularly suitable for communication in tunnels, mining applications and confined spaces, where conventional communication systems are extremely difficult to operate. These self-powered telephones, which do not require external electrical supply, enable communication in challenging locations such as underground mining areas, tunnels, sewers, maritime environments and, in general, any location where safe communication in hazardous areas is required.

All our ATEX communication devices are ideal for use in refineries and gas pipelines, chemical and pharmaceutical industries, airports and ports, as well as in agricultural and forestry operations, where safety and communication reliability are critical.

ANALOG PHONES

VOIP PHONES

WALKIE TALKIES

HOWL-CALL TELEPHONES

Our product ranges are constantly updated on our website: ***www.inpratex.com***

IS120.1 MOBILE PHONE SET

Zones 1, 2, 21, 22

ATEX COMMUNICATIONS

ZONES 1, 2 (gas) & 21, 22 (dust)

This explosion-protected, high-performance and extremely robust IS120.1 mobile phone is designed primarily for telephony and SMS messaging. Its solid construction ensures secure and effortless handling without distracting from the task at hand.

Equipped with a long-lasting battery, it is ideal for extended work shifts and perfectly suited for efficient workplace communication.

- Telephony and messaging (SMS)
- Amplified loudspeaker for noisy work environments
- Powerful battery for long work shifts
- 4G

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	**Item No.:**
IS120.1	4C0120

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex ib IIC T4 Gb II 2D Ex ib IIIC T135°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20 to +60 °C
Processor type:	Mediatek MT6761D Quad Core
Main memory:	12 GB
Data memory:	16 GB
Operating system:	Android 10
Mobile standard:	2G, 3G, 4G
Interface medium:	Wi-Fi 3
Optional interface 1:	Bluetooth 5
SD card type/ size:	MicroSD / up to 128 GB
SIM card number:	Double SIM
SIM card size:	Micro
Display size:	6,10 cm | 2,40”
Display resolution:	240x320
Touchscreen material:	Gorilla glass, corning 3rd gen.
Backlight:	LED technology
Ingress protection:	IP68
MIL- standard:	810H
Dimensions:	140x60x26 mm
Weight:	214 g | 0,47 lb

CONTACT – (+34) 943 530 095 | inpratex@inpratex.com

TLS 229 A2C9GL TELEPHONE (ANALOGUE)

Zones 1, 2, 21, 22

ATEX COMMUNICATIONS | ZONES 1, 2 (gas) & 21, 22 (dust)

Analogue telephone specially designed for use in explosive atmospheres.
The TLS 229 A2C9GL is designed for hazardous environments and meets industrial and offshore requirements.

Its specially treated glass reinforced polyester (GRP) housing is designed to withstand most chemical and environmental hazards found both onshore and offshore.

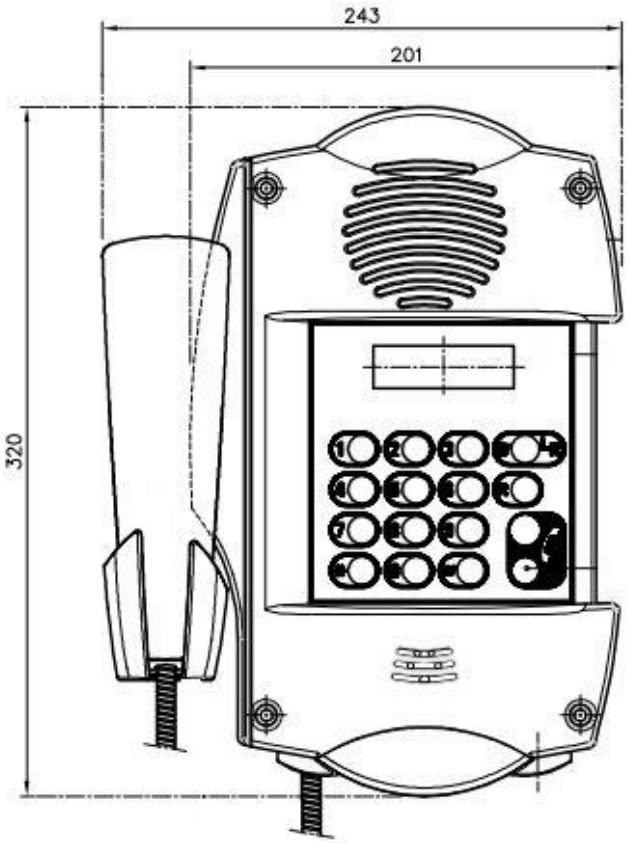
EU-Type Examination Certificate

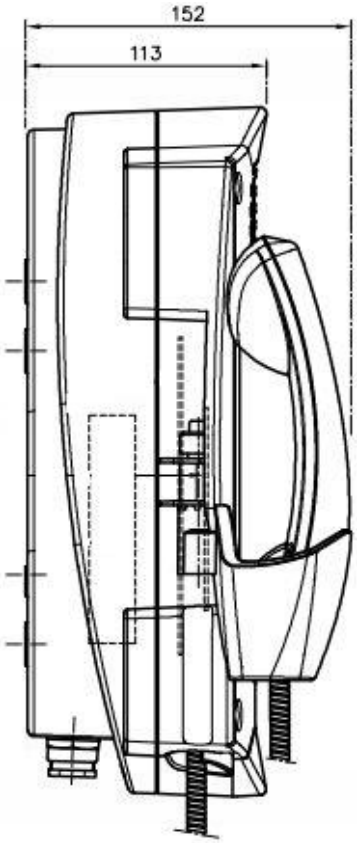
ITEM REFERENCES		
Designation:	**Version:**	**Item No.:**
TLS 229 A2C9GL	Hand free / Handset / Keypad and Display	4A0401

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex e ib mb IIC T5 Gb II 2D Ex ib tb IIIC T100°C Db IP64
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +60°C
Ingress protection:	IP66
Direct current supply:	12 to 48 VDC
Consumption:	< 45mA ±3
Ringing voltage:	35 – 90 VAC
Dialling:	DTMF / decimal
Flashing/earth:	Adjustable
Electronic bell:	> 85dB at 1m.
Hook:	Magnetic
Conversation mode:	Hands free/ handset
Handset:	Side position (wall or front)
Other features:	CCITT Q23
Body material:	Polycarbonate compound (RAL2003)
Handset material:	Polycarbonate compound (Black)
Handset cord:	Stainless steel (inox) 100Kg resistance
Microphone:	Electret type
Loudspeaker:	Weatherproof vandal resistant / 5W
Mounting:	On wall 2 or 4 points
Connection:	Inside screw connections
Cable type:	Multiple or single wire with a max section 1.5mm^2
Dimensions:	201 X 320 X 113 mm
Weight:	2,3 kg
Cable entries:	2 Ex e cable glands for cable 5 to 9 mm

TLS 229 A2C9GL TELEPHONE (ANALOGUE)

Zones 1, 2, 21, 22





TLC 229 A2 TELEPHONE (ANALOGUE)

Zones 1, 2, 21, 22

ATEX COMMUNICATIONS | **ZONES 1, 2 (gas) & 21, 22 (dust)**

Analogue telephone specially designed for use in explosive atmospheres.
The TLC 229 A2 is designed for hazardous environments and meets industrial and offshore requirements.

Its specially treated glass reinforced polyester (GRP) housing is designed to withstand most chemical and environmental hazards found both onshore and offshore.

The TLC 229 A2 can be supplied with or without a call indicator light.

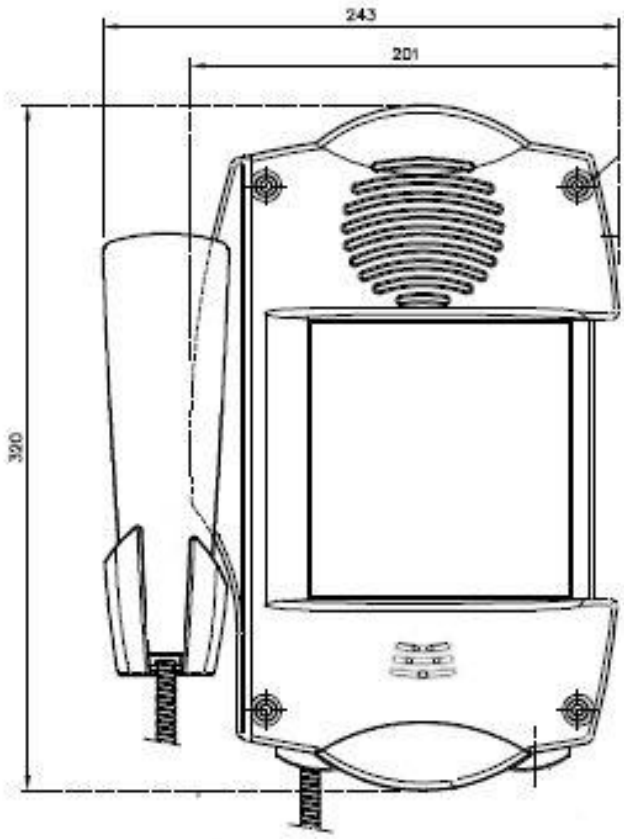
EU-Type Examination Certificate

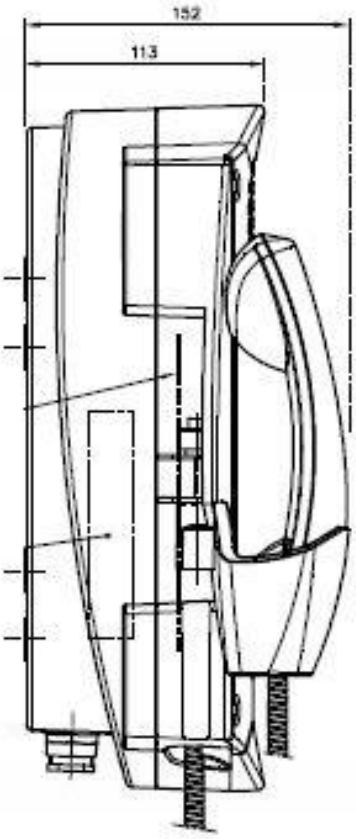
ITEM REFERENCES		
Designation:	Version:	Item No.:
TLC 229 A2	Handset / Without Keypad and Display (no call indicator light)	4A0402
TLC 229 A2F	Handset / Without Keypad and Display (with call indicator light)	4A0403

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex e ib mb IIC T5 Gb II 2D Ex ib tb IIIC T100°C Db IP64
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +60°C
Ingress protection:	IP66
Direct current supply:	12 to 48 VDC
Consumption:	< 45mA ±3
Ringing voltage:	35 – 90 VAC
Noise cancellation:	Noise cancellation circuit
Flashing/earth:	Adjustable
Electronic bell:	> 85dB at 1m.
Hook:	Magnetic
Conversation mode:	Handset
Handset:	Side position (wall or front)
Other features:	CCITT Q23
Body material:	Polycarbonate compound (RAL2003)
Handset material:	Polycarbonate compound (Black)
Handset cord:	Stainless steel (inox) 100Kg resistance
Microphone:	Electret type
Loudspeaker:	Weatherproof vandal resistant
Mounting:	On wall 2 or 4 points
Connection:	Inside screw connections
Cable type:	Multiple or single wire with a max section 1.5mm^2
Dimensions:	201 X 320 X 113 mm
Weight:	2,3 kg
Cable entries:	2 Ex e cable glands for cable 5 to 9 mm

TLC 229 A2 TELEPHONE (ANALOGUE)

Zones 1, 2, 21, 22





EXRESISTTEL TELEPHONE (ANALOGUE)

Zones 1, 2, 21, 22

ATEX COMMUNICATIONS

ZONES 1, 2 (gas) & 21, 22 (dust)

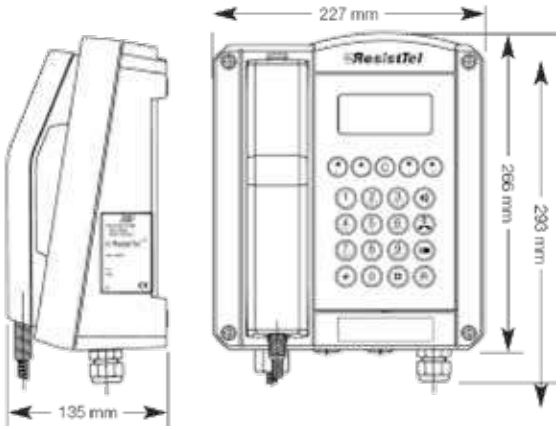
Communication devices for uses in firedamp-endangered industrial areas must be particularly adjusted to their extreme operating conditions. This ex telephone has been specially designed for applications in the petrochemical industry, as well as offshore installations, mills and port facilities. It is resistant to high temperature differences, humidity, sea water, dust and extensive mechanical strain.

The ExResistTel is certified for areas susceptible to explosive dusts and gases.It is equipped with a 21-key stainless steel keypad that has been especially designed for use with gloves.

EU-Type Examination Certificate

ITEM REFERENCES		
Designation:	**Model:**	**Item No.:**
ExResistTel	With keypad and display	4A0101
ExResistTel	With keypad and display, protection class I	4A0102
ExResistTel ZB	Without keypad and display	4A0103

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex e mb [ib] IIC T5 Gb II 2D Ex tb [ib] IIIC T80°C Db -25°C ≤ Ta ≤ 60°C II 2G Ex e mb [ib] IIC T6 Gb II 2D Ex tb [ib] IIIC T100°C Db -25°C ≤ Ta ≤ 40°C
Certificate:	EU-Type Examination Certificate
Supply voltage:	24 V...66 VDC
Supply curren:	15 mA...100 mA DC
Housing:	Glass fibre reinforced polyester
Ingress protection:	IP66 / IK09
Weight:	Approx. 5,5 kg
Display:	Two-line alphanumeric diplay with pictograms. Visual field approx. 78 mm x 26 mm
Keypad:	Metal keypad with ice protection. 21 keys with ABC lettering for name entries
Cable entries:	1xM20x1,5 plastic cable gland / 2xM20x1,5 plastic plugs



EXRESISTTEL IP4 VOIP TELEPHONE

Zones 1, 2, 21, 22

ATEX COMMUNICATIONS

ZONES 1, 2 (gas) & 21, 22 (dust)

The ExResistTel IP4 Explosion-proof, weatherproof industrial VoIP telephone is suitable for all indoor and outdoor installations. The new ExResistTel IP4 is the ideal device for every weather and a number of different operation sites, including exposure to seawater, high humidity or extensive mechanical strain.

The housing is made of impact and shock-resistant glass-fibre reinforced polyester, resistant to acids, alkalis or lubricants. Its robust design represents a perfect packaging for the latest requirements for IP telephones in hazardous environments with proven reliability for critical mission communications and high safety applications.

This telephone is designed to provide ultimate user comfort with a userfriendly menu structure and easy installtion.

The ExResistTel IP4 meets industrial standards and has decades of marketing leading expertise. It features a luminous display that is able to function in ultra low temperatures mode of expression, a connectable headset is available as an accessory and a hands-free operation.

EU-Type Examination Certificate

ITEM REFERENCES		
Designation:	**Operating temperature:**	**Item No.:**
ExResistTel IP4 - Black with armoured cord	-40°C to +60°C	4A0105
ExResistTel IP4 - Red with armoured cord	-40°C to +60°C	4A0106
ExResistTel IP4 - Black with spiral cord	-30°C to +60°C	4A0107

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb ib mb [ib Gb] IIC T4 Gb II 2D Ex ib tb [ib Db] IIIC T130°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-40°C to +60°C for devices with steel armoured cord -30°C to +60°C for devices with polyurethan spiral cord
Power supply:	Power over Ethernet according to IEEE 802.3af/at (Mode B) or 802.3bt | 44V min, 57V max
Voltage external power:	22,8 VDC - 52,8 VDC
Power consumption:	4 W (POE class 0)
Connection:	Port (10/100 Mbit/s)
Ringing volume:	≥ 95 dB(A) in 1 m distance
Housing:	Glass fibre-reinforced polyester
Ingress protection:	IP66 according to IEC60529
Impact resistance:	IK 09 according to EN IEC 62262:2002
Weight:	Approx. 5 kg
Dimensions:	293 x 227 x 135 mm
Display:	182 x 64 pixels (OLED)
Operating position:	Vertical
Relay switching capacity:	250 VAC | 5 A | 100 VA 30 VDC | 5 A | 100 Watt 230 DVC | 0.5 A | 100 Watt 50 VDC | 1 A | 50 Watt
Handset:	Mouthpiece: Electret microphone Earpiece: Dynamic capsule with magnetic field generator for inductive coupling of hearing aids Stabilization bracket: Standard equipment

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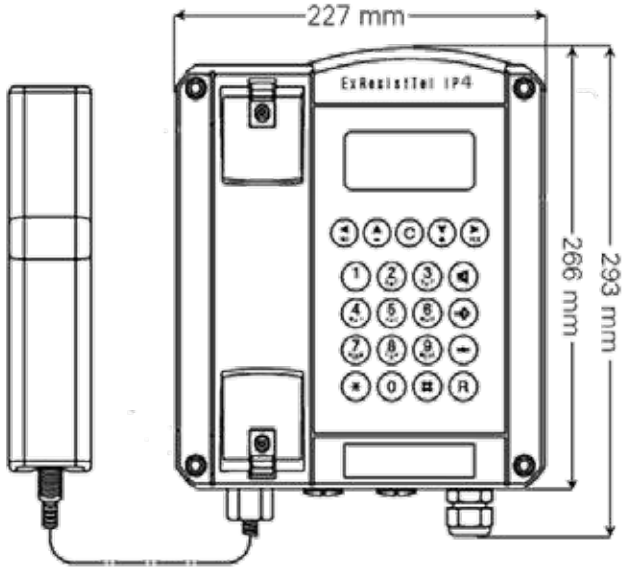
EXRESISTTEL TELEPHONE (IP4)

Zones 1, 2, 21, 22

CHARACTERISTICS	
Protocols:	VoIP Protocols: SIP, H.323 (UDP, TCP, TLS), RTP, SRTP (SDES, DTLS), RTCP, ICE
DTMF:	In-Band, Out-Of-Band, Event
Additional VoIP features:	H.245 fast connect enblock dialing overlapped sending
Security:	Encoded password authentication according to H.235 802.1X
Quality of service:	Prioritization of IP packages over TOS and DiffServ, VLAN priority according to IEEE 802.1p/802.1q
Voice codecs:	G.711 A-law/µ-law, G.729A, G.722, OPUS (NB/WB)
Administration:	Access using https, Password-protected with secure authentication
Diagnostic tools:	Log and trace files (pcap), status displays of interfaces and connections Ping connection test, sending of SNMP traps
Updates:	Configuration recording/reading Boot code and firmware update via Webinterface Automatic update via update server
WDSL acces:	PPPoE protocol
VPN:	PPP over PPPoE/PPTP
DHCP:	Client with private option codes, server mode
Call tone generation:	Automatic call tone generation according to European and US standard
Multiple registration:	Up to 6 registrations
Telephone book:	Internal, centralized (optional), integration of external data bases via LDAP
Time:	From NTP

ACCESSORIES	
Designation:	Item No.:
Ex headset	4A010A
Ex II secondary bell (see next page)	4A010B
Telephone hood model 404 galvanized steel, yellow	118 901 01
Telephone hood model 404 V4A stainless steel	118 901 11
Telephone hood model 404 synthetic material, yellow	118 901 13
Telephone hood model 404 galvanized steel, red	118 901 14
Telephone hood model 404 GRP, yellow	118 901 22
Telephone hood model 404 GRP, orange	118 901 23
Console for model Yellow	118 901 03
TWIN-EExII	See data sheet available on our website



ACCESSORIES		
Ex headset	TWIN-EExII	Protection hood

Explosion-proof Secondary Telephone Bell

This high-volume, explosion-proof secondary telephone bell is designed for indoor and outdoor applications in potentially explosive industrial areas, e.g in the petrochemical industry. Certified for zones 1,2.

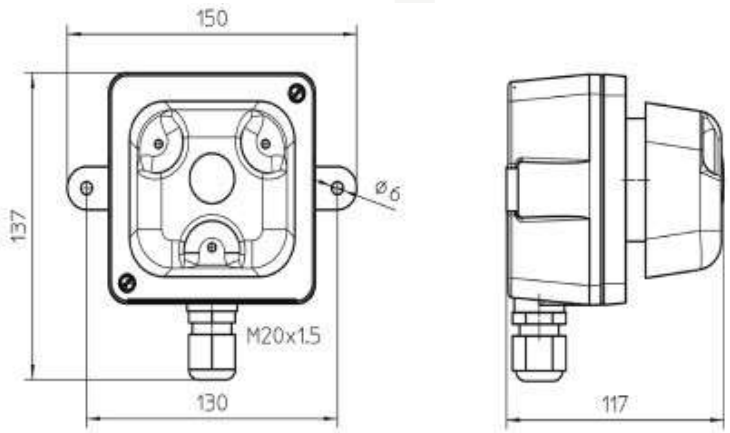
The high-quality materials have priorily been tested in the laboratory and allow for uses in extreme application areas of the Ex II industry.

The user may choose between single tone, 2-tone, 3-tone or warble-tone using the available DIP switches. Moreover, the tone sequence frequency can be set in 4 steps between 5 and 20 Hz.

EU-Type Examination Certificate

ITEM REFERENCES		
Designation:	**Nominal voltage:**	**Item No.:**
Explosion-proof Secondary Telephone Bell	Supplied via telephone	4A010B

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex em [ib] IIC T6
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Housing:	Die-cast aluminium
Colour:	Black
Hood:	UV-resistant macrolon (polycarbonat)
Ingress protection:	IP66 according to EN 60529
Operating position:	Wall or ceiling mounting
Weight:	0.5 kg
Secondary telephone bell:	The electronic high-volume secondary bell is operational even in case of a power failure. It is supplied by the telephone's ringing voltage.
Terminal designation:	W, L_b
AC ringing voltage:	32 VAC … 75 VAC
Overlaid supply voltage:	0 VDC … 63 VDC
Input impedance:	1At 25 Hz Z ≥ 8 kΩ At 50 Hz Z ≥ 4 kΩ
Acoustic signalling device:	Loudspeaker
Acoustic signal:	Single tone-, 2-tone, 3-tone, warble tone, selectable via DIP switch
Tone sequence frequency:	4 settings between 5 Hz and 20 Hz selectable via DIP switch
Volume:	Approx. 90 dB(A) in 1 m distance



EX TELEPHONE FERNTEL 3 (ANALOGUE)

Zones 2, 22

ATEX COMMUNICATIONS

ZONES 2 (gas) & 22 (dust)

Analogue desk/wall telephone for applications in potentially explosive areas (zones 2 and 22). This telephone comprises a housing made of impact-resistant thermoplastic and is certified according to ATEX. In the field of the chemical and petrochemical industry potentially explosive atmospheres occur during production procedures caused by e.g. gases, vapours or mist.

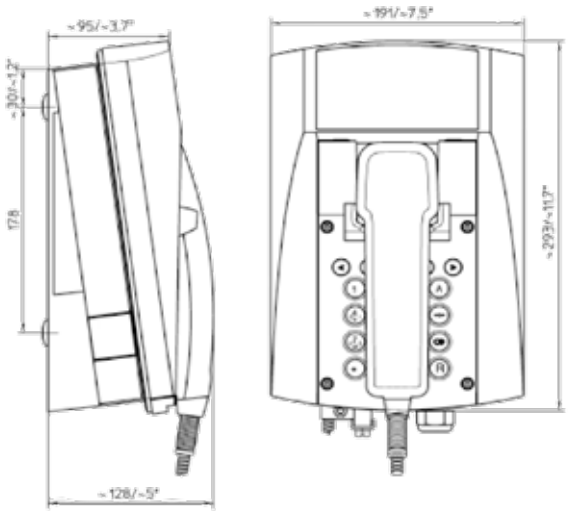
The impact-resistant thermoplatic housing as well as the use of stainless steel screws add further special advantages to the FernTel 3.

Moreover, the telephone may effortlessly be converted from a wall-mounted device to a desk telephone and vice versa.

EU-Type Examination Certificate

ITEM REFERENCES		
Designation:	**Model:**	**Item No.:**
FernTel 3	Without display, with spiral cord	4A0201
FernTel 3	With display, with spiral cord	4A0202
FernTel 3	Without display, with armoured cord	4A0203
FernTel 3	With display, with armoured cord	4A0204

TECHNICAL SPECIFICATIONS	
Marking:	II 3G Ex nA ic IIC T5 Gc II 3D Ex tc ic IIIC T80°C Dc
Certificate:	EU-Type Examination Certificate
Ringing frequency:	Settable: 16 Hz to 68 Hz
Supply voltage:	24 V...66 V DC
Housing:	Impact-resistant thermoplastic
Weight:	Approx. 2,3 kg
Operating temperature:	-20°C to +55°C
Ingress protection:	IP65
Cable entries:	1xM20x1,5 plastic cable gland / 1xM20x1,5 plastic plug



ATEX COMMUNICATIONS

ZONES 0, 1, 2 (gas) & Mines

EU-Type Examination Certificate

Battery and network-independent telephone system for applications under rough conditions, even in potentially explosive or firedamp-endangered areas.

Without any external power supply or complex equipment, it can be installed in blast furnace areas, in tunnel building or mining areas, offshore, on an oil rig, in a deep-sea vessel, or in any place that is not (yet) connected to any energy source.

This dynamic telephony represents an ideal opportunity for connection.

This surprisingly easy but efficient method is already being used in many industrial areas to order material or report malfunctions and, not least, in many cases of work accidents it has already been useful to quickly call for help.

The howl call telephone is a battery-free and network-independent telephone with highly efficient dynamic transmitter and receiver capsules offering remote communication without power supply.

The call signal is generated by turning the rotary knob containing an audio frequency dynamo. All telephones have a sturdy, impact-resistant and weatherproof housing. For years they have proven to be a reliable choice for the mining and tunnel building sectors, at construction sites and for industrial applications. The range is about 10 km.

ITEM REFERENCES

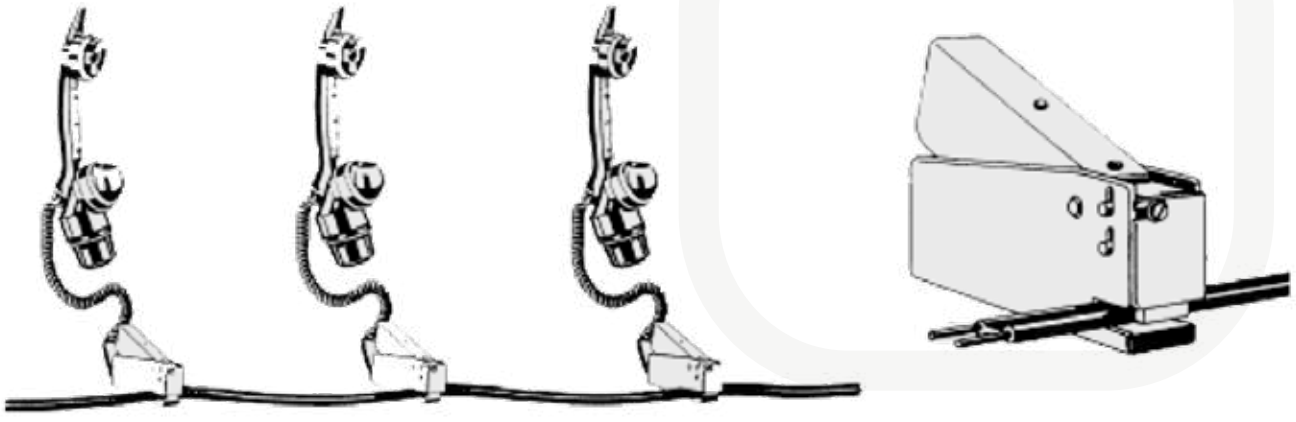
Designation:	Model:	Connected to:	Item No.:
5069 Ex hand telephone	Without prick pincer	-	4B0101
5069 Ex hand telephone	With prick pincer	Flat-band cable	4B0103
5220 Ex wall mounted telephone	Fixed cabling or hose line		4B0104

ACCESSORIES

Designation:	Item No.:
5077 Prick pincer, stainless steel sheet with 1 m cable (wall mounted telephone)	4B0204
Flat-band cable, 2-wire, tensile strength approx. 500 N (lengths on request)	4B0205

APPLICATION EXAMPLE

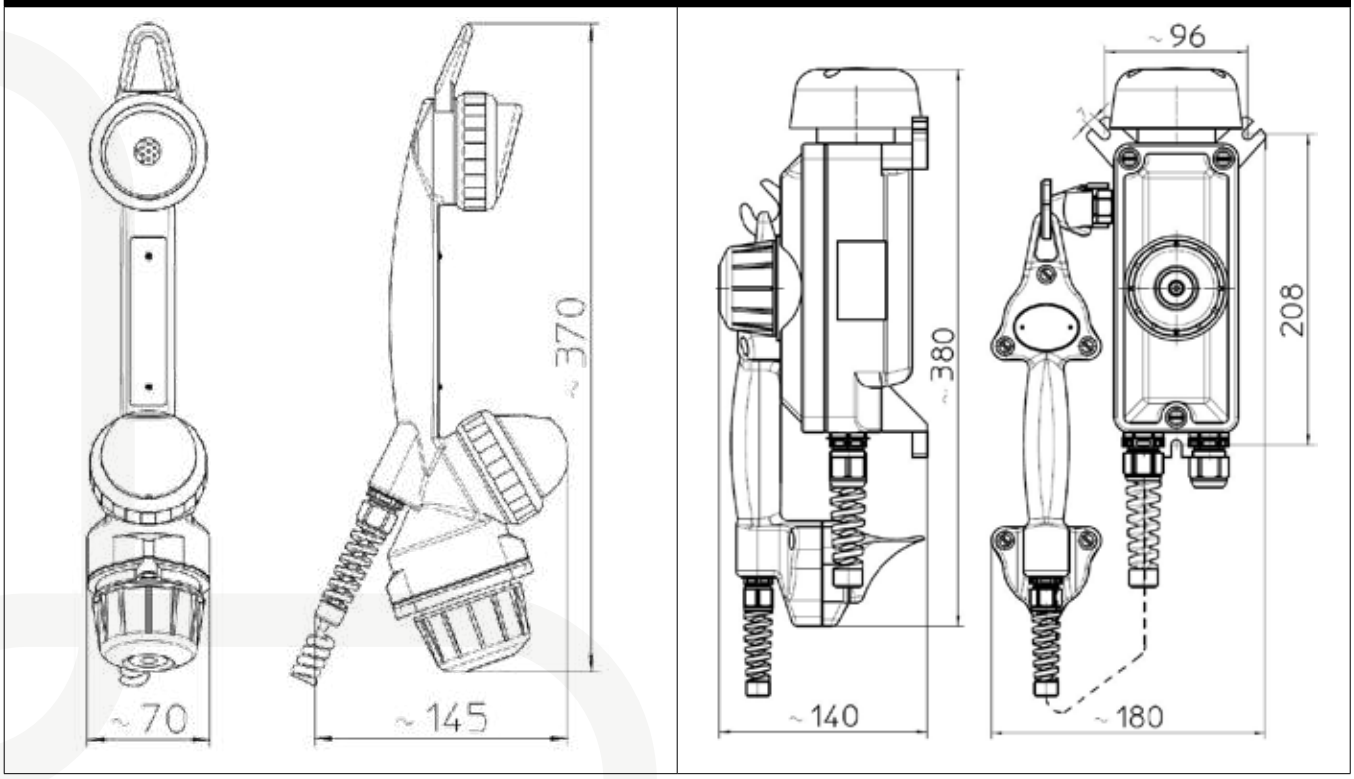
With movable telephone cable with “prick pincer“ – the quick connection to any cable section



EX HOWL-CALL TELEPHONE

Zones 0, 1, 2

DIMENSIONS



ELEMENTS

Wall-mounted telephone 5220	Hand telephone 5069	Prick pincer 5077

TECHNICAL SPECIFICATIONS

Marking:	Ex I M1 Ex ia I Ma Ex II 1G Ex ia IIC T6 Ga	
	Ex hand telephone 5069	Ex wall mounted telephone 5220
Certificate:	EU-Type Examination Certificate	EU-Type Examination Certificate
Weight:	Approx. 1 kg	Approx. 2,5 kg
Maximum output voltage:	Max. 10 V	Max. 9,5 V
Maximum output current:	Max. 155 mA	Max. 95 mA
Ringing frequency:	Approx. 1540 Hz	Max. 3000 Hz
Operating position:	Any	Vertical, cable glands facing downward
Dimensions:	Approx. 70x120x370 mm	Approx. 380x180x140 mm (with handset)
Mode of operation:	Continuous	
Operating conditions:	Suitable for application in firedamp-endangered underground areas	
Housing:	Polyamide (Black)	
Operating temperature:	-20°C to +40°C	
Ingress protection:	IP54 according to IEC 60529	
Connection:	2-wire blue power cable	

EX HOWL-CALL TELEPHONE

Zones 0, 1, 2

Dynamic receiver capsules for powerless telephony.

Simply connect the intrinsically safe handset to the socket and you're ready to go. Or, even easier, just prick into our flat-band cable, and the line is established.

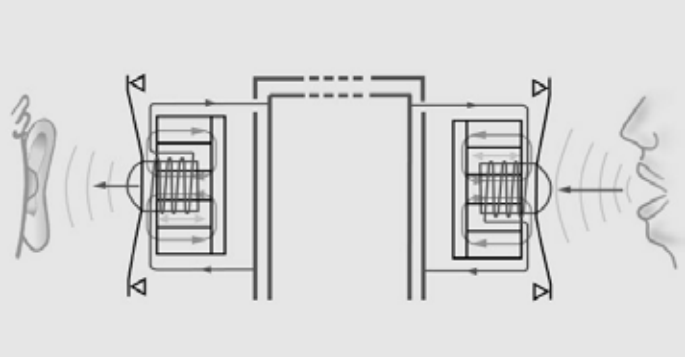
These handsets and telephone systems are explosion-proof and equipped with a high-volume howl capsule, so that they even meet the requirements for the rough and noisy conditions in underground applications.

Intrinsically safe telephony for more independence and safety.

To establish a dynamic telephone system, only two capsules are necessary. A supply with electric voltage is not required.
The two capsules must be connected via a two-wire cable.

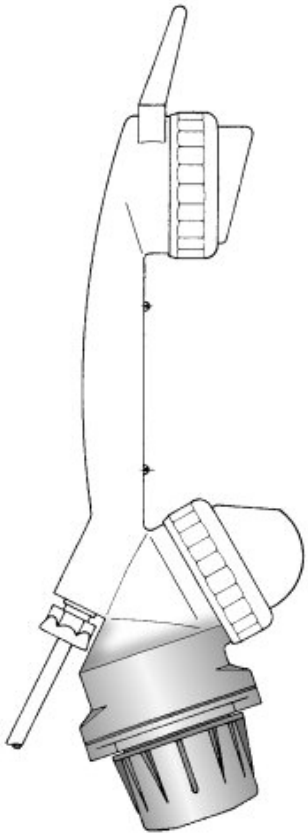
Used as a microphone, the dynamic capsule generates a relatively high voltage from a low sound pressure. It is high enough to also generate a sufficient sound pressure for the other capsule used as receiver.

The two capsules are interchangeable and can both be used as microphone or receiver.



These are the main advantages:

- Simple design
- Quick Installation for frequently changing application sites
- Lightweight mobile devices
- Independent from network and battery
- Constantly ready for operation
- Reduced work load on existing branch exchanges
- Cost-effective



A manually operated electromagnetic call generator generates a wobble current with a frequency of approximately 2000 Hz, which is directly transmitted to the receiver capsule via a two-wire cable.

The current has the effect that an acoustic wobble call is transmitted through the transmitter capsule's membrane.

CONTACT – (+34) 943 530 095 | inpratex@inpratex.com

ATEX COMMUNICATIONS

ZONES 1, 2 (gas)

Professional range of ATEX IIA & IIC certified radios. The rugged DTEx Series delivers exceptionally loud audio coupled with outstanding audio clarity, plus the ergonomic controls are specifically designed for gloved hand use.

By combining the latest DMR digital technology and highest ATEX gas group ratings, the DTEx series delivers best in class range, safety and reliability. Exceeding MIL-STD-810 and a market leading IP68 rating (2-meters 4-hours) the fully submersible DTEx can be depended on to withstand the most extreme and hostile of environments.

- Commercial grade construction
- Digital and analogue modes
- Outstanding range and performance
- Crystal clear audio
- High contrast white on black OLED
- Simple end user programming app
- Extensive range of approved accessories

EU-Type Examination Certificate

ITEM REFERENCES						
Model:	Channels:	Screen:	Frequency / Band:	RFPower:	Tier:	Gas group:
DT822	16	No	VHF / 136-174MHz	4W	II	IIA
DT825	256	OLED	VHF / 136-174MHz	4W	II	IIA
DT882	16	No	UHF / 400-470MHz	4W	II	IIA
DT885	256	OLED	UHF / 400-470MHz	4W	II	IIA
DT922	16	No	VHF / 136-174MHz	1W	II	IIC
DT925	256	OLED	VHF / 136-174MHz	1W	II	IIC
DT982	16	No	UHF / 400-470MHz	1W	II	IIC
DT985	256	OLED	UHF / 400-470MHz	1W	II	IIC
DT952	16	No	PMR/DMR446 / 446-446.2MHz	0,5W	I	IIC
DT953	256	OLED	PMR/DMR446 / 446-446.2MHz	0,5W	I	IIC

ATEX RADIOS DTEX SERIES

Zones 1, 2

GENERAL TECHNICAL SPECIFICATIONS	
Marking:	Ex II 2G Ex ib IIA T4 Gb | Ex II 2G Ex ib IIC T4 Gb (depending on the model)
Certificate:	EU-Type Examination Certificate
Operating Temperature:	-20°C to +55°C
Storage Temperature:	-40°C to +85°C
Ingress protection:	IP68 (2m 4h Submersible)
Channels:	16 (non-display) / 256 (display)
Number of Zones:	8 (display)
Analogue Channel Spacing:	12.5/20/25KHz
Digital Channel Spacings:	12.5KHz
Battery:	1800mAh Lithium-Ion
Weight:	435g
Dimensions:	138 x 60 x 38 mm
Frequency Stability:	± 1.5ppm
Operating Voltage:	7.4v
Programmable Buttons:	3 (non-display) / 5 (display)
Battery Endurance (5/5/90 Duty Cycle @ 1W)	Analogue 14.5 hours Digital 18.5 hours

TRANSMITTER TECHNICAL SPECIFICATIONS	
Modulation Limiting:	±2.5kHz @ 12.5kHz ±4.0kHz @ 20kHz ±5.0kHz @ 25kHz
Conducted / Radiated Spurious Emissions:	Better than -36dBm
Adjacent Channel Power:	Better than 60dB
Audio Distortion (Typical):	3%

RECEIVER TECHNICAL SPECIFICATIONS	
Sensitivity (Typical):	Analogue 121dBm (0.2uV) for 12dB SINAD Digital 121dBm (0.2uV) for 5% BER
Intermodulation Response Rejection (ETSI):	> 70dB
Adjacent Channel Selectivity (ETSI):	> 70dB(12.5KHz) 60dB(25KHz)
Spurious Response Rejection (ETSI):	> 70dB
Audio Output Power:	1 watt
Audio Distortion (Typical):	3%
Conducted Spurious Emission (ETSI):	> -57dBm

ACCESSORIES

CHPD/DT9	CHPHD/DT9	CHPHS/DT9	CLC/DT2	CLCDT5	CMP/DT9
CNB950EV2	CXR16/DT9	CXR5/DT9	EA12/DT9	PTT-C/DT9	PTT-E/DT9

ATEX TP9000EX THOR1 ANALOG T4 RADIO

Zones 1, 2, 21, 22

ATEX COMMUNICATIONS | ZONES 1, 2 (gas) & 21, 22 (dust)

TP9000EX is a unique product which combines mechanical robustness and the latest state of the art radio technology into a Hand Held Radio with a userfriendly design. This ATEX certified radio is IP67 waterproof and can be used as the ultimate communication tool within chemical industries, fire brigades, emergency & rescue services, airports, off-shore industries, etc.

The UHF version is type approved for On Board Communication according to EN 300 720 and fulfils the IEC 60945 marine standards. A perferct tool to fulfilment of the SOLAS requirement.

Key features:

- IP67 Waterproof
- CTCSS, 5-TONE, CCIR, ZVEI, EEA & EIA
- Long operational time
- Power Output 2 Watt
- 16 Channels
- 3450 mAh battery

Antenna, Battery, Bolt Clip and Charger included

EU-Type Examination Certificate

ITEM REFERENCES				
Model:	Channels:	Frequency / Band:	Bandwidth:	Article No.:
TP9000EX Thor1 VHF 64-88 MHz	16	VHF / 64-88 MHz	24 MHz	4C0501
TP9000EX Thor1 VHF 146-174 MHz	16	VHF / 146-174 MHz	28 MHz	4C0502
TP9000EX Thor1 UHF 406-470 MHz	16	UHF / 406-470Mhz	64 MHz	4C0503

GENERAL TECHNICAL SPECIFICATIONS	
Marking:	I M2 EX ib I Mb II 2G Ex ib IIC T4 Gb II 2D Ex ib IIIC T110°C Db
Certificate:	EU-Type Examination Certificate
According to the directives:	RoHS 2011/65/EU, MED 2014/90/EU & RED 2014/53/EU
Applied standards:	EN 62368, EN/IEC 60945, EN 301.489, EN 300.086 & EN300.720 (analog part)
Operating Temperature:	-20°C to +55°C
Classifications:	IP67 Waterproof / Exceeds MIL 810 c,d,e,f
Channel spacing:	12,5 / 20 / 25 KHz
Frequency error:	± 2 ppm
Operation mode:	Simplex / Semi-Duplex
Antenna impedance:	50 ohm
Weight:	260 g
Dimensions:	H = 137 mm, B = 64 mm, D = 35 mm
Operational time (fully charged battery & 2 W TX-output):	5 % TX, 5 % RX & 90 % Standby 3450 mAh battery: 10/14 hours
Signalling:	CTCSS / DSC
Side connector:	16 pin for accessories

RECEIVER TECHNICAL SPECIFICATIONS	
DMR sensitivity:	- 124 Dbm.
Sensitivity at 20 dB SINAD:	0,45 µV
(EMF) (25 KHz channel spacing) at 12 dB SINAD EMF:	0,3 µV
LF output power:	2 x 0,5 Watt
LF distortion:	< 10 %
LF frequency response:	300 - 3000 Hz
Signal / noise ratio:	45 dB
Co-Channel attenuation:	-3 dB
Neighbour channel selectivity:	> 70 dB
Attenuation of spurious:	> 70 dB
Intermodulation selectivity:	> 66 dB
Blocking:	> 90 dB
Transmission of spurious (antenna & cabinet):	2 nW equivalent to -57 dBm
Squelch tresshold level:	Programmable

TRANSMITTER TECHNICAL SPECIFICATIONS	
Output Power:	Programmable 0.5 - 2 Watt
Transmission of spurious:	< 0,25 µW or - 36 dBm
Antenna & cabinet Max. Deviation:	± 5 KHz / 25 KHz channel
Modulation distortion:	< 5 % @ ± 3,0 KHz
Signal / noise relation:	45 dB
LF frequency response:	300 - 3000 Hz

ACCESSORIES			
SCULL MIC HEADSET	HEADSET IN-EAR	HEADSET CONVERTER PLUG	BATTERY LI-ION
THROAT MIC HEADSET	HEADSET WITH BOOM MIC	HEADSET “SURVEILANCE”	CLOSE-TALK
CHARGER	AC 100-240V	CARY CASE	SHOULDER HARNESS
PTT			

ATEX TP9000EX THOR1 DMR DIGITAL/ANALOG T4 RADIO

Zones 1, 2, 21, 22

ATEX COMMUNICATIONS | **ZONES 1, 2 (gas) & 21, 22 (dust)**

TP9000EX is a unique product which combines mechanical robustness and the latest state of the art radio technology into a Hand Held Radio with a userfriendly design. This ATEX certified radio is IP67 waterproof and can be used as the ultimate communication tool within chemical industries, fire brigades, emergency & rescue services, airports, off-shore industries, etc.

As option a range of accessories such as Speaker Microphone, Push-to-Talk units, headsets from quality brands of ATEX equipment are available.

Key features:

- DMR tier 2 Compatible
- IP67 Waterproof
- CTCSS, dcs
- Long operational time
- Power Output 2 Watt
- 16 Channels
- 3450 mAh battery

Antenna, Battery, Bolt Clip and Charger included

EU-Type Examination Certificate

ITEM REFERENCES				
Model:	Channels:	Frequency / Band:	Bandwidth:	Article No.:
TP9000EX Thor1 DMR VHF 64-88 MHz	16	VHF / 64-88 MHz	24 MHz	4C0521
TP9000EX Thor1 DMR VHF 146-174 MHz	16	VHF / 146-174 MHz	28 MHz	4C0522
TP9000EX Thor1 DMR UHF 406-470 MHz	16	UHF / 406-470Mhz	64 MHz	4C0523

GENERAL TECHNICAL SPECIFICATIONS	
Marking:	I M2 EX ib I Mb II 2G Ex ib IIC T4 Gb II 2D Ex ib IIIC T110°C Db
Certificate:	EU-Type Examination Certificate
Operating Temperature:	-20°C to +55°C
According to the directives:	RoHS 2011/65/EU, MED 2014/90/EU & RED 2014/53/EU
Applied standards:	EN 62368, EN/IEC 60945, EN 301.489, EN 300.086 & EN300.720 (analog part)
Classifications:	IP67 Waterproof
Channel spacing:	12,5 / 20 / 25 KHz
Frequency error:	± 2 ppm
Operation mode:	Simplex / Semi-Duplex
Antenna impedance:	50 ohm
Weight:	310 g
Dimensions:	H = 137 mm, B = 64 mm, D = 31 mm
Operational time (fully charged battery & 2 W TX-output):	5 % TX, 5 % RX & 90 % Standby 3450 mAh battery: 10/14 hours
Signalling:	CTCSS / DSC
Side connector:	16 pin for accessories

RECEIVER TECHNICAL SPECIFICATIONS	
DMR sensitivity:	- 124 Dbm.
Sensitivity at 20 dB SINAD:	0,45 µV
(EMF) (25 KHz channel spacing) at 12 dB SINAD EMF:	0,3 µV
LF output power:	2 x 0,5 Watt
LF distortion:	< 10 %
LF frequency response:	300 - 3000 Hz
Signal / noise ratio:	45 dB
Co-Channel attenuation:	-3 dB
Neighbour channel selectivity:	> 70 dB
Attenuation of spurious:	> 70 dB
Intermodulation selectivity:	> 66 dB
Blocking:	> 90 dB
Transmission of spurious (antenna & cabinet):	2 nW equivalent to -57 dBm
Squelch tresshold level:	Programmable

TRANSMITTER TECHNICAL SPECIFICATIONS	
Output Power:	Programmable 0.5 - 2 Watt
Transmission of spurious:	< 0,25 µW or - 36 dBm
Antenna & cabinet Max. Deviation:	± 5 KHz / 25 KHz channel
Modulation distortion:	< 5 % @ ± 3,0 KHz
Signal / noise relation:	45 dB
LF frequency response:	300 - 3000 Hz

ATEX TP9000EX THOR1 DMR DIGITAL/ANALOG T4 RADIO

Zones 1, 2, 21, 22

ACCESSORIES

SCULL MIC HEADSET	HEADSET IN-EAR	HEADSET CONVERTER PLUG	BATTERY LI-ION
THROAT MIC HEADSET	HEADSET WITH BOOM MIC	HEADSET “SURVEILANCE”	CLOSE-TALK
CHARGER	AC 100-240V	CARY CASE	SHOULDER HARNESS
PTT			

ATEX TP9000EX THOR2 DIGITAL/ANALOG T4 RADIO

Zones 1, 2, 21, 22

ATEX COMMUNICATIONS | ZONES 1, 2 (gas) & 21, 22 (dust)

TP9000EX is a unique product which combines mechanical robustness and the latest state of the art radio technology into a Hand Held Radio with a userfriendly design. This ATEX certified radio is IP67 waterproof and can be used as the ultimate communication tool within chemical industries, fire brigades, emergency & rescue services, airports, off-shore industries, etc.

The UHF version is type approved for On Board Communication according to EN 300 720 and fulfils the IEC 60945 marine standards. A perferct tool to fulfilment of the SOLAS requirement.

Key features:

- IP67 Waterproof
- 16+16+99 Channels
- Long operational time - 3450 mAh battery
- Power Output 2 Watt
- CTCSS, dcs
- OLED Display

DMR Tier 2 Compatible
Antenna, Battery, Bolt Clip and Charger included

EU-Type Examination Certificate

ITEM REFERENCES				
Model:	Channels:	Frequency / Band:	Bandwidth:	Article No.:
TP9000EX Thor2 VHF 64-88 MHz	16+16+99	VHF / 64-88 MHz	24 MHz	4C0601
TP9000EX Thor2 VHF 146-174 MHz	16+16+99	VHF / 146-174 MHz	28 MHz	4C0602
TP9000EX Thor2 UHF 406-470 MHz	16+16+99	UHF / 406-470 Mhz	64 MHz	4C0603

GENERAL TECHNICAL SPECIFICATIONS	
Marking:	I M2 EX ib I Mb II 2G Ex ib IIC T4 Gb II 2D Ex ib IIIC T110°C Db
Certificate:	EU-Type Examination Certificate
According to the directives:	RoHS 2011/65/EU, MED 2014/90/EU & RED 2014/53/EU
Applied standards:	EN 62368, EN/IEC 60945, EN 301.489, EN 300.086 & EN300.720 (analog part)
Operating Temperature:	-20°C to +55°C
Classifications:	IP67 Waterproof / Exceeds MIL 810 c,d,e,f
Channel spacing:	12,5 / 20 / 25 KHz
Frequency error:	± 2 ppm
Operation mode:	Simplex / Semi-Duplex
Antenna impedance:	50 ohm
Weight:	260 g
Dimensions:	H = 137 mm, B = 64 mm, D = 35 mm
Operational time (fully charged battery & 2 W TX-output):	5 % TX, 5 % RX & 90 % Standby 3450 mAh battery: 10/14 hours
Signalling:	CTCSS / DSC
Side connector:	16 pin for accessories

RECEIVER TECHNICAL SPECIFICATIONS	
DMR sensitivity:	- 124 Dbm.
Sensitivity at 20 dB SINAD:	0,45 µV
(EMF) (25 KHz channel spacing) at 12 dB SINAD EMF:	0,3 µV
LF output power:	2 x 0,5 Watt
LF distortion:	< 10 %
LF frequency response:	300 - 3000 Hz
Signal / noise ratio:	45 dB
Co-Channel attenuation:	-3 dB
Neighbour channel selectivity:	> 70 dB
Attenuation of spurious:	> 70 dB
Intermodulation selectivity:	> 66 dB
Blocking:	> 90 dB
Transmission of spurious (antenna & cabinet):	2 nW equivalent to -57 dBm
Squelch tresshold level:	Programmable

TRANSMITTER TECHNICAL SPECIFICATIONS	
Output Power:	Programmable 0.5 - 2 Watt
Transmission of spurious:	< 0,25 µW or - 36 dBm
Antenna & cabinet Max. Deviation:	± 5 KHz / 25 KHz channel
Modulation distortion:	< 5 % @ ± 3,0 KHz
Signal / noise relation:	45 dB
LF frequency response:	300 - 3000 Hz

ACCESSORIES			
SCULL MIC HEADSET	HEADSET IN-EAR	HEADSET CONVERTER PLUG	BATTERY LI-ION
THROAT MIC HEADSET	HEADSET WITH BOOM MIC	HEADSET “SURVEILANCE”	CLOSE-TALK
CHARGER	AC 100-240V	CARY CASE	SHOULDER HARNESS
PTT			

8 ACTUATORS

8 - ACTUATORS

Inpratex offers ATEX-certified electronic actuators, designed to convert electrical energy into mechanical force, operating in response to a signal received from a regulator or controller and providing the required output to actuate final control elements, such as valves.

For safe and efficient operation, it is essential to accurately define the characteristics of each actuator and the process in which it will be integrated, ensuring proper selection and correct use according to the specific application.

Our ATEX actuators are suitable for a wide range of industrial applications, particularly in the chemical, nuclear, electronics, automotive, food and pharmaceutical industries, as well as in other sectors such as steelmaking, cogeneration plants, water treatment, petrochemical industries and offshore platforms, among others.

Inpratex also provides custom adaptation systems, enabling the integration of the actuator with any type of customer-owned valve, ensuring full compatibility and a reliable and safe installation in hazardous areas.

EXMAX 90⁰ ACTUADOR TYPE ‘S’ ZONE 1, 21

EXMAX 90⁰ ACTUADOR TYPE ‘M’ ZONE 1, 21

REDMAX 90⁰ ACTUADOR TYPE ‘S’ ZONE 2, 22

REDMAX 90⁰ ACTUADOR TYPE ‘M’ ZONE 2, 22

Our product ranges are constantly updated on our website: ***www.inpratex.com***

EXMAX 90º EX QUARTER TURN ACTUATOR - SIZE 'S'

Zones 1, 2, 21, 22

ATEX ACTUATORS

ZONES 1, 2 (gas) & 21, 22 (dust)

ExMax ATEX certified quarter turn actuators are, in acc. with type, for automation of air dampers, fire and smoke dampers, volume control, as well as for ball valves, throttle valves and other quarter turn armatures.

Up to 5 different running times adjustable on site.

Robust aluminium housing, IP66, optional in stainless steel.

EU-Type Examination Certificate

TECHNICAL SPECIFICATIONS	
Marking:	II 2(2)G Ex db [ib Gb] IIC T6, T5, T4 Gb II 2(2)D Ex tb [ib Db] IIIC IP66 T80°C, T95°C, T130°C Db
Certificate:	EU-Type Examination Certificate
Torque*:	5-30 Nm
Power supply:	24-240 V AC / DC
Frequency:	50-60 HZ
Angle of rotation:	95°
Motor running time:	3,15,30,60,120 sec/90°
Spring return*:	1, 3, 10 sec/90° selectable
Control mode*:	On-off, 3-pos, 0-10 V DC, 4-20 mA
Feedback*:	0-10 V DC, 4-20 mA
Squared shaft connection:	12 x 12 mm
Ingress protection:	IP66
Operating temperature:	-40°…+40°C (T6) / -40°…+50°C (T5) / -40°…+60°C (T4)
Cable:	1 m
Dimensions:	210 × 95 × 80 mm
Weight:	Alu ca. 3,5 kg, VA ca. 7 kg
*depending on type	

Ex-d QUARTER TURN ACTUATORS WITHOUT SPRING RETURN, 24 TO 240 VAC/DC					
Type:	Torque:	Running time 90º:	Control mode:	Feedback:	Item No.:
ExMax- 5.10	5 Nm / 10 Nm	3/15/30/60/120 sec.	On-off, 3-pos	-	8A0101
ExMax- 15.30	15 Nm / 30 Nm	3/15/30/60/120 sec.	On-off, 3-pos	-	8A0102
ExMax- 5.10-S	5 Nm / 10 Nm	3/15/30/60/120 sec.	On-off, 3-pos	2 x aux switches (5º/85º)	8A0103
ExMax- 15.30-S	15 Nm / 30 Nm	3/15/30/60/120 sec.	On-off, 3-pos	2 x aux switches (5º/85º)	8A0104
ExMax- 5.10-Y	5 Nm / 10 Nm	7,5/15/30/60/120 sec.	3-pos 0...10 VDC, 4...20 mA	0...10 VDC, 4...20 mA	8A0105
ExMax- 15.30-Y	15 Nm / 30 Nm	7,5/15/30/60/120 sec.	3-pos 0...10 VDC, 4...20 mA	0...10 VDC, 4...20 mA	8A0106

EXMAX 90⁰ EX QUARTER TURN ACTUATOR - SIZE 'S'

Zones 1, 2, 21, 22

Ex-d QUARTER TURN ACTUATORS WITH SPRING RETURN, 24 TO 240 VAC/DC							
Type:	Torque:	Running time 90°:	Spring return:	Control mode:	Feedback:	Features:	Item No.:
ExMax-5.10-F	5 Nm/10 Nm	3/15/30/60/120 sec.	3 sec. / 10 sec.	On-off, 3-pos	-	-	8A0201
ExMax- 15-F	15 Nm	3/15/30/60/120 sec.	3 sec. / 10 sec.	On-off, 3-pos	-	-	8A0202
ExMax-5.10-SF	5 Nm/10 Nm	3/15/30/60/120 sec.	3 sec. / 10 sec.	On-off, 3-pos	2 x aux switches (5°/85°)	-	8A0203
ExMax- 15-SF	15 Nm	3/15/30/60/120 sec.	3 sec. / 10 sec.	On-off, 3-pos	2 x aux switches(5°/85°)	-	8A0204
ExMax-5.10-YF	5 Nm/10 Nm	7,5/15/30/60/120 sec.	3 sec. / 10 sec.	3-pos 0...10 VDC, 4...20 mA	0...10 VDC, 4...20 mA	-	8A0205
ExMax- 15-YF	15 Nm	7,5/15/30/60/120 sec.	3 sec. / 10 sec.	3-pos 0...10 VDC, 4...20 mA	0...10 VDC, 4...20 mA	-	8A0206
ExMax-5.10-BF	5 Nm/10 Nm	3/15/30/60/120 sec.	3 sec. / 10 sec.	On-off, 3-pos	2 x aux switches (5°/85°)	ExPro-TT-..connector	8A0207
ExMax- 15-BF	15 Nm	3/15/30/60/120 sec.	3 sec. / 10 sec.	On-off, 3-pos	2 x aux switches (5°/85°)	ExPro-TT-..connector	8A0208

Ex-d QUARTER TURN ACTUATORS WITH SPRING RETURN FOR OFFSHORE APPLICATION, 24 TO 240 VAC/DC							
Type:	Torque:	Running time 90°:	Spring return:	Control mode:	Feedback:	Features:	Item No.:
ExMax- 8-F1	8 Nm	3/15/30/60/120 sec.	≤ 1 sec.	On-off	-	-	8A0301
ExMax-15-F1	15 Nm	3/15/30/60/120 sec.	≤ 1 sec.	On-off	-	-	8A0302
ExMax- 8-SF1	8 Nm	3/15/30/60/120 sec.	≤ 1 sec.	On-off	2 x aux switches (5°/85°)	-	8A0303
ExMax-15-SF1	15 Nm	3/15/30/60/120 sec.	≤ 1 sec.	On-off	2 x aux switches (5°/85°)	-	8A0304
ExMax- 8-BF1	8 Nm	7,5/15/30/60/120 sec.	≤ 1 sec.	On-off	2 x aux switches (5°/85°)	ExPro-TT-..connector	8A0305
ExMax-15-BF1	15 Nm	7,5/15/30/60/120 sec.	≤ 1 sec.	On-off	2 x aux switches (5°/85°)	ExPro-TT-..connector	8A0306

ACCESSORIES	
Type:	Technical specifications:
ExSwitch	External, adaptable, on site adjustable Ex-d auxiliary switch with 2 potential free contacts, adaptable to ExMax-... actuators
ExBox-3P	Ex-e terminal box connectable to ExMax-... actuators with 1 cable for On-off or 3-pos operation
ExBox-3P/SW	Ex-e terminal box connectable to ExMax-... actuators with 1 cable for On-off or 3-pos operation + 2 cable for external aux. switches type ExSwitch
ExBox-Y/S	Ex-e terminal box connectable to ExMax-... actuators with 2 cable, for modulating operation or 3-pos + integrated switches (HS)
ExBox-Y/S/SW	Ex-e terminal box connectable to ExMax-... actuators with 2 cable, for modulating or 3-pos operation with feedback signal + 2 cable for external aux. switches
ExBox-BF	Ex-e terminal box connectable to ExMax-... actuators with 1 cable, for all ExMax-...-BF
ExBox-BF/SW	Ex-e terminal box connectable to ExMax-... actuators with 1 cable, for all ExMax-...-BF + 2 cable for external aux. switches type ExSwitch
MKK-S	Mounting bracket for ...Box-terminal boxes for direct coupling to ...Max... actuators size S
KB-S	Mounting bracket for round damper shaft ø 10 to 20 mm and square shafts 10 to 16 mm, incl. bracket, connectable to all RedMax-... size S
HV-SKU, HV-SLU	Manual override, connectable to actuators size S. HV-SKU = short version, HV-SLU = long version for add. mounting of ..Box/..Switch
AR-12-xx	Squared reduction part from 12x12 mm to shafts with 11 mm (type AR-12-10), 8 mm (type AR-12-08)
ExPro-TT-...	Safety temperature trigger for fire dampers, switching at 71°/72°C, with 1 m cable, suitable only for ExMax-/RedMax-...-BF actuators!
EXC-DS1/VA	Safety temperature sensor for duct mounting, potential free contact, switching at 70°C…160°C (10°C steps)
DWB-S	Angle rotation limiter for mounting on actuator size S (details on request)
Retrofit-Kit-S	Mechanical adaptation for mounting on ..Max actuators size S, required to replace a previous type EXT15..-F1, EXT12..-F16, EXT15.. or EXT30..
ADS	Different adaptations for different valves available. Please don't hesitate to ask for technical solution.

REDMAX 90º EX QUARTER TURN ACTUATOR - SIZE 'S'

Zones 2, 22

ATEX ACTUATORS

ZONES 2 (gas) & 22 (dust)

ExMax ATEX certified quarter turn actuators are, in acc. with type, for automation of air dampers, fire and smoke dampers, volume control, as well as for ball valves, throttle valves and other quarter turn armatures.

Up to 5 different running times adjustable on site.

Robust aluminium housing, IP66, optional in stainless steel.

EU-Type Examination Certificate

TECHNICAL SPECIFICATIONS	
Marking:	II 3(3)G Ex db [ic Gc] IIC T6,T5,T4 Gc II 3(3)D Ex tc [ic Dc] IIIC T80°C,T95°C,T130°C Dc
Certificate:	EU-Type Examination Certificate
Torque*:	5-30 Nm
Power supply:	24-240 V AC / DC
Frequency:	50-60 HZ
Angle of rotation:	95°
Motor running time:	3,15,30,60,120 sec/90°
Spring return*:	1, 3, 10 sec/90° selectable
Control mode*:	On-off, 3-pos, 0-10 V DC, 4-20 mA
Feedback*:	0-10 V DC, 4-20 mA
Squared shaft connection:	12 x 12 mm
Ingress protection:	IP66
Operating temperature:	-40°…+40°C (T6) / -40°…+50°C (T5) / -40°…+60°C (T4)
Cable:	1 m
Dimensions:	210 × 95 × 80 mm
Weight:	Alu ca. 3,5 kg, VA ca. 7 kg
*depending on type	

Ex-d QUARTER TURN ACTUATORS WITHOUT SPRING RETURN, 24 TO 240 VAC/DC					
Type:	Torque:	Running time 90°:	Control mode:	Feedback:	Item No.:
RedMax- 5.10	5 Nm / 10 Nm	3/15/30/60/120 sec.	On-off, 3-pos	-	8A0701
RedMax- 15.30	15 Nm / 30 Nm	3/15/30/60/120 sec.	On-off, 3-pos	-	8A0702
RedMax- 5.10-S	5 Nm / 10 Nm	3/15/30/60/120 sec.	On-off, 3-pos	2 x aux switches (5°/85°)	8A0703
RedMax- 15.30-S	15 Nm / 30 Nm	3/15/30/60/120 sec.	On-off, 3-pos	2 x aux switches (5°/85°)	8A0704
RedMax- 5.10-Y	5 Nm / 10 Nm	7,5/15/30/60/120 sec.	3-pos 0...10 VDC, 4...20 mA	0...10 VDC, 4...20 mA	8A0705
RedMax- 15.30-Y	15 Nm / 30 Nm	7,5/15/30/60/120 sec.	3-pos 0...10 VDC, 4...20 mA	0...10 VDC, 4...20 mA	8A0706

REDMAX 90⁰ EX QUARTER TURN ACTUATOR - SIZE 'S'

Zones 2, 22

Full catalogue available on our website: www.inpratex.com

Ex-d QUARTER TURN ACTUATORS WITH SPRING RETURN, 24 TO 240 VAC/DC							
Type:	Torque:	Running time 90°:	Spring return:	Control mode:	Feedback:	Features:	Item No.:
RedMax-5.10-F	5 Nm/10 Nm	3/15/30/60/120 sec.	3 sec. / 10 sec.	On-off, 3-pos	-	-	8A0801
RedMax- 15-F	15 Nm	3/15/30/60/120 sec.	3 sec. / 10 sec.	On-off, 3-pos	-	-	8A0802
RedMax-5.10-SF	5 Nm/10 Nm	3/15/30/60/120 sec.	3 sec. / 10 sec.	On-off, 3-pos	2 x aux switches (5°/85°)	-	8A0803
RedMax- 15-SF	15 Nm	3/15/30/60/120 sec.	3 sec. / 10 sec.	On-off, 3-pos	2 x aux switches(5°/85°)	-	8A0804
RedMax-5.10-YF	5 Nm/10 Nm	7,5/15/30/60/120 sec.	3 sec. / 10 sec.	3-pos 0...10 VDC, 4...20 mA	0...10 VDC, 4...20 mA	-	8A0805
RedMax- 15-YF	15 Nm	7,5/15/30/60/120 sec.	3 sec. / 10 sec.	3-pos 0...10 VDC, 4...20 mA	0...10 VDC, 4...20 mA	-	8A0806
RedMax-5.10-BF	5 Nm/10 Nm	3/15/30/60/120 sec.	3 sec. / 10 sec.	On-off, 3-pos	2 x aux switches (5°/85°)	ExPro-TT-..connector	8A0807
RedMax- 15-BF	15 Nm	3/15/30/60/120 sec.	3 sec. / 10 sec.	On-off, 3-pos	2 x aux switches (5°/85°)	ExPro-TT-..connector	8A0808

Ex-d QUARTER TURN ACTUATORS WITH SPRING RETURN FOR OFFSHORE APPLICATION, 24 TO 240 VAC/DC							
Type:	Torque:	Running time 90°:	Spring return:	Control mode:	Feedback:	Features:	Item No.:
RedMax- 8-F1	8 Nm	3/15/30/60/120 sec.	≤ 1 sec.	On-off	-	-	8A0901
RedMax-15-F1	15 Nm	3/15/30/60/120 sec.	≤ 1 sec.	On-off	-	-	8A0902
RedMax- 8-SF1	8 Nm	3/15/30/60/120 sec.	≤ 1 sec.	On-off	2 x aux switches (5°/85°)	-	8A0903
RedMax-15-SF1	15 Nm	3/15/30/60/120 sec.	≤ 1 sec.	On-off	2 x aux switches (5°/85°)	-	8A0904
RedMax- 8-BF1	8 Nm	3/15/30/60/120 sec.	≤ 1 sec.	On-off	2 x aux switches (5°/85°)	ExPro-TT-..connector	8A0905
RedMax-15-BF1	15 Nm	3/15/30/60/120 sec.	≤ 1 sec.	On-off	2 x aux switches (5°/85°)	ExPro-TT-..connector	8A0906

ACCESSORIES	
Type:	Technical specifications:
RedSwitch	External, adaptable, on site adjustable auxiliary switch with 2 potential free contact, adaptable to RedMax-... actuators
RedBox-3P	Ex-e terminal box connectable to RedMax-... actuators with 1 cable for On-off or 3-pos operation
RedBox-3P/SW	Ex-e terminal box connectable to RedMax-... actuators with 1 cable for On-off or 3-pos operation + 2 cable for external aux. switches type RedSwitch
RedBox-Y/S	Ex-e terminal box connectable to RedMax-... actuators with 2 cable, for modulating operation or 3-pos + integrated switches (HS)
RedBox-Y/S/SW	Ex-e terminal box connectable to RedMax-... actuators with 2 cable, for modulating or 3-pos operating with feedback signal + 2 cable for external aux. switches
RedBox-BF	Ex-e terminal box connectable to RedMax-... actuators with 1 cable, for all RedMax-...-BF
RedBox-BF/SW	Ex-e terminal box connectable to RedMax-... actuators with 1 cable, for all RedMax-...-BF + 2 cable for external aux. switches type RedSwitch
MKK-S	Mounting bracket for ...Box-terminal boxes for direct coupling to ...Max... actuators size S
KB-S	Mounting bracket for round damper shaft ø 10 to 20 mm and square shafts 10 to 16 mm, incl. bracket, connectable to all RedMax-... size S
KB-A	Shaft connection for damper shafts Ø 1/2", adaptable for all North American ..Max-.. actuators size S
HV-SKU, HV-SLU	Manual override, connectable to actuators size S, HV-SKU = short version, HV-SLU = long versión for add. mounting of ..Box/ ..Switch
AR-12-xx	Squared reduction part from 12 x 12 mm to shafts with 11 mm (type AR-12-11), 10 mm (type AR-12-10), 8 mm (type AR-12-08)
ExPro-TT-...	Safety temperature trigger for fire dampers, switching at 71°/72°C, with 1 m cable, suitable only for ExMax-/RedMax-...-BF actuators!
EXC-DS1/VA	Safety temperature sensor for duct mounting, potential free contact, switching at 70°C…160°C (10°C steps)
DWB-S	Angle rotation limiter for mounting on actuator size S (details on request)
Retrofit-Kit-S	Mechanical adaptation for mounting on ..Max actuators size S, required to replace a previous type EXT15..-F1, EXT12..-F16, EXT15.. or EXT30..
ADS	Different adaptations for different valves available. Please don't hesitate to ask for technical solution.

EXMAX 90º EX QUARTER TURN ACTUATOR - SIZE 'M'

Zones 1, 2, 21, 22

ATEX ACTUATORS

ZONES 1, 2 (gas) & 21, 22 (dust)

ExMax ATEX certified quarter turn actuators are, in acc. with type, for automation of air dampers, fire and smoke dampers, volume control, as well as for ball valves, throttle valves and other quarter turn armatures.

Up to 5 different running times adjustable on site.

Robust aluminium housing, IP66, optional in stainless steel.

EU-Type Examination Certificate

TECHNICAL SPECIFICATIONS	
Marking:	II 2(2)G Ex db [ib Gb] IIC T6, T5, T4 Gb II 2(2)D Ex tb [ib Db] IIIC T80°C, T95°C, T130°C Db
Certificate:	EU-Type Examination Certificate
Torque*:	30-150 Nm
Power supply:	24-240 V AC / DC
Frequency:	50-60 HZ
Angle of rotation:	95°
Motor running time:	40,60,90,120,150 sec/90°
Spring return*:	3, 20 sec/90° selectable
Control mode*:	On-off, 3-pos, 0-10 V DC, 4-20 mA
Feedback*:	0-10 V DC, 4-20 mA
Squared shaft connection:	16 x 16 mm
Ingress protection:	IP67
Operating temperature:	-40°…+40°C (T6) / -40°…+50°C (T5) / -40°…+60°C (T4)
Cable:	1 m
Dimensions:	288 × 149 × 116 mm
Weight:	Alu ca. 9,5 kg
*depending on type	

Ex-d QUARTER TURN ACTUATORS WITHOUT SPRING RETURN, 24 TO 240 VAC/DC					
Type:	Torque:	Running time 90º:	Control mode:	Feedback:	Item No.:
ExMax- 50.75	50 Nm / 75 Nm	40/60/90/120/150 sec.	On-off, 3-pos	-	8A0401
ExMax- 100	100 Nm	40/60/90/120/150 sec.	On-off, 3-pos	-	8A0402
ExMax- 150	150 Nm	40/60/90/120 sec.	On-off, 3-pos	-	8A0403
ExMax-50.75-S	50 Nm / 75 Nm	40/60/90/120/150 sec.	On-off, 3-pos	2 x aux switches (5°/85°)	8A0404
ExMax- 100-S	100 Nm	40/60/90/120/150 sec.	On-off, 3-pos	2 x aux switches (5°/85°)	8A0405
ExMax- 150-S	150 Nm	40/60/90/120 sec.	On-off, 3-pos	2 x aux switches (5°/85°)	8A0406
ExMax-50.75-Y	50 Nm / 75 Nm	40/60/90/120/150 sec.	3-pos 0...10 VDC, 4...20 mA	0...10 VDC, 4...20 mA	8A0407
ExMax- 100-Y	100 Nm	40/60/90/120/150 sec.	3-pos 0...10 VDC, 4...20 mA	0...10 VDC, 4...20 mA	8A0408

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EXMAX 90⁰ EX QUARTER TURN ACTUATOR - SIZE 'M'

Zones 1, 2, 21, 22

Ex-d QUARTER TURN ACTUATORS WITH SPRING RETURN, 24 TO 240 VAC/DC							
Type:	Torque:	Running time 90°:	Spring return:	Control mode:	Feedback:	Features:	Item No.:
ExMax-30-F	30 Nm	40/60/90/120/150 sec.	20 sec.	On-off, 3-pos	-	-	8A0501
ExMax-50-F	50 Nm	40/60/90/120/150 sec.	20 sec.	On-off, 3-pos	-	-	8A0502
ExMax-60-F	60 Nm	40/60/90/120 sec.	20 sec.	On-off, 3-pos	-	-	8A0503
ExMax-30-SF	30 Nm	40/60/90/120/150 sec.	20 sec.	On-off, 3-pos	2 x aux switches (5°/85°)	-	8A0504
ExMax-50-SF	50 Nm	40/60/90/120/150 sec.	20 sec.	On-off, 3-pos	2 x aux switches (5°/85°)	-	8A0505
ExMax-60-SF	60 Nm	40/60/90/120 sec.	20 sec.	On-off, 3-pos	2 x aux switches (5°/85°)	-	8A0506
ExMax-30-YF	30 Nm	40/60/90/120/150 sec.	20 sec.	3-pos 0...10 VDC, 4...20 mA	0...10 VDC, 4...20 mA	-	8A0507
ExMax-50-YF	50 Nm	40/60/90/120/150 sec.	20 sec.	3-pos 0...10 VDC, 4...20 mA	0...10 VDC, 4...20 mA	-	8A0508
ExMax-30-BF	30 Nm	40/60/90/120/150 sec.	20 sec.	On-off, 3-pos	2 x aux switches (5°/85°)	ExPro-TT-..connector	8A0509
ExMax-50-BF	50 Nm	40/60/90/120/150 sec.	20 sec.	On-off, 3-pos	2 x aux switches (5°/85°)	ExPro-TT-..connector	8A0510
ExMax-60-BF	60 Nm	40/60/90/120 sec.	20 sec.	On-off, 3-pos	2 x aux switches (5°/85°)	ExPro-TT-..connector	8A0511

Ex-d QUARTER TURN ACTUATORS WITH SPRING RETURN FOR OFFSHORE APPLICATION, 24 TO 240 VAC/DC							
Type:	Torque:	Running time 90°:	Spring return:	Control mode:	Feedback:	Features:	Item No.:
ExMax-30-F3	30 Nm	40/60/90/120/150 sec.	≤ 3 sec.	On-off	-	-	8A0601
ExMax-50-F3	50 Nm	40/60/90/120/150 sec.	≤ 3 sec.	On-off	-	-	8A0602
ExMax-30-SF3	30 Nm	40/60/90/120/150 sec.	≤ 3 sec.	On-off	2 x aux switches (5°/85°)	-	8A0603
ExMax-50-SF3	50 Nm	40/60/90/120/150 sec.	≤ 3 sec.	On-off	2 x aux switches (5°/85°)	-	8A0604
ExMax-30-BF3	30 Nm	40/60/90/120/150 sec.	≤ 3 sec.	On-off	2 x aux switches (5°/85°)	ExPro-TT-..connector	8A0605
ExMax-50-BF3	50 Nm	40/60/90/120/150 sec.	≤ 3 sec.	On-off	2 x aux switches (5°/85°)	ExPro-TT-..connector	8A0606

ACCESSORIES	
Type:	Technical specifications:
ExSwitch	External, adaptable, on site adjustable Ex-d auxiliary switch with 2 potential free contacts, adaptable to ExMax-... actuators
ExBox-3P	Ex-e terminal box connectable to ExMax-... actuators with 1 cable for On-off or 3-pos operation
ExBox-3P/SW	Ex-e terminal box connectable to ExMax-... actuators with 1 cable for On-off or 3-pos operation + 2 cable for external aux. switches type ExSwitch
ExBox-Y/S	Ex-e terminal box connectable to ExMax-... actuators with 2 cable, for modulating operation or 3-pos + integrated switches (HS)
ExBox-Y/S/SW	Ex-e terminal box connectable to ExMax-... actuators with 2 cable, for modulating or 3-pos operation with feedback signal + 2 cable for external aux. switches
ExBox-BF	Ex-e terminal box connectable to ExMax-... actuators with 1 cable, for all ExMax-...-BF
ExBox-BF/SW	Ex-e terminal box connectable to ExMax-... actuators with 1 cable, for all ExMax-...-BF + 2 cable for external aux. switches type ExSwitch
MKK-M	Mounting bracket for ...Box-terminal boxes for direct coupling to ...Max... actuators size M
HV-MU	Manual override, connectable to actuators size M
AR-16-xx	Squared reduction part from 16 x 16 mm to shafts with 14 mm (type AR-16-14), 12 mm (type AR-16-12)
ExPro-TT-...	Safety temperature trigger for fire dampers, switching at 71°/72°C, with 1 m cable, suitable only for ExMax-/RedMax-...-BF actuators!
EXC-DS1/VA	Safety temperature sensor for duct mounting, potential free contact, switching at 70°C…160°C (10°C steps)
DWB-M	Angle rotation limiter for mounting on actuator size M
Retrofit-Kit-M	Mechanical adaptation for mounting on ..Max actuators size M, required to replace a previous type EXT15..-F1, EXT12..-F16, EXT15.. or EXT30..
ADM	Different adaptations for different valves available. Please don't hesitate to ask for technical solution.

REDMAX 90º EX QUARTER TURN ACTUATOR - SIZE 'M'

Zones 2, 22

ATEX ACTUATORS

ZONES 2 (gas) & 22 (dust)

ExMax ATEX certified quarter turn actuators are, in acc. with type, for automation of air dampers, fire and smoke dampers, volume control, as well as for ball valves, throttle valves and other quarter turn armatures.

Up to 5 different running times adjustable on site.

Robust aluminium housing, IP66, optional in stainless steel.

EU-Type Examination Certificate

TECHNICAL SPECIFICATIONS	
Marking:	II 3 (3) G Ex db [ic Gc] IIC T6,T5,T4 Gc II 3 (3) D Ex tc [ic Dc] IIIC T80°C,T95°C,T130°C Dc
Certificate:	EU-Type Examination Certificate
Torque*:	30-150 Nm
Power supply:	24-240 V AC / DC
Frequency:	50-60 HZ
Angle of rotation:	95°
Motor running time:	40,60,90,120,150 sec/90°
Spring return*:	3, 20 sec/90°
Control mode*:	On-off, 3-pos, 0-10 V DC, 4-20 mA
Feedback*:	0-10 V DC, 4-20 mA
Squared shaft connection:	16 x 16 mm
Ingress protection:	IP66
Operating temperature:	-40°…+40°C (T6) / -40°…+50°C (T5) / -40°…+60°C (T4)
Cable:	1 m
Dimensions:	288 × 149 × 116 mm
Weight:	Alu ca. 9,5 kg
*depending on type	

Ex-d QUARTER TURN ACTUATORS WITHOUT SPRING RETURN, 24 TO 240 VAC/DC					
Type:	Torque:	Running time 90°:	Control mode:	Feedback:	Item No.:
RedMax- 50.75	50 Nm / 75 Nm	40/60/90/120/150 sec.	On-off, 3-pos	-	8A1001
RedMax- 100	100 Nm	40/60/90/120/150 sec.	On-off, 3-pos	-	8A1002
RedMax- 150	150 Nm	40/60/90/120 sec.	On-off, 3-pos	-	8A1003
RedMax-50.75-S	50 Nm / 75 Nm	40/60/90/120/150 sec.	On-off, 3-pos	2 x aux switches (5°/85°)	8A1004
RedMax- 100-S	100 Nm	40/60/90/120/150 sec.	On-off, 3-pos	2 x aux switches (5°/85°)	8A1005
RedMax- 150-S	150 Nm	40/60/90/120 sec.	On-off, 3-pos	2 x aux switches (5°/85°)	8A1006
RedMax-50.75-Y	50 Nm / 75 Nm	40/60/90/120/150 sec.	3-pos 0...10 VDC, 4...20 mA	0...10 VDC, 4...20 mA	8A1007
RedMax- 100-Y	100 Nm	40/60/90/120/150 sec.	3-pos 0...10 VDC, 4...20 mA	0...10 VDC, 4...20 mA	8A1008

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REDMAX 90⁰ EX QUARTER TURN ACTUATOR - SIZE 'M'

Zones 2, 22

Full catalogue available on our website: www.inpratex.com

Ex-d QUARTER TURN ACTUATORS WITH SPRING RETURN, 24 TO 240 VAC/DC							
Type:	Torque:	Running time 90°:	Spring return:	Control mode:	Feedback:	Features:	Item No.:
RedMax-30-F	30 Nm	40/60/90/120/150 sec.	20 sec.	On-off, 3-pos	-	-	8A1101
RedMax-50-F	50 Nm	40/60/90/120/150 sec.	20 sec.	On-off, 3-pos	-	-	8A1102
RedMax-60-F	60 Nm	40/60/90/120 sec.	20 sec.	On-off, 3-pos	-	-	8A1103
RedMax-30-SF	30 Nm	40/60/90/120/150 sec.	20 sec.	On-off, 3-pos	2 x aux switches (5°/85°)	-	8A1104
RedMax-50-SF	50 Nm	40/60/90/120/150 sec.	20 sec.	On-off, 3-pos	2 x aux switches (5°/85°)	-	8A1105
RedMax-60-SF	60 Nm	40/60/90/120 sec.	20 sec.	On-off, 3-pos	2 x aux switches (5°/85°)	-	8A1106
RedMax-30-YF	30 Nm	40/60/90/120/150 sec.	20 sec.	3-pos 0...10 VDC, 4...20 mA	0...10 VDC, 4...20 mA	-	8A1107
RedMax-50-YF	50 Nm	40/60/90/120/150 sec.	20 sec.	3-pos 0...10 VDC, 4...20 mA	0...10 VDC, 4...20 mA	-	8A1108
RedMax-30-BF	30 Nm	40/60/90/120/150 sec.	20 sec.	On-off, 3-pos	2 x aux switches (5°/85°)	ExPro-TT-..connector	8A1109
RedMax-50-BF	50 Nm	40/60/90/120/150 sec.	20 sec.	On-off, 3-pos	2 x aux switches (5°/85°)	ExPro-TT-..connector	8A1110
RedMax-60-BF	60 nM	40/60/90/120 sec.	20 sec.	On-off, 3-pos	2 x aux switches (5°/85°)	ExPro-TT-..connector	8A1111

Ex-d QUARTER TURN ACTUATORS WITH SPRING RETURN FOR OFFSHORE APPLICATION, 24 TO 240 VAC/DC							
Type:	Torque:	Running time 90°:	Spring return:	Control mode:	Feedback	Features:	Item No.:
RedMax-30-F3	30 Nm	40/60/90/120/150 sec.	≤ 3 sec.	On-off	-	-	8A1201
RedMax-50-F3	50 Nm	40/60/90/120/150 sec.	≤ 3 sec.	On-off	-	-	8A1202
RedMax-30-SF3	30 Nm	40/60/90/120/150 sec.	≤ 3 sec.	On-off	2 x aux switches (5°/85°)	-	8A1203
RedMax-50-SF3	50 Nm	40/60/90/120/150 sec.	≤ 3 sec.	On-off	2 x aux switches (5°/85°)	-	8A1204
RedMax-30-BF3	30 Nm	40/60/90/120/150 sec.	≤ 3 sec.	On-off	2 x aux switches (5°/85°)	ExPro-TT-..connector	8A1205
RedMax-50-BF3	50 Nm	40/60/90/120/150 sec.	≤ 3 sec.	On-off	2 x aux switches (5°/85°)	ExPro-TT-..connector	8A1206

ACCESSORIES	
Type:	Technical specifications:
RedSwitch	External, adaptable, on site adjustable auxiliary switch with 2 potential free contact, adaptable to RedMax-... actuators
RedBox-3P	Ex-e terminal box connectable to RedMax-... actuators with 1 cable for On-off or 3-pos operation
RedBox-3P/SW	Ex-e terminal box connectable to RedMax-... actuators with 1 cable for On-off or 3-pos operation + 2 cable for external aux. switches type RedSwitch
RedBox-Y/S	Ex-e terminal box connectable to RedMax-... actuators with 2 cable, for modulating operation or 3-pos + integrated switches (HS)
RedBox-Y/S/SW	Ex-e terminal box connectable to RedMax-... actuators with 2 cable, for modulating or 3-pos operating with feedback signal + 2 cable for external aux. switches
RedBox-BF	Ex-e terminal box connectable to RedMax-... actuators with 1 cable, for all RedMax-...-BF
RedBox-BF/SW	Ex-e terminal box connectable to RedMax-... actuators with 1 cable, for all RedMax-...-BF + 2 cable for external aux. switches type RedSwitch
MKK-M	Mounting bracket for ...Box-terminal boxes for direct coupling to ...Max... actuators size M
HV-MU	Manual override, connectable to actuators size M
AR-16-xx	Squared reduction part from 16 x 16 mm to shafts with 14 mm (yype AR-16-14), 12 mm (type AR-16-12)
ExPro-TT-...	Safety temperature trigger for fire dampers, switching at 71°/72°C, with 1 m cable, suitable only for ExMax-/RedMax-...-BF actuators!
EXC-DS1/VA	Safety temperature sensor for duct mounting, potential free contact, switching at 70°C…160°C (10°C steps)
DWB-M	Angle rotation limiter for mounting on actuator size M
Retrofit-Kit-M	Mechanical adaptation for mounting on ..Max actuators size M, required to replace a previous type EXT30..-F3, EXT50..-F3 or EXT50..
ADM	Different adaptations for different valves available. Please don't hesitate to ask for technical solution.

EXPRO-TT SAFETY TEMPERATURE TRIGGER

Zones 1, 2, 21, 22

ATEX ACTUATORS

ZONES 1, 2 (gas) & 21, 22 (dust)

The thermoelectric safety trigger ExPro-TT-... activates the motorized fire damper into its safety position by spring return operation of an ExMax-...-BF or RedMax-...-BF actuator.

Function:
Two temperature fuses Tf1 and Tf2 are part of the trigger. In case that the ambient temperature outside the duct is more than +72 °C the temperature fuse Tf1 triggers. If the temperature inside the duct is more than +71 °C the temperature fuse Tf2 triggers. If Tf1 or Tf2 is switching off the power, the circuit to the actuator is irreversibly cut. The spring return of the actuator moves the damper into its safety position.

Performance control:
A performance control for safety operation of the damper is possible with push button of the trigger. The function of the temperature fuses Tf1, Tf2 can be simulated in this way.

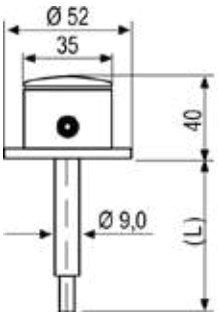
Electrical wiring:
The temperature trigger must be connected directly to the actuator. Remove the plastic cover and put the plug in the socket and screw tight.

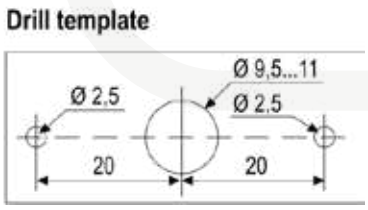
Short circuit monitoring:
The ExPro-TT-... is continuously monitored by the actuator. If a short circuit is detected in the wiring the actuator travels back to its safety position.

EU-Type Examination Certificate

ExPro-TT CONNECTABLE TO ACTUATORS ExMax-...-BF and RedMax-...-BF					
Type:	Function:	Length (L):	Temperature fuse duct / outside duct:	Test button:	Item No.:
ExPro-TT-72	Safety temperature trigger	65 mm	1 temp. fuse switching at +71 °C / +72 °C	1 test button	8A1301
ExPro-TT-72-L90	Safety temperature trigger	90 mm	1 temp. fuse switching at +71 °C / +72 °C	1 test button	8A1302

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex ia IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Supply:	Only by ...Max-...-BF... actuators
Connection:	~ 1 m cable
Cable:	2 × 0,5 mm², −40...+220 °C, halogen-free | Inductance ≈ 0,6 mH/km, capacitance ≈ 30 nF/km
Cable gland:	M12 × 1,5 mm Ex-e, brass nickel-plated Ø 4...6 mm
Temperature fuse:	1 × duct, 1 × outside duct (not changeable)
Response temperatures:	Tf1 room ambient temperature at +72 °C | Tf2 duct temperature at +71 °C
Ambient temperature:	Ta −40...+72 °C, working temperature Tb −40...+55 °C
Storage temperature:	−40 to +55 °C
Humidity protection:	< 95 % rH, non condensing
Weight:	200 g
Materials:	Thermowell brass plated, housing № 1.4581 / UNS-J92900 / similar AISI 316Nb, cover brass plated, seal cover FPM
Maintenance:	Maintenance free, a yearly function control is recommended
Mounting:	Direct mounting to the duct or damper with tapping screws. Notice: Position of the sensor of the safety temperature trigger must guarantee free air flow.





9 INSTRUMENTATION

9 - INSTRUMENTATION

Inpratex supplies a wide range of explosion-proof ATEX equipment for heating, ventilation and air conditioning (HVAC), designed for safe use in industrial and offshore applications.

Our portfolio includes ATEX instrumentation equipment developed to provide precise, stable and reliable operation over long periods of time, even under harsh environmental conditions. These devices are used in a wide variety of industrial processes and applications, such as valve and damper control, gas turbine control, printing presses, paint spray booths, motors and fuel management systems, among others.

Inpratex also offers ATEX-certified detection and measurement equipment, designed to ensure accurate and safe monitoring of critical variables in potentially explosive atmospheres, caused by the presence of gases and vapours as well as combustible dust.

The range is completed with ATEX-certified remote input and output solutions, designed for the safe acquisition, transmission and control of signals in hazardous areas, enabling reliable integration of field instrumentation with control systems and contributing to improved safety and operational efficiency of the installations.

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Our product ranges are constantly updated on our website: ***www.inpratex.com***

9.1

TEMPERATURE, HUMIDITY AND PRESSURE

EXCOS-D TEMPERATURE / HUMIDITY TRANSMITTER

Zones 1, 2, 21, 22

ATEX INSTRUMENTATION | **ZONES 1, 2 (gas) & 21, 22 (dust)**

EU-Type Examination Certificate

The ExCos-D... transmitter generation with directly coupled ExPro-C... sensors are a revolution for measuring temperature and/or humidity in HVAC systems, in chemical, pharmaceutical, industrial and offshore/onshore plants, for use in hazardous areas zone 1, 2 (gas) and zone 21, 22 (dust).

Highest protection class (ATEX) and IP66 protection, small dimensions, universal functions and technical data guarantee safe operation even under difficult environmental conditions.

All sensors are programmable on site without any additional tools. The measuring ranges are scalable within the maximum ranges. The analogue output signal is either 0...10 VDC or (0)4...20 mA and can be selected on site.

The integrated display (can be switched off as needed) is for parametrisation and an actual value indication at working mode.

- No addional Ex-i module required
- Integrated Ex-e terminal box
- Power supply 24 VAC/DC
- Scalable analogue output, selectable 0...10 V / (0)4...20 mA
- Display with backlight, can be switched off
- Password locking

ExCos-D TEMPERATURE/HUMIDITY MODULE FOR ZONE 1, 2, 21, 22				
Type:	Technical specifications:	Module:	ExPro sensor:	Item No.:
ExCos-D	Module to connect 1 ExPro-C... sensor for temperature and/or humidity	Zone 1, 2, 21, 22	Zone 1, 2, 21, 22	9A0501

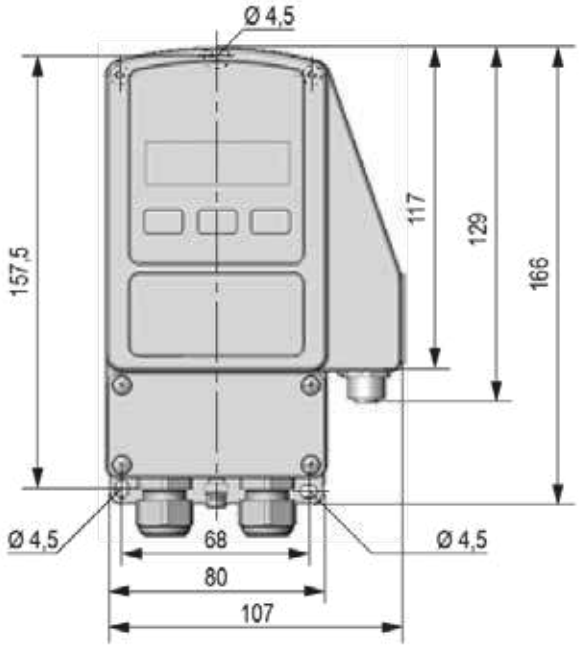
SENSORS FOR ExCos-D AND RedCos-D TRANSMITTER				
Type:	Function:	Range:	Sensor length:	Main use:
ExPro-CT - 50	Temperature sensor	-40 to +80 °C	50 mm	Room/Duct
ExPro-CT -100	Temperature sensor	-40 to +125 °C	100 mm	Duct
ExPro-CT -150	Temperature sensor	-40 to +125 °C	150 mm	Duct
ExPro-CT -200	Temperature sensor	-40 to +125 °C	200 mm	Duct
ExPro-CF - 50	Humidity sensor	0...100%rF	50 mm	Room/Duct
ExPro-CF -100	Humidity sensor	0...100%rF	100 mm	Duct
ExPro-CF -150	Humidity sensor	0...100%rF	150 mm	Duct
ExPro-CF -200	Humidity sensor	0...100%rF	200 mm	Duct
ExPro-CTF - 50	Combination temperature/humidity	-40 to +80 °C, 0...100%rH	50 mm	Room/Duct
ExPro-CTF -100	Combination temperature/humidity	-40 to +125 °C, 0...100%rH	100 mm	Duct
ExPro-CTF -150	Combination temperature/humidity	-40 to +125 °C, 0...100%rH	150 mm	Duct
ExPro-CTF -200	Combination temperature/humidity	-40 to +125 °C, 0...100%rH	200 mm	Duct

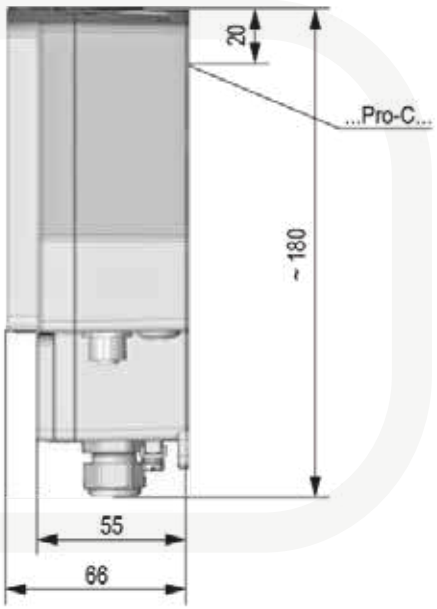
ACCESSORIES AND SPECIAL DESIGNS	
Type:	Technical specifications:
Ex/RedCos-D-A	Version with two additional intrinsically safe circuit (0)4...20 mA outputs to connect external actual value indicator in Ex areas
EXC-RIA-16	Intrinsic safe actual value LCD indicator, for use in zone 1,2,21,22, connectable to ExCos-D-A or RedCos-D-A transmitter
NOC-RIA-16	Actual value LCD indicator, for use in safe area, connectable to InCos-D-A transmitter
MKR-VA/AL	Mounting bracket for installation on round air-ducts (diameter up to 600 mm)
VL3	Sensor extension cable 3 m

EXCOS-D TEMPERATURE / HUMIDITY TRANSMITTER

Zones 1, 2, 21, 22

TECHNICAL SPECIFICATIONS	
Marking:	II 2(1)G Ex e ma [ia Ga] IIC T6...T4 Gb II 2(1)D Ex tb [ia Da] IIIC T80°C...T130°C Db IP66
Certificate:	EU-Type Examination Certificate
Supply voltage / frequency:	24 VAC/DC ± 20% (19,2...28,8 VAC/DC), 50/60 Hz
Current power consumption:	150 mA, ~ 4 W, internal fuse 500 mAT, without bracket, not removable
Galvanic isolation:	Supply for analogue in- and outputs min. 1,5 kV, supply for relay output min. 1,5 kV
Electrical connection:	Terminals 0,14...2,5 mm² at integrated Ex-e terminal box, stripping length 9 mm, torque 0,4...0,5 Nm, equipotential bonding 4 mm²
Display / Control elements:	2 × 16 digits, dot-matrix display, backlit, for configuration, user guidance, parameter and actual value indication / 3 buttons for configuration
Housing:	Aluminium die-cast housing, coated. / T6 (T80 °C) a −20...+50 °C
Ambient Temperature - Humidity:	−20...+50 °C, storage temperature −35...+70 °C / 0...95 % rH, non condensing
Sensor connection:	For ExPro-C... sensor only! Via plug and socket connection at front side (for room mounting) or at back side (for duct mounting). Attention: Only 1 ExPro-C... sensor per transmitter can be connected!
Measuring ranges adjustable:	Measuring ranges are scalable within and limited by the maximum sensor measuring range
Response time of sensor:	T90 / ~ 1 s
Start delay:	5 s
Stability:	Long term stability < 0,2 %/year, temperature influence < 0,02 %/K, supply voltage influence < 0,01 %
Output:	Voltage U [V] or current I [mA] selectable via menu on site (with combi sensors not adjustable separately), protected against short circuit and external voltage up to 24 V, protected against polarity reversal
Voltage output U:	0...10 V adjustable, invertible, burden > 1 kΩ, influence < 0,05 %/100 Ω + accuracy of ...Pro-C... sensor
Current output I:	0...20 mA adjustable, invertible, burden < 500 Ω, influence < 0,1 %/100 Ω, open circuit voltage < 24 V + accuracy of ...Pro-C... sensor
Output in alarm mode:	Increasing or decreasing output signal, selectable on site, down to 0 VDC/0 mA or up to 10 VDC/20 mA
Scope of delivery:	Transmitter, 3 self-tapping screws 4,2 × 13 mm resp. in stainless steel (with ...CT and ...VA versions)
Parameter at delivery:	Output 4…20 mA, output in alarm mode decreasing to 0 V/0 mA
Dimensions:	180 × 107 × 66 mm
Weight:	~ 950 g
Cable entries:	2 × M16 × 1,5 mm, Ex-e approved, for cable diameter ~ Ø 5...9 mm





REDCOS-D TEMPERATURE / HUMIDITY TRANSMITTER

Zones 2, 22

ATEX INSTRUMENTATION | **ZONES 2 (gas) & 22 (dust)**

Certificado de examen de tipo

The RedCos-D... transmitter generation with directly coupled ExPro-C... sensors are a revolution for measuring temperature and/or humidity in HVAC systems, in chemical, pharmaceutical, industrial and offshore/onshore plants, for use in hazardous areas zone 2 (gas) and zone 22 (dust).

Highest protection class (ATEX) and IP66 protection, small dimensions, universal functions and technical data guarantee safe operation even under difficult environmental conditions.

All sensors are programmable on site without any additional tools. The measuring ranges are scalable within the maximum ranges. The analogue output signal is either 0...10 VDC or (0)4...20 mA and can be selected on site.

The integrated display (can be switched off as needed) is for parametrisation and an actual value indication at working mode.

- No addional Ex-i module required
- Integrated Ex-e terminal box
- Power supply 24 VAC/DC
- Scalable analogue output, selectable 0...10 V / (0)4...20 mA
- Display with backlight, can be switched off
- Password locking

RedCos-D TEMPERATURE/HUMIDITY MODULE FOR ZONE 2, 22				
Type:	Technical specifications:	Module:	ExPro sensor:	Item No.:
RedCos-D	Module to connect 1 ExPro-C... sensor for temperature and/or humidity	Zone 2, 22	Zone 1, 2, 21, 22	9A0601

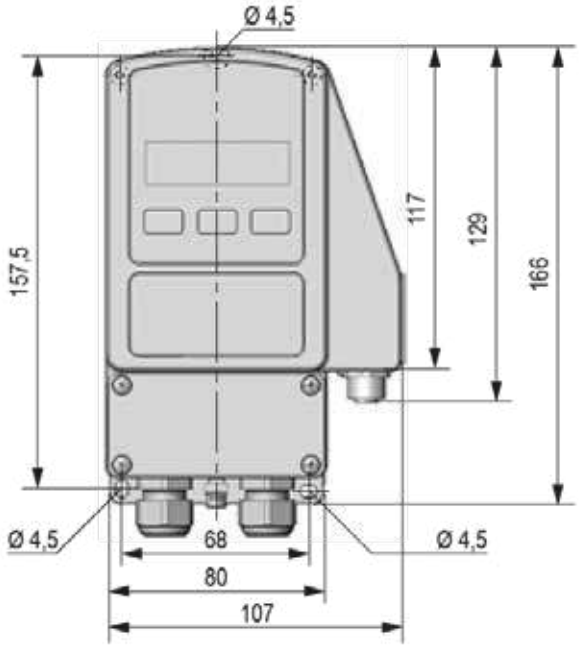
SENSORS FOR ExCos-D AND RedCos-D TRANSMITTER				
Type:	Function:	Range:	Sensor length:	Main use:
ExPro-CT - 50	Temperature sensor	-40 to +80 °C	50 mm	Room/Duct
ExPro-CT -100	Temperature sensor	-40 to +125 °C	100 mm	Duct
ExPro-CT -150	Temperature sensor	-40 to +125 °C	150 mm	Duct
ExPro-CT -200	Temperature sensor	-40 to +125 °C	200 mm	Duct
ExPro-CF - 50	Humidity sensor	0...100%rF	50 mm	Room/Duct
ExPro-CF -100	Humidity sensor	0...100%rF	100 mm	Duct
ExPro-CF -150	Humidity sensor	0...100%rF	150 mm	Duct
ExPro-CF -200	Humidity sensor	0...100%rF	200 mm	Duct
ExPro-CTF - 50	Combination temperature/humidity	-40 to +80 °C, 0...100%rH	50 mm	Room/Duct
ExPro-CTF -100	Combination temperature/humidity	-40 to +125 °C, 0...100%rH	100 mm	Duct
ExPro-CTF -150	Combination temperature/humidity	-40 to +125 °C, 0...100%rH	150 mm	Duct
ExPro-CTF -200	Combination temperature/humidity	-40 to +125 °C, 0...100%rH	200 mm	Duct

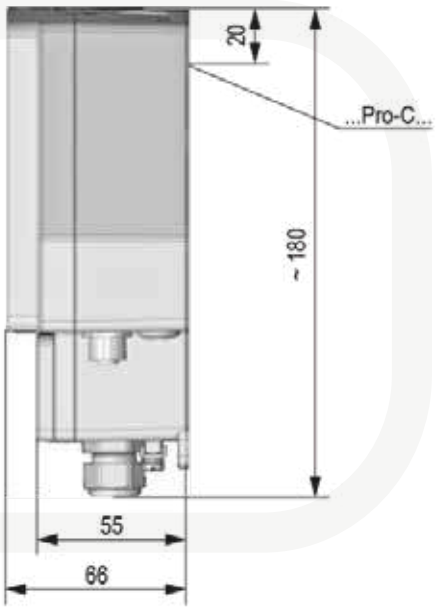
ACCESSORIES AND SPECIAL DESIGNS	
Type:	Technical specifications:
MKR-VA/AL	Mounting bracket for installation on round air-ducts (diameter up to 600 mm)
VL3	Sensor extension cable 3 m
MFK	Mounting flange for duct-installation, for variable depth of immersion in the air duct

REDCOS-D TEMPERATURE / HUMIDITY TRANSMITTER

Zones 2, 22

TECHNICAL SPECIFICATIONS	
Marking:	II 3(1)G Ex nC [ia Ga] IIC T6...T4 Gc II 3(1)D Ex tc [ia Da] IIIC T80°C...T130°C Dc IP66
Certificate:	EU-Type Examination Certificate
Supply voltage / frequency:	24 VAC/DC ± 20% (19,2...28,8 VAC/DC), 50/60 Hz
Current power consumption:	150 mA, ~ 4 W, internal fuse 500 mAT, without bracket, not removable
Galvanic isolation:	Supply for analogue in- and outputs min. 1,5 kV, supply for relay output min. 1,5 kV
Electrical connection:	Terminals 0,14...2,5 mm² at integrated Ex-e terminal box, stripping length 9 mm, torque 0,4...0,5 Nm, equipotential bonding 4 mm²
Display / Control elements:	2 × 16 digits, dot-matrix display, backlit, for configuration, user guidance, parameter and actual value indication / 3 buttons for configuration
Housing:	Aluminium die-cast housing, coated. / T6 (T80 °C) a −20...+50 °C
Ambient Temperature - Humidity:	−20...+50 °C, storage temperature −35...+70 °C / 0...95 % rH, non condensing
Sensor connection:	For ExPro-C... sensor only! Via plug and socket connection at front side (for room mounting) or at back side (for duct mounting). Attention: Only 1 ExPro-C... sensor per transmitter can be connected!
Measuring ranges adjustable:	Measuring ranges are scalable within and limited by the maximum sensor measuring range
Response time of sensor:	T90 / ~ 1 s
Start delay:	5 s
Stability:	Long term stability < 0,2 %/year, temperature influence < 0,02 %/K, supply voltage influence < 0,01 %
Output:	Voltage U [V] or current I [mA] selectable via menu on site (with combi sensors not adjustable separately), protected against short circuit and external voltage up to 24 V, protected against polarity reversal
Voltage output U:	0...10 V adjustable, invertible, burden > 1 kΩ, influence < 0,05 %/100 Ω + accuracy of ...Pro-C... sensor
Current output I:	0...20 mA adjustable, invertible, burden < 500 Ω, influence < 0,1 %/100 Ω, open circuit voltage < 24 V + accuracy of ...Pro-C... sensor
Output in alarm mode:	Increasing or decreasing output signal, selectable on site, down to 0 VDC/0 mA or up to 10 VDC/20 mA
Scope of delivery:	Transmitter, 3 self-tapping screws 4,2 × 13 mm resp. in stainless steel (with ...CT and ...VA versions)
Parameter at delivery:	Output 4…20 mA, output in alarm mode decreasing to 0 V/0 mA
Dimensions:	180 × 107 × 66 mm
Weight:	~ 950 g
Cable entries:	2 × M16 × 1,5 mm, Ex-e approved, for cable diameter ~ Ø 5...9 mm





ATEX INSTRUMENTATION | **ZONES 1, 2 (gas) & 21, 22 (dust)**

The ExBin-D... transmitter generation with directly coupled ExPro-B... sensors is a revolution for measuring temperature and/or humidity in HVAC systems, in chemical, pharmaceutical, industrial and offshore/onshore plants, for use in hazardous areas zone 1, 2 (gas) and zone 21, 22 (dust).

Highest protection class (ATEX) and IP66 protection, small dimensions, universal functions and technical data guarantee safe operation even under difficult environmental conditions.

All sensors are programmable on site without any additional tools. The switching points are scalable within the maximum ranges. The integrated display (can be switched off as needed) is for parametrisation and an actual value indication at working mode.

- No addional Ex-i module required
- Integrated Ex-e terminal box
- Power supply 24 VAC/DC
- Scalable, potential free switching contact
- Display with backlight, can be switched off
- Password locking

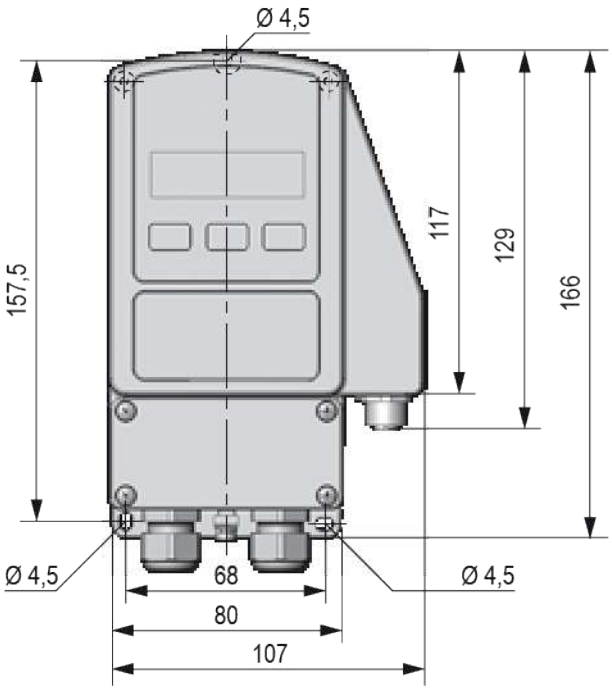
EU-Type Examination Certificate

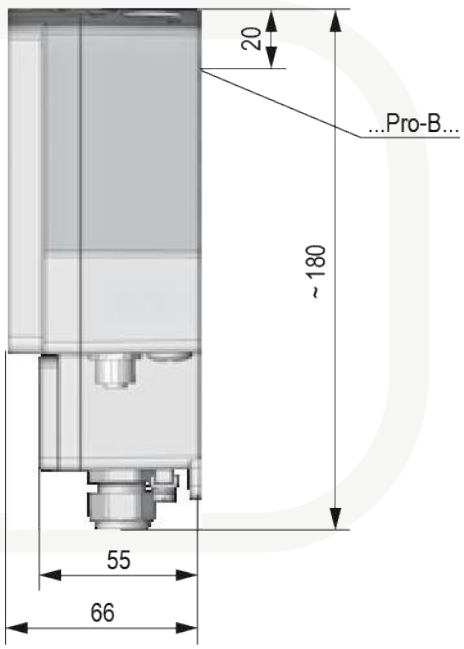
ExBin-D THERMOSTATS AND/OR HYGROSTATS FOR ZONE 1, 2, 21, 22				
Type:	Technical specifications:	Module:	Sensor ExPro-B:	Item No.:
ExBin-D	Module for connection of one ExPro-B... sensor as thermostat and/or hygrostat, 1-stage	Zone 1, 2, 21, 22	Zone 1, 2, 21, 22	9A1601
ExBin-D-2	Module for connection of one ExPro-B... sensor as thermostat and/or hygrostat, 2-stage	Zonae1, 2, 21, 22	Zone 1, 2, 21, 22	9A1602

ExPro-B SENSORS FOR ExBin-D AND RedBin-D MODULES				
Type:	Function:	Range:	Sensor length:	Main use:
ExPro-BT - 50	Thermostat	-40 to +80 °C	50 mm	Room/Duct
ExPro-BT -100	Thermostat	-40 to +125 °C	100 mm	Duct
ExPro-BT -150	Thermostat	-40 to +125 °C	150 mm	Duct
ExPro-BT -200	Thermostat	-40 to +125 °C	200 mm	Duct
ExPro-BF - 50	Hygrostat	0...100%rH	50 mm	Room/Duct
ExPro-BF -100	Hygrostat	0...100%rH	100 mm	Duct
ExPro-BF -150	Hygrostat	0...100%rH	150 mm	Duct
ExPro-BF -200	Hygrostat	0...100%rH	200 mm	Duct
ExPro-BTF - 50	Combination Thermostat/Hygrostat	-40 to +80 °C, 0...100%rH	50 mm	Room/Duct
ExPro-BTF -100	Combination Thermostat/Hygrostat	-40 to +125 °C, 0...100%rH	100 mm	Duct
ExPro-BTF -150	Combination Thermostat/Hygrostat	-40 to +125 °C, 0...100%rH	150 mm	Duct
ExPro-BTF -200	Combination Thermostat/Hygrostat	-40 to +125 °C, 0...100%rH	200 mm	Duct

ACCESSORIES AND SPECIAL DESIGNS	
Type:	Technical specifications:
MFK	Mounting flange for duct-installation, for variable depth of inmersion in the air duct
TH- VA	Probe made of stainless-steel V4A 1.4571, length 150 mm for ..Pro-BT-200. Other lenghts on request
Kit-FA-VA	Sinter filter cap for humidity sensor (only up to 90 %rH)
MKR-VA/AL	Mounting bracket for installation on round air-ducts (diameter up to 600 mm)

TECHNICAL SPECIFICATIONS	
Marking:	II 2(1)G Ex e mb [ia Ga] IIC T6...T4 Gb II 2(1)D Ex tb [ia Da] IIIC T80°C...T130°C Db IP66
Certificate:	EU-Type Examination Certificate
Supply voltage / frequency:	24 VAC/DC ± 20% (19,2...28,8 VAC/DC), 50/60 Hz
Current, power consumption:	150 mA, ~ 4 W, internal fuse 500 mAT, without bracket, not removable
Galvanic isolation:	Supply for relay output min. 1,5 kV
Electrical connection:	Terminals 0,14...2,5 mm² at integrated Ex-e terminal box, stripping length 9 mm, torque 0,4...0,5 Nm, equipotential bonding 4 mm²
Display / Control elements:	Matrix LCD, backlit, for configuration, user guidance, parameter and actual value indication. Status indicator via LEDs 3 buttons for configuration
Housing:	Aluminium die-cast housing, coated / T6 (T80 °C) at −20...+50 °C
Ambient Temperature - Humidity:	−20...+50 °C, storage temperature −35...+70°C / 0...95 % rH, non condensing
Sensor connection:	For ExPro-B... sensor only! Via plug and socket connection at front side (for room mounting) or at back side (for duct mounting). Attention: Only 1 ExPro-B... sensor per transmitter can be connected!
Measuring range:	−40...+125 °C / 0...100 % rH, non condensed
Response time of sensor:	T90 / ~ 3 s
Relay output accuracy:	Temperature: ±0,1 °C resolution + accuracy of ...Pro-B... sensor Humidity ±0,05 % resolution + accuracy of ...Pro-B... sensor
Setting range hysteresis:	+0,5...+20,0 °C (factory setting +1,0 °C) / 0,5...20,0 % rH (factory setting 5,0 % rH)
Start delay:	5 s
Stability:	Long term stability < 0,2 %/year, temperature influence < 0,02 %/K, supply voltage influence < 0,01 %
Output:	Potential free switching contact – breaking/making contact, adjustable per menu max. rating load: 0,5 A (30 VAC/DC) – 0,1 A (250 VAC) – 0,1 A (220 VDC). Power 40 W, 10 W per channel min. rating load: 10 mW / 0,1 V / 1 mA
Additional relay output (Type ...-2):	– as above
Duration of life:	Mechanical: 10 × 10⁶ Electrical (rated load): 100 × 10³
Scope of delivery:	Transmitter, 3 self-tapping screws 4,2 × 13 mm resp. in stainless steel (with ...CT and ...VA versions)
Dimensions:	180 × 107 × 66 mm
Weight:	~ 950 g
Cable entries:	2 x M16x1,5 mm, Ex-e approved, for cable diameter ~ Ø 5...9 mm





ATEX INSTRUMENTATION | **ZONES 2 (gas) & 22 (dust)**

The RedBin-D... transmitter generation with directly coupled ExPro-B... sensors is a revolution for measuring temperature and/or humidity in HVAC systems, in chemical, pharmaceutical, industrial and offshore/onshore plants, for use in hazardous areas zone 2 (gas) and zone 22 (dust).

Highest protection class (ATEX) and IP66 protection, small dimensions, universal functions and technical data guarantee safe operation even under difficult environmental conditions.

All sensors are programmable on site without any additional tools. The switching points are scalable within the maximum ranges. The integrated display (can be switched off as needed) is for parametrisation and an actual value indication at working mode.

- No addional Ex-i module required
- Integrated Ex-e terminal box
- Power supply 24 VAC/DC
- Scalable, potential free switching contact
- Display with backlight, can be switched off
- Password locking

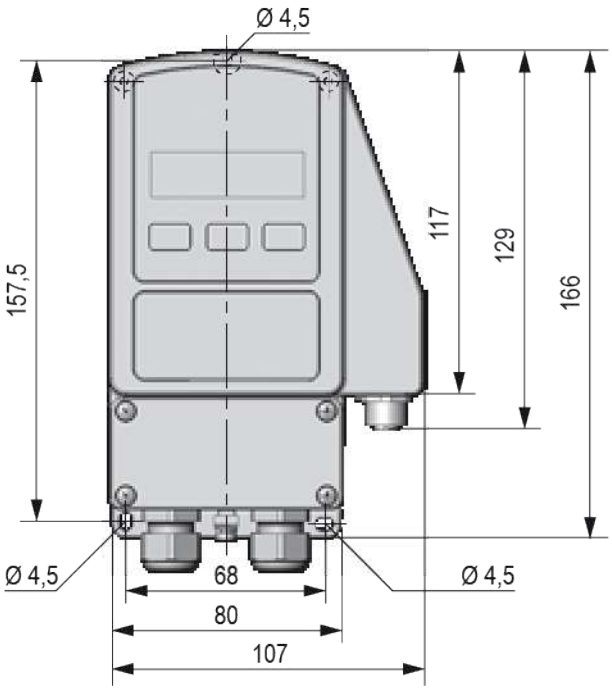
EU-Type Examination Certificate

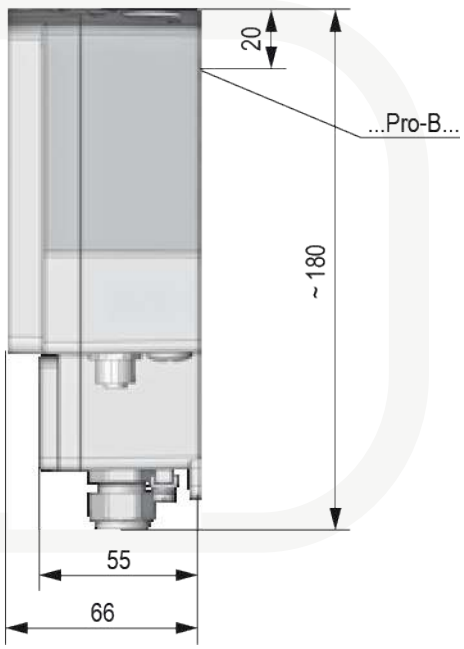
RedBin-D THERMOSTATS AND/OR HYGROSTATS FOR ZONE 2, 22				
Type:	Technical specifications:	Module:	Sensor ExPro-B:	Item No.:
RedBin-D	Module for connection of one ExPro-B... sensor as thermostat and/or hygrostat, 1-stage	Zone 2, 22	Zone 1, 2, 21, 22	9A1701
RedBin-D-2	Module for connection of one ExPro-B... sensor as thermostat and/or hygrostat, 2-stage	Zone 2, 22	Zone 1, 2, 21, 22	9A1702

ExPro-B SENSORS FOR ExBin-D AND RedBin-D MODULES				
Type:	Function:	Range:	Sensor length:	Main use:
ExPro-BT - 50	Thermostat	-40 to +80 °C	50 mm	Room/Duct
ExPro-BT -100	Thermostat	-40 to +125 °C	100 mm	Duct
ExPro-BT -150	Thermostat	-40 to +125 °C	150 mm	Duct
ExPro-BT -200	Thermostat	-40 to +125 °C	200 mm	Duct
ExPro-BF - 50	Hygrostat	0...100%rH	50 mm	Room/Duct
ExPro-BF -100	Hygrostat	0...100%rH	100 mm	Duct
ExPro-BF -150	Hygrostat	0...100%rH	150 mm	Duct
ExPro-BF -200	Hygrostat	0...100%rH	200 mm	Duct
ExPro-BTF - 50	Combination Thermostat/Hygrostat	-40 to +80 °C, 0...100%rH	50 mm	Room/Duct
ExPro-BTF -100	Combination Thermostat/Hygrostat	-40 to +125 °C, 0...100%rH	100 mm	Duct
ExPro-BTF -150	Combination Thermostat/Hygrostat	-40 to +125 °C, 0...100%rH	150 mm	Duct
ExPro-BTF -200	Combination Thermostat/Hygrostat	-40 to +125 °C, 0...100%rH	200 mm	Duct

ACCESSORIES AND SPECIAL DESIGNS	
Type:	Technical specifications:
MFK	Mounting flange for duct-installation, for variable depth of inmersion in the air duct
TH- VA	Probe made of stainless-steel V4A 1.4571, length 150 mm for ..Pro-BT-200. Other lenghts on request
Kit-FA-VA	Sinter filter cap for humidity sensor (only up to 90 %rH)
MKR-VA/AL	Mounting bracket for installation on round air-ducts (diameter up to 600 mm)

TECHNICAL SPECIFICATIONS	
Marking:	II 3(1)G Ex nC [ia Ga] IIC T6...T4 Gc II 3(1)D Ex tc [ia Da] IIIC T80°C...T130°C Dc IP66
Certificate:	EU-Type Examination Certificate
Supply voltage / frequency:	24 VAC/DC ± 20% (19,2...28,8 VAC/DC), 50/60 Hz
Current, power consumption:	150 mA, ~ 4 W, internal fuse 500 mAT, without bracket, not removable
Galvanic isolation:	Supply for relay output min. 1,5 kV
Electrical connection:	Terminals 0,14...2,5 mm² at integrated Ex-e terminal box, stripping length 9 mm, torque 0,4...0,5 Nm, equipotential bonding 4 mm²
Display / Control elements:	Matrix LCD, backlit, for configuration, user guidance, parameter and actual value indication. Status indicator via LEDs 3 buttons for configuration
Housing:	Aluminium die-cast housing, coated / T6 (T80 °C) at −20...+50 °C
Ambient Temperature - Humidity:	−20...+50 °C, storage temperature −35...+70°C / 0...95 % rH, non condensing
Sensor connection:	For ExPro-B... sensor only! Via plug and socket connection at front side (for room mounting) or at back side (for duct mounting). Attention: Only 1 ExPro-B... sensor per transmitter can be connected!
Measuring range:	−40...+125 °C / 0...100 % rH, non condensed
Response time of sensor:	T90 / ~ 3 s
Relay output accuracy:	Temperature: ±0,1 °C resolution + accuracy of ...Pro-B... sensor Humidity ±0,05 % resolution + accuracy of ...Pro-B... sensor
Setting range hysteresis:	+0,5...+20,0 °C (factory setting +1,0 °C) / 0,5...20,0 % rH (factory setting 5,0 % rH)
Start delay:	5 s
Stability:	Long term stability < 0,2 %/year, temperature influence < 0,02 %/K, supply voltage influence < 0,01 %
Output:	Potential free switching contact – breaking/making contact, adjustable per menu max. rating load: 0,5 A (30 VAC/DC) – 0,1 A (250 VAC) – 0,1 A (220 VDC). Power 40 W, 10 W per channel min. rating load: 10 mW / 0,1 V / 1 mA
Additional relay output (Type ...-2):	– as above
Duration of life:	Mechanical: 10 × 10⁶ Electrical (rated load): 100 × 10³
Scope of delivery:	Transmitter, 3 self-tapping screws 4,2 × 13 mm resp. in stainless steel (with ...CT and ...VA versions)
Dimensions:	180 × 107 × 66 mm
Weight:	~ 950 g
Cable entries:	2 x M16x1,5 mm, Ex-e approved, for cable diameter ~ Ø 5...9 mm





EXBIN-FR FROST PROTECTION THERMOSTATS

Zones 1, 2, 21, 22

ATEX INSTRUMENTATION | ZONES 1, 2 (gas) & 21, 22 (dust)

The ExBin-FR... frost protection thermostat is a revolution in HVAC systems, in chemical, pharmaceutical, industrial and offshore/onshore plants, for use in hazardous areas zone 1, 2 (gas) and zone 21, 22 (dust).

Highest protection class (ATEX) and IP66 protection, small dimensions, universal functions and technical data guarantee safe operation even under difficult environmental conditions.

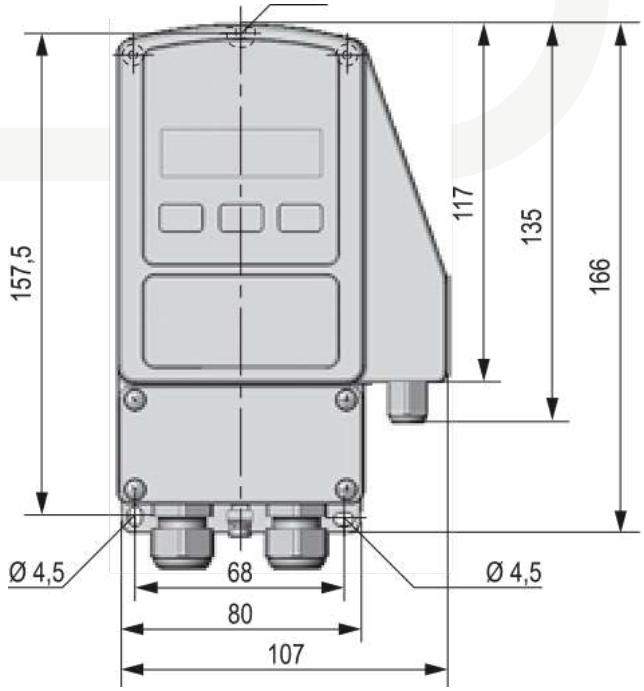
All frost protection thermostats are programmable on site without any additional tools. The switching point is scalable within the maximum ranges.

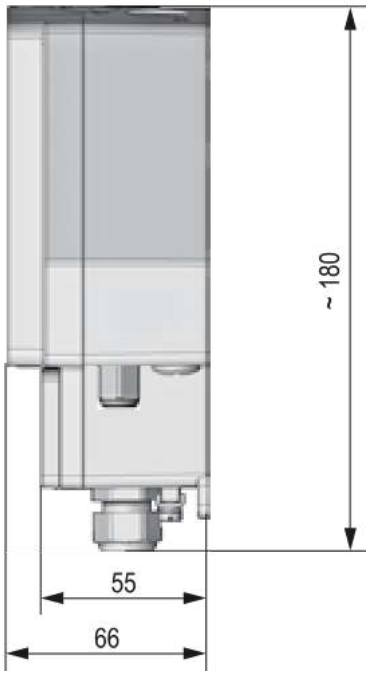
- No addional Ex-i module required
- Integrated Ex-e terminal box
- Power supply 24 VAC/DC
- LED switching state indication
- Compact design and small dimension
- IP66 protection

EU-Type Examination Certificate

ExBin-FR FROST PROTECTION THERMOSTATS FOR ZONE 1, 2, 21, 22				
Type:	Capilary:	Temperature range:	Setting range:	Item No.:
ExBin-FR-3	3 m	-10 ... +15 °C	1-stage adjustable switch-point in temperature range	9A2501
ExBin-FR-6	6 m	-10 ... +15 °C	1-stage adjustable switch-point in temperature range	9A2502

ACCESSORIES AND SPECIAL DESIGNS	
Type:	Technical specifications:
Kit 1.3	Capillary duct, assembly cramp and 4 assembly brackets for frost protection thermostat ..Bin-FR-3
Kit 1.6	Capillary duct, assembly cramp and 8 assembly brackets for frost protection thermostat ..Bin-FR-6
MKR-VA/AL	Mounting bracket for installation on round air-ducts (diameter up to 600 mm)





EXBIN-FR FROST PROTECTION THERMOSTATS

Zones 1, 2, 21, 22

TECHNICAL SPECIFICATIONS	
Marking:	II 2(1)G Ex e mb [ia Ga] IIC T6 Gb II 2(1)D Ex tb [ia Da] IIIC T80°C Db IP66
Certificate:	EU-Type Examination Certificate
Supply voltage / frequency:	24 VAC/DC ± 20% (19,2...28,8 VAC/DC), 50/60 Hz
Current, power consumption:	150 mA, ~ 4 W, internal fuse 500 mAT, not removable
Galvanic isolation:	Supply for relay output min. 1,5 kV
Electrical connection:	Terminals 0,14...2,5 mm^2 at integrated Ex-e terminal box, stripping length 9 mm, torque 0,4...0,5 Nm, equipotential bonding 4 mm^2
Control elements:	Rotary control for setpoint adjustment and fixing screw
Measuring range:	Setpoint adjustable −10 °C...+15 °C
Status indication:	Via LEDs – GREEN: ambient temperature is above setpoint (normal), RED: ambient temperature is below setpoin
Housing material:	Aluminium die-cast housing, coated.
Ambient temperature:	−20...+50 °C, capillary max. +80 °C, storage temperature −35...+70 °C
Temperature class:	T6 (T80 °C) bei −20...+50 °C
Ambient humidity:	0...95 % rH, non condensin
Sensor circuit:	Internal intrinsically safe (IS) circuit
Capillary:	Lenght: ...FR-3 - 3 m ±15 cm | ...FR-6 - 6 m ±20 cm min. active length ~ 40 cm | min. bending radius 2 cm
Hysteresis:	~ 6 K, accurancy of setpoints ± 3 K
Start delay:	5 s
Output:	Potential free switching contact – breaking contact max. rating load - 0,5 A (30 VAC/ DC) – 0,1 A (250 VAC) – 0,1 A (220 VDC) min. rating load - 10 mW / 0,1 V / 1 mA
Duration of life:	Mechanical 10 × 10^6 Electrical (rated load) 100 × 10^3
Scope of delivery:	Frost protection thermostat, self-tapping screws 4,2 x 13 mm
Dimensions:	180 × 107 × 66 mm (without connectors)
Weight:	~ 950 g
Cable entries:	2 x M16x1,5 mm, Ex-e approved, for cable diameter ~ Ø 5...9 mm

ATEX INSTRUMENTATION | **ZONES 1, 2 (gas) & 21, 22 (dust)**

The RedBin-FR... frost protection thermostat is a revolution in HVAC systems, in chemical, pharmaceutical, industrial and offshore/onshore plants, for use in hazardous areas zone 2 (gas) and zone 22 (dust).

Highest protection class (ATEX) and IP66 protection, small dimensions, universal functions and technical data guarantee safe operation even under difficult environmental conditions.

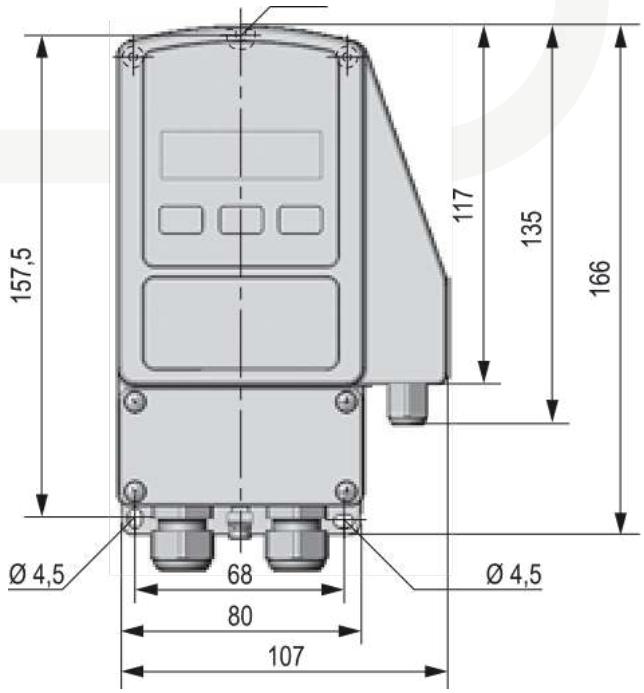
All frost protection thermostats are programmable on site without any additional tools. The switching point is scalable within the maximum ranges.

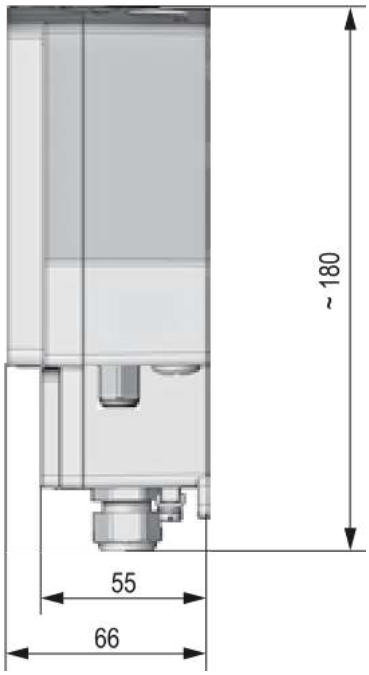
- No addional Ex-i module required
- Integrated Ex-e terminal box
- Power supply 24 VAC/DC
- LED switching state indication
- Compact design and small dimension
- IP66 protection

EU-Type Examination Certificate

RedBin-FR FROST PROTECTION THERMOSTATS FOR ZONE 2, 22				
Type:	**Capilary:**	**Temperature range:**	**Setting range:**	**Item No.:**
RedBin-FR-3	3 m	-10 ... +15 °C	1-stage adjustable switch-point in temperature range	9A2601
RedBin-FR-6	6 m	-10 ... +15 °C	1-stage adjustable switch-point in temperature range	9A2602

ACCESSORIES AND SPECIAL DESIGNS	
Type:	**Technical specifications:**
Kit 1.3	Capillary duct, assembly cramp and 4 assembly brackets for frost protection thermostat ..Bin-FR-3
Kit 1.6	Capillary duct, assembly cramp and 4 assembly brackets for frost protection thermostat ..Bin-FR-6
MKR-VA/AL	Mounting bracket for installation on round air-ducts (diameter up to 600 mm)





REDBIN-FR FROST PROTECTION THERMOSTATS

Zones 2, 22

TECHNICAL SPECIFICATIONS	
Marking:	II 3(1)G Ex nC [ia Ga] IIC T6 Gc II 3(1)D Ex tc [ia Da] IIIC T80°C Dc IP66
Certificate:	EU-Type Examination Certificate
Supply voltage / frequency:	24 VAC/DC ± 20% (19,2...28,8 VAC/DC), 50/60 Hz
Current, power consumption:	150 mA, ~ 4 W, internal fuse 500 mAT, not removable
Galvanic isolation:	Supply for relay output min. 1,5 kV
Electrical connection:	Terminals 0,14...2,5 mm^2 at integrated Ex-e terminal box, stripping length 9 mm, torque 0,4...0,5 Nm, equipotential bonding 4 mm^2
Control elements:	Rotary control for setpoint adjustment and fixing screw
Measuring range:	Setpoint adjustable −10 °C...+15 °C
Status indication:	Via LEDs – GREEN: ambient temperature is above setpoint (normal), RED: ambient temperature is below setpoin
Housing material:	Aluminium die-cast housing, coated.
Ambient temperature:	−20...+50 °C, capillary max. +80 °C, storage temperature −35...+70 °C
Temperature class:	T6 (T80 °C) bei −20...+50 °C
Ambient humidity:	0...95 % rH, non condensin
Sensor circuit:	Internal intrinsically safe (IS) circuit
Capillary:	Lenght: ...FR-3 - 3 m ±15 cm | ...FR-6 - 6 m ±20 cm min. active length ~ 40 cm | min. bending radius 2 cm
Hysteresis:	~ 6 K, accurancy of setpoints ± 3 K
Start delay:	5 s
Output:	Potential free switching contact – breaking contact max. rating load - 0,5 A (30 VAC/ DC) – 0,1 A (250 VAC) – 0,1 A (220 VDC) min. rating load - 10 mW / 0,1 V / 1 mA
Duration of life:	Mechanical 10 × 10^6 Electrical (rated load) 100 × 10^3
Scope of delivery:	Frost protection thermostat, self-tapping screws 4,2 x 13 mm
Dimensions:	180 × 107 × 66 mm (without connectors)
Weight:	~ 950 g
Cable entries:	2 x M16x1,5 mm, Ex-e approved, for cable diameter ~ Ø 5...9 mm

EXREG-D TEMPERATURE / HUMIDITY CONTROLLER

Zones 1, 2, 21, 22

ATEX INSTRUMENTATION | **ZONES 1, 2 (gas) & 21, 22 (dust)**

Compact temperature or humidity controller for use in HVAC systems, in chemical, pharmaceutical, industrial and offshore/onshore plants in hazardous areas zone 1, 2 (gas) and zone 21, 22 (dust).

Delivery:
Electric temperature or humidity controller with integrated terminal box (ExReg.. with "Ex-e") and connection for 1 ExPro-C.. sensor, 3 tapping screws.

- No addional module in the panel required
- No intrinsically safe wiring required
- Meas. range -40...+125°C / 0...100%rH
- Power supply 24 VAC/DC
- Switch-on delay 3 seconds
- PID controller
- Programmable w/o additional tools
- Alarm with alarm delay function
- LCD backlight, can be switched off
- Aluminium housing protection IP66
- Integrated terminal box (ExReg.. with "Ex-e")
- Optional offshore / marine coated or stainless steel edition
- H x W x D = 180 x 107 x 66 mm

EU-Type Examination Certificate

ExReg-D TEMPERATURE / HUMIDITY CONTROLLER FOR ZONE 1, 2, 21, 22					
Type:	Sensor:	Supply:	Meas. range:	Connection / Interface (analogue):	Item No.:
ExReg-D-A	ExPro-C..	24 VAC/DC	-40...+125°C / 0...100%rH	1 x actuator, 1 x set point, 1 x actual value, 1 x position actuator	9A2701

SENSORS FOR ..Reg-D.. CONTROLLER				
Type:	Function:	Range:	Sensor length:	Main use:
ExPro-CT - 50	Temperature sensor	-40 to +80 °C	50 mm	Room/Duct
ExPro-CT -100	Temperature sensor	-40 to +125 °C	100 mm	Duct
ExPro-CT -150	Temperature sensor	-40 to +125 °C	150 mm	Duct
ExPro-CT -200	Temperature sensor	-40 to +125 °C	200 mm	Duct
ExPro-CF - 50	Humidity sensor	0...100%rF	50 mm	Room/Duct
ExPro-CF -100	Humidity sensor	0...100%rF	100 mm	Duct
ExPro-CF -150	Humidity sensor	0...100%rF	150 mm	Duct
ExPro-CF -200	Humidity sensor	0...100%rF	200 mm	Duct

ACTUATORS FOR ..REG-V300.. CONTROLLER						
Type:	Torque:	Running time 90°:	Spring return:	Control mode:	Feedback:	Item No.:
ExMax- 5.10-CY	5 Nm / 10 Nm	7,5/15/30/60/120 seg.	-	4...20 mA	0...10 V	9A1807
ExMax- 15.30-CY	15 Nm / 30 Nm	7,5/15/30/60/120 seg.	-	4...20 mA	0...10 V	9A1808
ExMax- 5.10-CYF	5 Nm / 10 Nm	7,5/15/30/60/120 seg.	~ 10 sg	4...20 mA	0...10 V	9A1809
ExMax- 15- CFY	15 Nm	7,5/15/30/60/120 seg.	~ 10 sg	4...20 mA	0...10 V	9A1810

ACCESSORIES AND SPECIAL DESIGNS	
Type:	Technical specifications:
MKR-VA/AL	Mounting bracket for installation on round air-ducts (diameter up to 600 mm)

ATEX INSTRUMENTATION

ZONES 1, 2 (gas) & 21, 22 (dust)

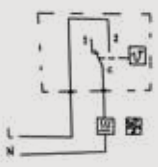
Thermostat with liquid expansion probe suitable for the automatic control of ambient temperature in hazardous areas. Available either with external or internal temperature adjustment (type TA or type TAI respectively).

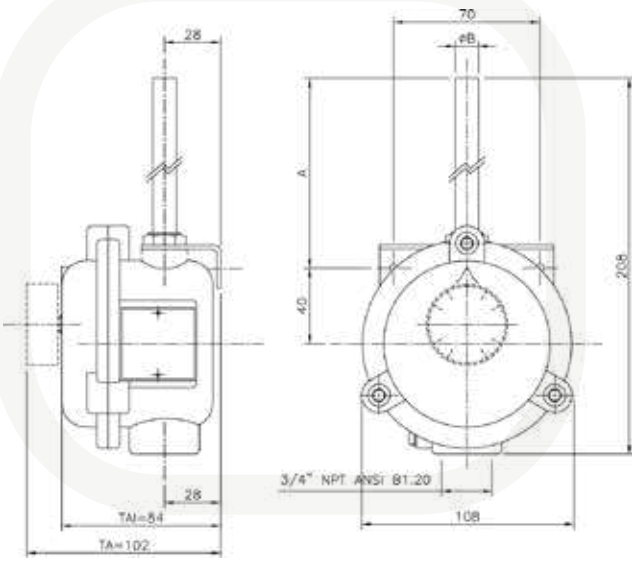
- The internal adjustment helps to prevent unauthorized manipulations.
- Bracket in tropicalized galvanized steel, sheath in tropicalized zinc plated brass.
- Plate and external screws in Stainless Steel.

EU-Type Examination Certificate

Temperature adjustment on TAI is allowed at open case only. This operation shall not be made with the thermostat powered and, in any case, far from hazardous atmosphere.

ITEM REFERENCES						
Designation:	T. Control Range (°C):	Max Bulb T. (°C):	Differential ΔT (°C):	A (mm):	ØB (mm):	Item No.:
TA 40 N (ext)	0°C to 40°C ±2°C	50°C	3°C ±1°C	112	13	9C0101
TA 40 LN	0°C to 40°C ±2°C	50°C	3°C ±1°C	242	13	9C0102
TAI 40 N (int)	0°C to 40°C ±2°C	50°C	3°C ±1°C	112	13	9C0103
TAI 40 LN	0°C to 40°C ±2°C	50°C	3°C ±1°C	242	13	9C0104
TA 90 N (ext)	0°C to 90°C ±3°C	120°C	4°C ±1°C	112	10	9C0105
TA 90 LN	0°C to 90°C ±3°C	120°C	4°C ±1°C	242	10	9C0106
TAI 90 N (int)	0°C to 90°C ±3°C	120°C	4°C ±1°C	112	10	9C0107
TAI 90 LN	0°C to 90°C ±3°C	120°C	4°C ±1°C	242	10	9C0108
TA 120 N (ext)	0°C to 120°C ±3°C	150°C	4°C ±1°C	112	10	9C0109
TA 120 LN	0°C to 120°C ±3°C	150°C	4°C ±1°C	242	10	9C0110
TAI 120 N (int)	0°C to 120°C ±3°C	150°C	4°C ±1°C	112	10	9C0111
TAI 120 LN	0°C to 120°C ±3°C	150°C	4°C ±1°C	242	10	9C0112

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex d IIB+H2 T6-T5 Gb II 2D Ex tb IIIC T85°C-T100°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Aluminum light alloy. External epoxy RAL 7000
Operating temperature:	-20°C to +40°C (T6/T85°C) -20°C to +60°C (T5/T100°C)
Operating conditions:	Indoor / Outdoor
Ingress protection:	IP65
Cable entries:	1x3/4" NPT (cable gland not included)
Electrical contact capacity NC16(6) / A 250 VAC	



ATEX INSTRUMENTATION

ZONES 1, 2 (gas) & 21, 22 (dust)

Thermostat with liquid expansion probe recommended for the automatic control of liquids temperature and for industrial heating process in hazardous areas. Available either with external or internal temperature adjustment(type TR or type TRI respectively).

Temperature adjustment on TRI is allowed at open case only.
This operation shall not be made with the thermostat powered and, in any case, far from hazardous atmosphere.

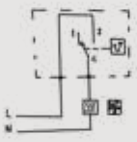
EU-Type Examination Certificate

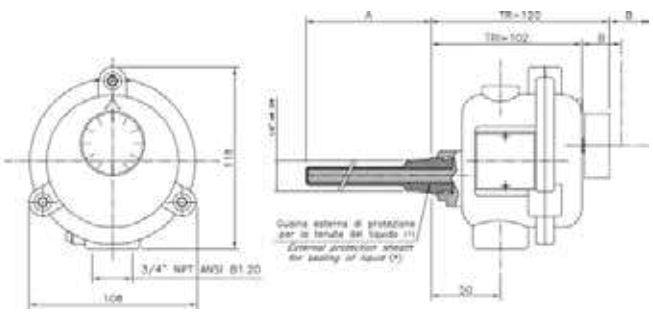
- Its design allows the rapid replacement of the control unit without having to empty the process fluids containers.
- The internal adjustment helps to prevent unauthorized manipulations.
- External sheath in AISI 316L Stainless Steel.
- Plate and external screws in Stainless Steel.

ITEM REFERENCES

Designation:	Temperature Control Range (°C):	Max Bulb Temperature (°C):	Differential ΔT (°C):	Sensor Ø:	A (mm):	B (mm):	Item No.:
TR 40 N (ext)	0°C to 40°C ±2°C	50°C	3°C ±1°C	16 mm	95	111	9C0201
TR 40 LN	0°C to 40°C ±2°C	50°C	3°C ±1°C	16 mm	225	111	9C0202
TRI 40 N (int)	0°C to 40°C ±2°C	50°C	3°C ±1°C	16 mm	95	111	9C0203
TRI 40 LN	0°C to 40°C ±2°C	50°C	3°C ±1°C	16 mm	225	111	9C0204
TR 90 N (ext)	0°C to 90°C ±3°C	120°C	4°C ±1°C	14 mm	95	111	9C0205
TR 90 LN	0°C to 90°C ±3°C	120°C	4°C ±1°C	14 mm	225	111	9C0206
TRI 90 N (int)	0°C to 90°C ±3°C	120°C	4°C ±1°C	14 mm	95	111	9C0207
TRI 90 LN	0°C to 90°C ±3°C	120°C	4°C ±1°C	14 mm	225	111	9C0208
TR 120 N (ext)	0°C to 120°C ±3°C	150°C	4°C ±1°C	14 mm	95	111	9C0209
TR 120 LN	0°C to 120°C ±3°C	150°C	4°C ±1°C	14 mm	225	111	9C0210
TRI 120 N (int)	0°C to 120°C ±3°C	150°C	4°C ±1°C	14 mm	95	111	9C0211
TRI 120 LN	0°C to 120°C ±3°C	150°C	4°C ±1°C	14 mm	225	111	9C0212

TECHNICAL SPECIFICATIONS

Marking:	II 2G Ex d IIB+H2 T6-T5 Gb II 2D Ex tb IIIC T85°C-T100°C Db	Electrical contact capacity NC16(6) / A 250 VAC
Certificate:	EU-Type Examination Certificate	
Housing:	Aluminum light alloy. External epoxy RAL 7000	
Operating temperature:	-20°C to +40°C (T6/T85°C) | -20°C to +60°C (T5/T100°C)	
Operating conditions:	Indoor / Outdoor	
Ingress protection:	IP65	
Cable entries:	1x3/4" NPT (cable gland not included)	



ATEX INSTRUMENTATION

ZONES 1, 2 (gas) & 21, 22 (dust)

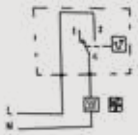
Thermostat with liquid expansion probe with manual reset and positive safety for capillary breakup, especially suitable for boilers, heating systems and in all applications where it is necessary not to exceed the maximum temperature set in hazardous areas.

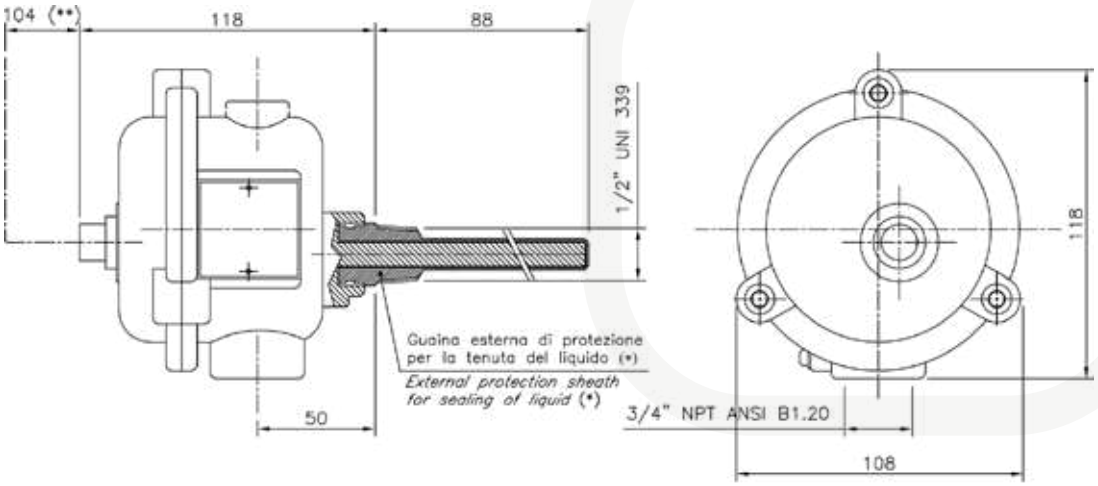
- Its design allows the rapid replacement of the control unit without having to empty the process fluids containers.
- External sheath in AISI 316L Stainlees Steel.
- Plate and external screws in Stainless Steel.

EU-Type Examination Certificate

The temperature probe is protected by an internal explosionproof sheath as well as by an external watertight sheath which induces a greater thermal inertia of the thermostat that raises the temperature reading of the controlled fluid. It's advisable to carry out tests on the adjustments to minimize this effect.

ITEM REFERENCES				
Designation:	Control Temperature (°C):	Max Bulb Temperature (°C):	Differential ΔT (°C):	Item No.:
TS 100	100°C (+0°C, -6°C)	125°C	15°C ±8°C	9C0301

TECHNICAL SPECIFICATIONS		
Marking:	II 2G Ex d IIB+H2 T6-T5 Gb II 2D Ex tb IIIC T85°C-T100°C Db	Electrical contact capacity NC16(6) / A 250 VAC
Certificate:	EU-Type Examination Certificate	
Housing:	Aluminum light alloy. External epoxy RAL 7000	
Operating temperature:	-20°C to +40°C (T6/T85°C) | -20°C to +60°C (T5/T100°C)	
Operating conditions:	Indoor / Outdoor	
Ingress protection:	IP65	
Cable entries:	1x3/4" NPT (cable gland not included)	



EXCOS-P DIFFERENTIAL PRESSURE TRANSMITTER

Zones 1, 2, 21, 22

ATEX INSTRUMENTATION | ZONES 1, 2 (gas) & 21, 22 (dust)

The ExCos-P-... pressure sensor generation from ±100 Pa to ±7.500 Pa (acc. to type) is a revolution for differential pressure measuring in HVAC systems, in chemical, pharmaceutical, industrial and offshore/onshore plants, for use in hazardous areas zone 1, 2 (gas) and zone 21, 22 (dust).

Highest protection class (ATEX) and IP66 protection, small dimensions, universal functions and technical data guarantee safe operation even under difficult environmental conditions. All sensors are programmable on site without any additional tools.

Pressure transmitter for HVAC systems, e.g. for differential pressure control.

- No additional module in the panel required
- 24 VAC/DC supply
- Outputs 0...10 V, (0)4...20 mA selectable
- Measurement range adjustable
- Actual value indicator (can be switched off)
- All parameters can be adjusted on site without additional tools and measurement devices

EU-Type Examination Certificate

All sensors require a 24 VAC/ DC power supply. The electrical wiring must be realized via the integrated Ex-e terminal box acc. to ATEX. The terminals' type of protection is "Increased safety Ex-e".

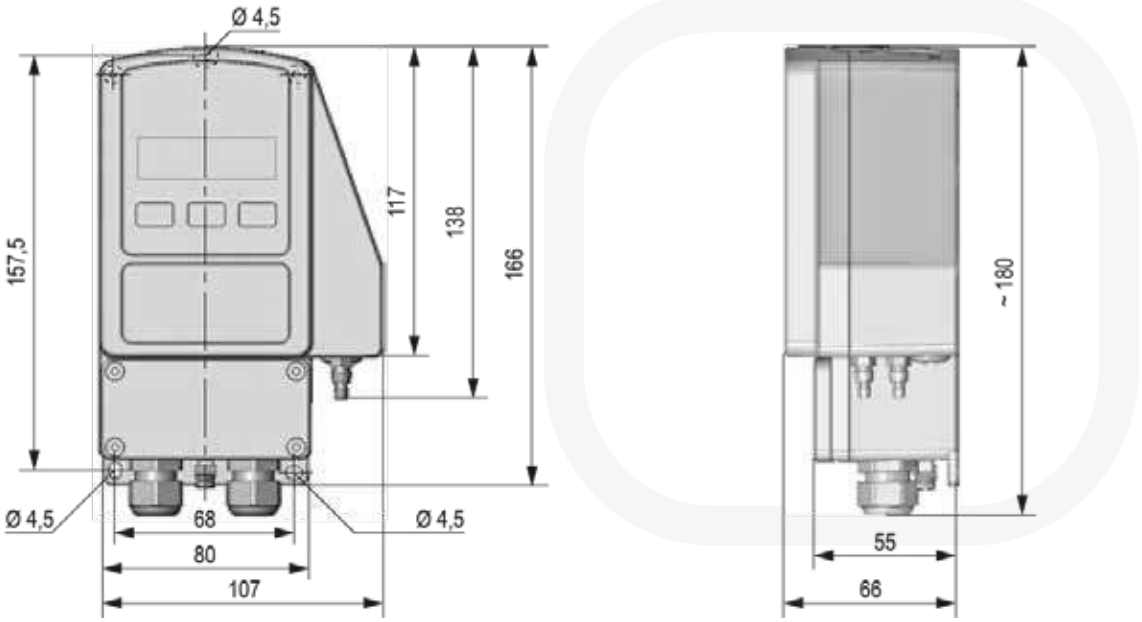
ExCos-P DIFFERENTIAL PRESSURE TRANSMITTER FOR ZONE 1, 2, 21, 22				
Type:	Max. range:	Overload protected:	Measurement range, min. 20% of max. range:	Item No.:
ExCos-P- 100	± 100 Pa	up to 25.000 Pa	± Measurement range free adjustable, min. range 20 Pa	9A1901
ExCos-P- 250	± 250 Pa	up to 25.000 Pa	± Measurement range free adjustable, min. range 50 Pa	9A1902
ExCos-P- 500	± 500 Pa	up to 50.000 Pa	± Measurement range free adjustable, min. range 100 Pa	9A1903
ExCos-P-1250	± 1.250 Pa	up to 50.000 Pa	± Measurement range free adjustable, min. range 250 Pa	9A1904
ExCos-P-2500	± 2.500 Pa	up to 50.000 Pa	± Measurement range free adjustable, min. range 500 Pa	9A1905
ExCos-P-5000	± 5.000 Pa	up to 75.000 Pa	± Measurement range free adjustable, min. range 1.000 Pa	9A1906
ExCos-P-7500	± 7.500 Pa	up to 120.000 Pa	± Measurement range free adjustable, min. range 1.500 Pa	9A1907

ACCESSORIES AND SPECIAL DESIGNS	
Type:	Technical specifications:
Ex/RedCos-P..-A	Version with one additional intrinsically safe circuit (0)4...20 mA output to connect external actual value indicator in Ex areas
InCos- P..-A	Version with one additional (0)4...20 mA output to connect external actual value indicator in safe area
EXC-RIA-16	Intrinsic safe actual value LCD indicator, for use in zone 1,2,21,22, connectable to ExCos-P..-A or RedCos-P..-A transmitter
NOC-RIA-16	LCD indicator, connectable to InCos-P..-A transmitter
MKR-VA/AL	Mounting bracket for installation on round air-ducts (diameter up to 600 mm)
Kit 2	Includes 2 meter pressure hose (inner diameter 6 mm) and 2 plastic fittings

EXCOS-P DIFFERENTIAL PRESSURE TRANSMITTER

Zones 1, 2, 21, 22

TECHNICAL SPECIFICATIONS	
Marking:	Ex II 2(1)G Ex e ma [ia Ga] IIC T6...T4 Gb Ex II 2(1)D Ex tb [ia Da] IIIC T80°C...T130°C Db IP66
Certificate:	EU-Type Examination Certificate
Supply voltage / frequency:	24 VAC/DC ± 20% (19,2...28,8 VAC/DC), 50/60 Hz
Current power consumption:	150 mA, ~ 4 W, internal fuse 500 mAT, without bracket, not removable
Galvanic isolation:	Supply for analogue in- and outputs min. 1,5 kV, supply for relay output min. 1,5 kV
Electrical connection:	Terminals 0,14...2,5 mm² at integrated Ex-e terminal box, stripping lenght 9 mm, torque 0,4...0,5 Nm, equipotential bonding 4 mm²
Display / Control elements:	2 x 16 digits, dot-matrix display, backlit, for configuration, user guidance, parameter and actual value indication / 3 buttons for configuration
Sensor / Sensor circuit:	Piezo messure transmitter / Internal intrinsically safe (IS) circuit
Housing:	Aluminium die-cast housing, coated / T6 (T80 °C) at −20...+50 °C
Ambient Temperature - Humidity:	-20...+50 °C (storage temperature -35...+70 °C) / 0...95 % rH, non condensing
Pressure connection:	P+ / P- sleeves Ø 4...6 mm
Measuring range:	± 100 Pa, ±250 Pa, ±500 Pa, ±1.250 Pa, ±2.500 Pa, ±5.000 Pa, ±7.500 Pa in acc. to type. Minimum measuring range is 20 % of full range (e. g. 20 Pa at ±100 Pa sensor)
Response time of sensor:	T90 / 5 s
Accuracy of pressure:	< ± 1 % typically, max. ±2 % of end value ± 1 Pa
Zero point setting:	Via menu. Short-circuit mechanically both tube connectors P+ / P− for the moment of zero point setting
Non linearity and hysteresis:	± 0,05 % typically, max. 0,25 % of end value
Start delay:	5 s
Stability:	Long term stability < 0,2 % / year, temperature influence < 0,02 % / K, supply voltage influence < 0,01 %
Output:	Voltage U [V] or current I [mA], selectable on site via menu, protected against short circuit and external voltage up to 24 V and against polarity reversal
Voltage output U:	0...10 VDC adjustable, invertible, burden > 1 kΩ, influence < 0,05 % / 100 Ω
Current output I:	0...20 mA adjustable, invertible, burden < 500 Ω, influence < 0,1 % / 100 Ω, open circuit voltage < 24 V
Output in alarm mode:	Increasing or decreasing output signal, selectable on site, down to 0 VDC / 0 mA or up to 10 VDC / 20 mA
Scope of delivery:	Sensor, 3 self-tapping screws 4,2 x 13 mm, short circuit tube, Cos-P-...-A with 1 additional plug for cable Ø 6...8 mm
Parameter at delivery:	min./ max. pressure range limits (e.g. ExCos-P-100 = −100...+100 Pa), output 4...20 mA, output in alarm mode decreasing to 0 V / 0 mA
Dimensions:	180 x 107 x 66 mm
Weight:	~ 950 g
Cable entries:	2 x M16x1,5, Ex-e plastic cable gland ~ Ø 5...9 mm



REDCOS-P DIFFERENTIAL PRESSURE TRANSMITTER

Zones 2, 22

ATEX INSTRUMENTATION | ZONES 2 (gas) & 22 (dust)

The RedCos-P-... pressure sensor generation from ±100 Pa to ±7.500 Pa (acc. to type) is a revolution for differential pressure measuring in HVAC systems, in chemical, pharmaceutical, industrial and offshore/onshore plants, for use in hazardous areas zone 2 (gas) and zone 22 (dust).

Highest protection class (ATEX) and IP66 protection, small dimensions, universal functions and technical data guarantee safe operation even under difficult environmental conditions. All sensors are programmable on site without any additional tools.

Pressure transmitter for HVAC systems, e.g. for differential pressure control.

- No additional module in the panel required
- 24 VAC/DC supply
- Outputs 0...10 V, (0)4...20 mA selectable
- Measurement range adjustable
- Actual value indicator (can be switched off)
- All parameters can be adjusted on site without additional tools and measurement devices

EU-Type Examination Certificate

All sensors require a 24 VAC/ DC power supply. The electrical wiring must be realized via integrated junction box.

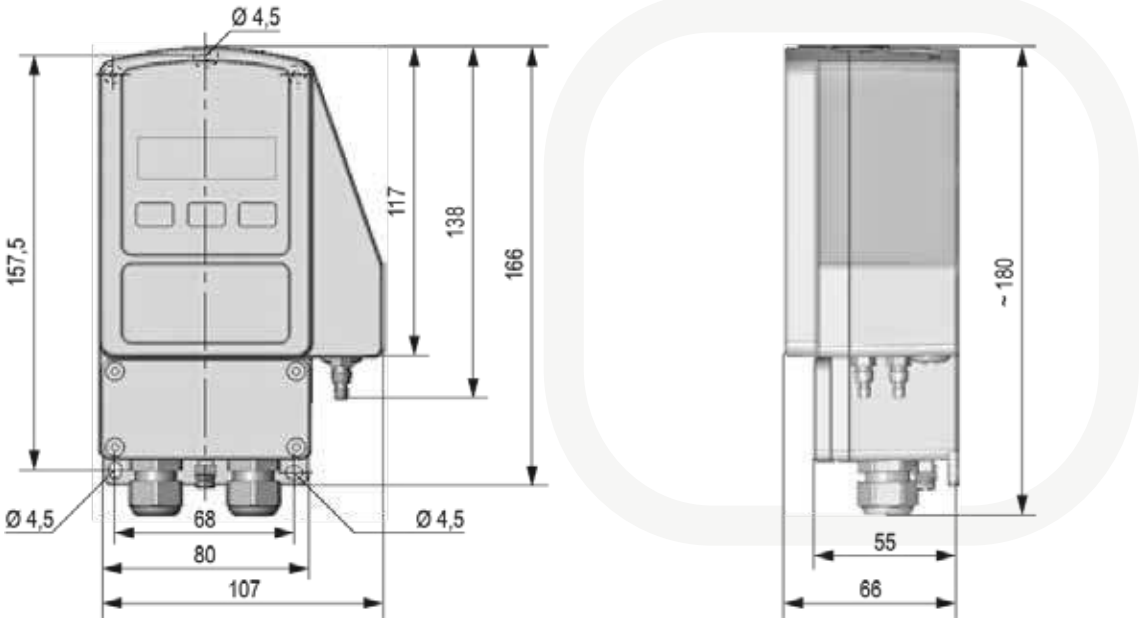
RedCos-P DIFFERENTIAL PRESSURE TRANSMITTER FOR ZONE 2, 22				
Type:	Max. range:	Overload protected:	Measurement range, min. 20% of max. range:	Item No.:
RedCos-P- 100	± 100 Pa	up to 25.000 Pa	± Measurement range free adjustable, min. range 20 Pa	9A2001
RedCos-P- 250	± 250 Pa	up to 25.000 Pa	± Measurement range free adjustable, min. range 50 Pa	9A2002
RedCos-P- 500	± 500 Pa	up to 50.000 Pa	± Measurement range free adjustable, min. range 100 Pa	9A2003
RedCos-P-1250	± 1.250 Pa	up to 50.000 Pa	± Measurement range free adjustable, min. range 250 Pa	9A2004
RedCos-P-2500	± 2.500 Pa	up to 50.000 Pa	± Measurement range free adjustable, min. range 500 Pa	9A2005
RedCos-P-5000	± 5.000 Pa	up to 75.000 Pa	± Measurement range free adjustable, min. range 1.000 Pa	9A2006
RedCos-P-7500	± 7.500 Pa	up to 120.000 Pa	± Measurement range free adjustable, min. range 1.500 Pa	9A2007

ACCESSORIES AND SPECIAL DESIGNS	
Type:	Technical specifications:
Ex/RedCos-P..-A	Version with one additional intrinsically safe circuit (0)4...20 mA output to connect external actual value indicator in Ex areas
InCos- P..-A	Version with one additional (0)4...20 mA output to connect external actual value indicator in safe area
EXC-RIA-16	Intrinsic safe actual value LCD indicator, for use in zone 1,2,21,22, connectable to ExCos-P..-A or RedCos-P..-A transmitter
NOC-RIA-16	LCD indicator, connectable to InCos-P..-A transmitter
MKR-VA/AL	Mounting bracket for installation on round air-ducts (diameter up to 600 mm)
Kit 2	Includes 2 meter pressure hose (inner diameter 6 mm) and 2 plastic fittings

REDCOS-P DIFFERENTIAL PRESSURE TRANSMITTER

Zones 2, 22

TECHNICAL SPECIFICATIONS	
Marking:	Ex II 3(1)G Ex nC [ia Ga] IIC T6...T4 Gc Ex II 3(1)D Ex tc [ia Da] IIIC T80°C...T130°C Dc IP66
Certificate:	EU-Type Examination Certificate
Supply voltage / frequency:	24 VAC/DC ± 20% (19,2...28,8 VAC/DC), 50/60 Hz
Current power consumption:	150 mA, ~ 4 W, internal fuse 500 mAT, without bracket, not removable
Galvanic isolation:	Supply for analogue in- and outputs min. 1,5 kV, supply for relay output min. 1,5 kV
Electrical connection:	Terminals 0,14...2,5 mm² at integrated Ex-e terminal box, stripping lenght 9 mm, torque 0,4...0,5 Nm, equipotential bonding 4 mm²
Display / Control elements:	2 x 16 digits, dot-matrix display, backlit, for configuration, user guidance, parameter and actual value indication / 3 buttons for configuration
Sensor / Sensor circuit:	Piezo messure transmitter / Internal intrinsically safe (IS) circuit
Housing:	Aluminium die-cast housing, coated / T6 (T80 °C) at −20...+50 °C
Ambient Temperature - Humidity:	-20...+50 °C (storage temperature -35...+70 °C) / 0...95 % rH, non condensing
Pressure connection:	P+ / P- sleeves Ø 4...6 mm
Measuring range:	± 100 Pa, ±250 Pa, ±500 Pa, ±1.250 Pa, ±2.500 Pa, ±5.000 Pa, ±7.500 Pa in acc. to type. Minimum measuring range is 20 % of full range (e. g. 20 Pa at ±100 Pa sensor)
Response time of sensor:	T90 / 5 s
Accuracy of pressure:	< ± 1 % typically, max. ±2 % of end value ± 1 Pa
Zero point setting:	Via menu. Short-circuit mechanically both tube connectors P+ / P− for the moment of zero point setting
Non linearity and hysteresis:	± 0,05 % typically, max. 0,25 % of end value
Start delay:	5 s
Stability:	Long term stability < 0,2 % / year, temperature influence < 0,02 % / K, supply voltage influence < 0,01 %
Output:	Voltage U [V] or current I [mA], selectable on site via menu, protected against short circuit and external voltage up to 24 V and against polarity reversal
Voltage output U:	0...10 VDC adjustable, invertible, burden > 1 kΩ, influence < 0,05 % / 100 Ω
Current output I:	0...20 mA adjustable, invertible, burden < 500 Ω, influence < 0,1 % / 100 Ω, open circuit voltage < 24 V
Output in alarm mode:	Increasing or decreasing output signal, selectable on site, down to 0 VDC / 0 mA or up to 10 VDC / 20 mA
Scope of delivery:	Sensor, 3 self-tapping screws 4,2 x 13 mm, short circuit tube, Cos-P-...-A with 1 additional plug for cable Ø 6...8 mm
Parameter at delivery:	min./ max. pressure range limits (e.g. RedCos-P-100 = −100...+100 Pa), output 4...20 mA, output in alarm mode decreasing to 0 V / 0 mA
Dimensions:	180 x 107 x 66 mm
Weight:	~ 950 g
Cable entries:	2 x M16x1,5, Ex-e plastic cable gland ~ Ø 5...9 mm



ATEX INSTRUMENTATION | ZONES 1, 2 (gas) & 21, 22 (dust)

The ExBin-P-... pressure switch generation from 5...5000 Pa (acc. to type) is a revolution for differential pressure switches in HVAC systems, in chemical, pharmaceutical, industrial and offshore/onshore plants, for use in hazardous areas zone 1, 2 (gas) and zone 21, 22 (dust).

Highest protection class (ATEX) and IP66 protection, small dimensions, universal functions and technical data guarantee safe operation even under difficult environmental conditions. All sensors are programmable on site without any additional tools.

- Power supply 24 VAC/DC
- Potential free switching contact output
- Adjustable switching threshold, hysteresis and start-up bypass time
- Adjustable switch activation delay (acc. to type)
- Integrated Ex-e terminal box
- No addional Ex-i module required
- No intrinsically safe wiring/installation between panel and sensor required
- No intrinsically safe wiring/installation and no space in the panel required
- Optional second switching output (acc. to type)
- Display with backlight, can be switched off
- Password locking
- Compact design and small dimension

EU-Type Examination Certificate

All pressure switches require a 24 VAC/DC power supply. The electrical wiring must be realized via the integrated Ex-e terminal box acc. to ATEX.
The terminals' type of protection is "Increased safety Ex-e".

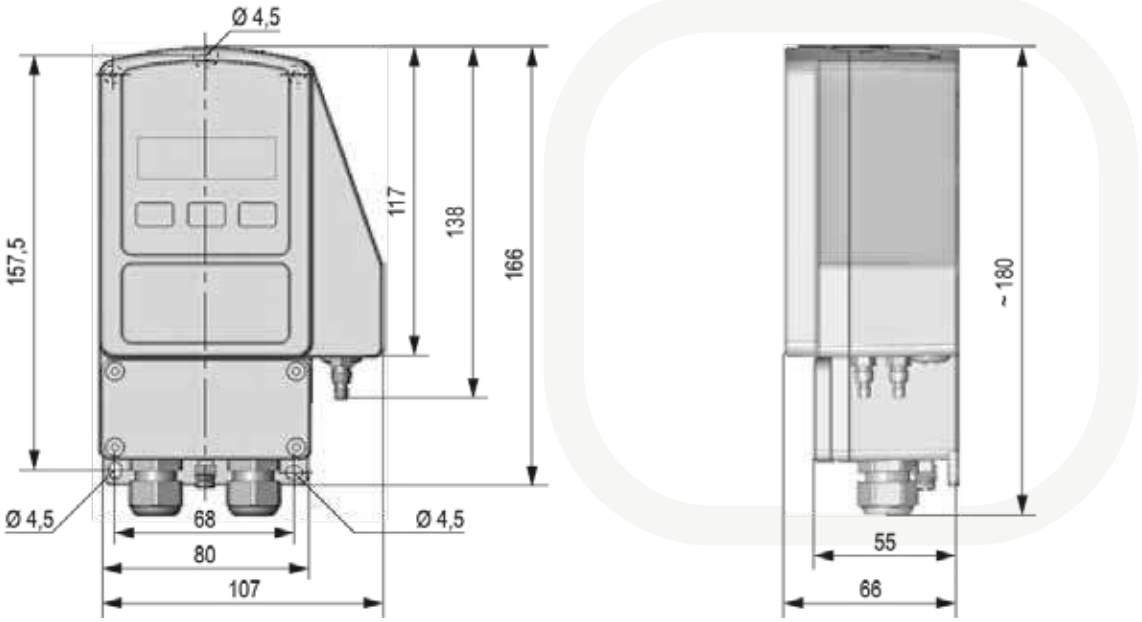
ExBin-P DIFFERENTIAL PRESSURE SWITCH FOR ZONE 1, 2, 21, 22					
Type:	Measurement range:	Safe overload:	Setting range:	Special feature:	Item No.:
ExBin-P- 100	0...100 Pa	up to 5.000 Pa	1-stage adjustable switch-point in meas. range	Adjustable switch activation delay 0...240 s	9A2301
ExBin-P- 500	0...500 Pa	up to 5.000 Pa	1-stage adjustable switch-point in meas. range		9A2302
ExBin-P- 500-2	0...500 Pa	up to 5.000 Pa	2-stage adjustable switch-point in meas. range		9A2303
ExBin-P-5000	0...5000 Pa	up to 50.000 Pa	1-stage adjustable switch-point in meas. range		9A2304
ExBin-P-5000-2	0...5000 Pa	up to 50.000 Pa	2 stage adjustable switch-point in meas. range		9A2305

ACCESSORIES AND SPECIAL DESIGNS	
Type:	Technical specifications:
Kit 2	Includes 2 meter pressure hose (inner diameter 6 mm) and 2 plastic fittings
MKR-VA/AL	Mounting bracket for installation on round air-ducts (diameter up to 600 mm)

EXBIN-P PRESSURE / DIFFERENTIAL PRESSURE SWITCH

Zones 1, 2, 21, 22

TECHNICAL SPECIFICATIONS			
Marking:	Ex II 2(1)G Ex e mb [ia Ga] IIC T6...T4 Gb Ex II 2(1)D Ex tb [ia Da] IIIC T80°C...T130°C Db IP66		
Certificate:	EU-Type Examination Certificate		
Supply voltage / frequency:	24 VAC/DC ±20 % (19,2...28,8 VAC/DC), 50/60 Hz		
Current power consumption:	150 mA, ~ 4 W, internal fuse 500 mAT, without bracket, not removable		
Galvanic isolation:	Supply for relay output min. 1,5 kV		
Electrical connection:	Terminals 0,14...2,5 mm² at integrated Ex-e terminal box, stripping lenght 9 mm, torque 0,4...0,5 Nm, equipotential bonding 4 mm²		
Display / Control elements:	LC-Display, backlit, for configuration, user guidance, parameter and actual value indication. Status indicator via LEDs 3 buttons for configuration		
Sensor / Sensor circuit:	Piezo messure transmitter / Internal intrinsically safe (IS) circuit		
Housing:	Aluminium housing T6 (T80 °C) at −20...+50 °C		
Ambient Temperature - Humidity:	-20...+50 °C (storage temperature -35...+70 °C) / 0...95 % rH, non condensing		
Pressure connection:	P+ / P- sleeves Ø 4...6 mm		
Measuring range:	0...100 Pa	0...500 Pa	0...5000 Pa.
	Minimum measuring range is 5 % of full range (e.g. 25 Pa at ...500 Pa switch)		
Response time of sensor:	T90 / 5 s		
Accuracy of pressure:	< ± 1 % typically, max. ±2 % of end value ± 1 Pa		
Setting zero point:	Via menu. Short-circuit mechanically both tube connectors P+ / P− for the moment of zero point setting		
Setting range hysteresis:	0,1...10 Pa (factory setting 2 Pa)	0,5...50 Pa (factory setting 10 Pa)	5...500 Pa (factory setting 100 Pa)
Start delay:	5 s		
Start-up bypass time (AUB):	3...240 s (factory setting 120 s)		
Switch activation delay:	0...240 s (factory setting 0 s / Off)	-	-
Output:	Potential free switching contact – breaking/making contact, adjustable per menu Max. rating load: 0,5 A (30 VAC/DC) – 0,1 A (250 VAC) – 0,1 A (220 VDC); min. rating load: 10 mW / 0,1 V / 1 mA		
Additional relay output (type ...-2):	-	as above	-
Duration of life:	Mechanical: 10 x 10^6 Electrical: (rated load) 100 x 10^3		
Scope of delivery:	Pressure switch, 3 self-tapping screws 4,2 x 13 mm resp. in stainless steel (with ...CT and ...VA versions), short circuit tube		
Dimensions:	180 x 107 x 66 mm		
Weight:	~ 950 g		
Cable entries:	2 x M16x1,5, Ex-e plastic cable gland ~ Ø 5...9 mm		



ATEX INSTRUMENTATION | ZONES 2 (gas) & 22 (dust)

The RedBin-P-... pressure switch generation from 5...5000 Pa (acc. to type) is a revolution for differential pressure switches in HVAC systems, in chemical, pharmaceutical, industrial and offshore/onshore plants, for use in hazardous areas zone 2 (gas) and zone 22 (dust).

Highest protection class (ATEX) and IP66 protection, small dimensions, universal functions and technical data guarantee safe operation even under difficult environmental conditions. All sensors are programmable on site without any additional tools.

- Power supply 24 VAC/DC
- Potential free switching contact output
- Adjustable switching threshold, hysteresis and start-up bypass time
- Adjustable switch activation delay (acc. to type)
- Integrated Ex-e terminal box
- No addional Ex-i module required
- No intrinsically safe wiring/installation between panel and sensor required
- No intrinsically safe wiring/installation and no space in the panel required
- Optional second switching output (acc. to type)
- Display with backlight, can be switched off
- Password locking
- Compact design and small dimension

EU-Type Examination Certificate

All pressure switches require a 24 VAC/DC power supply. The electrical wiring must be realized via the integrated Ex terminal box acc. to ATEX.

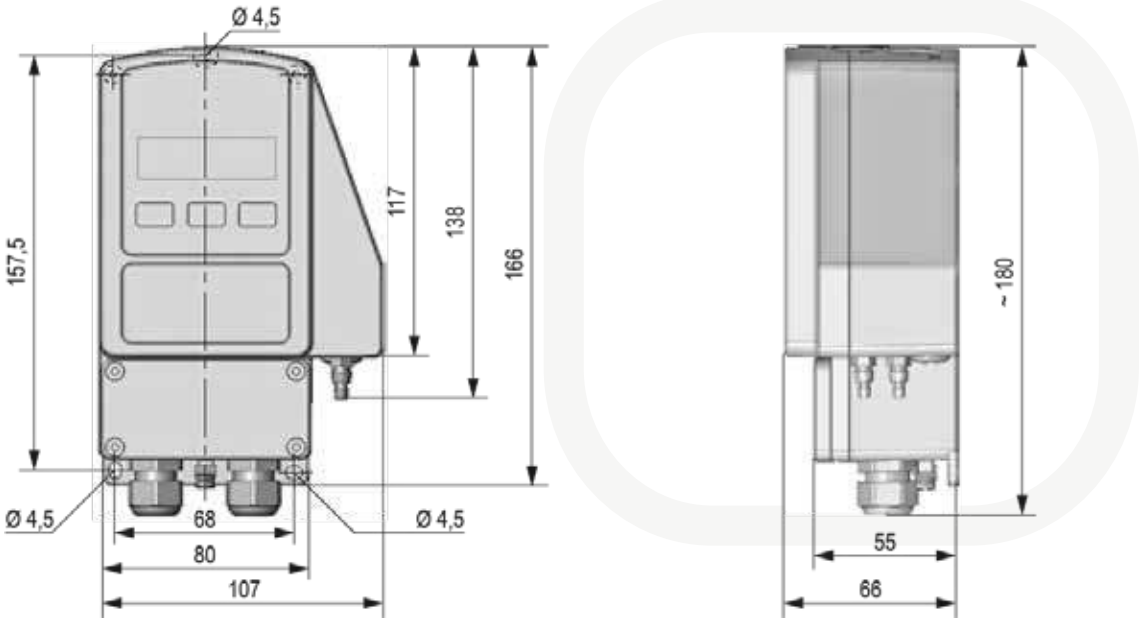
RedBin-P DIFFERENTIAL PRESSURE SWITCH FOR ZONE 2, 22					
Type:	Measure-ment range:	Safe overload:	Setting range:	Special feature:	Item No.:
RedBin-P- 100	0...100 Pa	up to 5.000 Pa	1-stage adjustable switch-point in meas. range	Adjustable switch activation delay 0...240 s	9A2401
RedBin-P- 500	0...500 Pa	up to 5.000 Pa	1-stage adjustable switch-point in meas. range		9A2402
RedBin-P- 500-2	0...500 Pa	up to 5.000 Pa	2-stage adjustable switch-point in meas. range		9A2403
RedBin-P-5000	0...5000 Pa	up to 50.000 Pa	1-stage adjustable switch-point in meas. range		9A2404
RedBin-P-5000-2	0...5000 Pa	up to 50.000 Pa	2 stage adjustable switch-point in meas. range		9A2405

ACCESSORIES AND SPECIAL DESIGNS	
Type:	Technical specifications:
Kit 2	Includes 2 meter pressure hose (inner diameter 6 mm) and 2 plastic fittings
MKR-VA/AL	Mounting bracket for installation on round air-ducts (diameter up to 600 mm)

REDBIN-P PRESSURE / DIFFERENTIAL PRESSURE SWITCH

Zones 2, 22

TECHNICAL SPECIFICATIONS			
Marking:	II 3(1)G Ex nC [ia Ga] IIC T6...T4 Gc II 3(1)D Ex tc [ia Da] IIIC T80°C...T130°C Dc IP66		
Certificate:	EU-Type Examination Certificate		
Supply voltage / frequency:	24 VAC/DC ±20 % (19,2...28,8 VAC/DC), 50/60 Hz		
Current power consumption:	150 mA, ~ 4 W, internal fuse 500 mAT, without bracket, not removable		
Galvanic isolation:	Supply for relay output min. 1,5 kV		
Electrical connection:	Terminals 0,14...2,5 mm² at integrated Ex-e terminal box, stripping lenght 9 mm, torque 0,4...0,5 Nm, equipotential bonding 4 mm²		
Display / Control elements:	LC-Display, backlit, for configuration, user guidance, parameter and actual value indication. Status indicator via LEDs 3 buttons for configuration		
Sensor / Sensor circuit:	Piezo messure transmitter / Internal intrinsically safe (IS) circuit		
Housing:	Aluminium housing T6 (T80 °C) at −20...+50 °C		
Ambient Temperature - Humidity:	-20...+50 °C (storage temperature -35...+70 °C) / 0...95 % rH, non condensing		
Pressure connection:	P+ / P- sleeves Ø 4...6 mm		
Measuring range:	0...100 Pa	0...500 Pa	0...5000 Pa.
	Minimum measuring range is 5 % of full range (e.g. 25 Pa at ...500 Pa switch)		
Response time of sensor:	T90 / 5 s		
Accuracy of pressure:	< ± 1 % typically, max. ±2 % of end value ± 1 Pa		
Setting zero point:	Via menu. Short-circuit mechanically both tube connectors P+ / P− for the moment of zero point setting		
Setting range hysteresis:	0,1...10 Pa (factory setting 2 Pa)	0,5...50 Pa (factory setting 10 Pa)	5...500 Pa (factory setting 100 Pa)
Start delay:	5 s		
Start-up bypass time (AUB):	3...240 s (factory setting 120 s)		
Switch activation delay:	0...240 s (factory setting 0 s / Off)	-	-
Output:	Potential free switching contact – breaking/making contact, adjustable per menu Max. rating load: 0,5 A (30 VAC/DC) – 0,1 A (250 VAC) – 0,1 A (220 VDC); min. rating load: 10 mW / 0,1 V / 1 mA		
Additional relay output (type ...-2):	-	as above	-
Duration of life:	Mechanical: 10 x 10⁶ Electrical: (rated load) 100 x 10³		
Scope of delivery:	Pressure switch, 3 self-tapping screws 4,2 x 13 mm resp. in stainless steel (with ...CT and ...VA versions), short circuit tube		
Dimensions:	180 x 107 x 66 mm		
Weight:	~ 950 g		
Cable entries:	2 x M16x1,5, Ex-e plastic cable gland ~ Ø 5...9 mm		



ATEX INSTRUMENTATION | ZONES 1, 2 (gas) & 21, 22 (dust)

Compact volume (air) flow controller ExReg-V.. for applications in hazardous locations in zone 1, 2, 21, 22 for control of air flows (CAV/VAV) in ventilation systems (HVAC). Suitable control actuator ExMax-..-CY (without spring return) or ExMax-..CYF (with spring return, safety function) available.

VAV control must be tested by the manufacturer of VAV dampers in acc. with diameter, design and characteristics of the air damper.

- Can be configured on site in the hazardous location
- Fewer components
- No necessity to install safety barriers or to use special wiring
- Integral PID loop
- Also for mobile applications

EU-Type Examination Certificate

VOLUME FLOW / PRESSURE CONTROLLER EXREG-V.. FOR USE WITH EXMAX-.. ACTUATORS				
Type:	Sensor:	Meas. range:	Connection / Interface (analogue):	Item No.:
ExReg-V100-A	Differential pressure	0…100 Pa	1 × actuator, 1 × set point, 1 × actual value, 1 × position actuator	9A1801
ExReg-V300-A	Differential pressure	0…300 Pa	1 × actuator, 1 × set point, 1 × actual value, 1 × position actuator	9A1802
ExReg-V1000-A	Differential pressure	0…1.000 Pa	1 × actuator, 1 × set point, 1 × actual value, 1 × position actuator	9A1803
ExReg-V100-B	Differential pressure	0…100 Pa	1 × actuator, RS485 communication	9A1804
ExReg-V300-B	Differential pressure	0…300 Pa	1 × actuator, RS485 communication	9A1805
ExReg-V1000-B	Differential pressure	0…1.000 Pa	1 × actuator, RS485 communication	9A1806

ACTUATORS FOR ..REG-V.. CONTROLLER						
Type:	Torque:	Running time 90°:	Spring return:	Control mode:	Feedback:	Item No.:
ExMax- 5.10-CY	5 Nm / 10 Nm	7,5/15/30/60/120 seg.	-	4...20 mA	0...10 V	9A1807
ExMax- 15.30-CY	15 Nm / 30 Nm	7,5/15/30/60/120 seg.	-	4...20 mA	0...10 V	9A1808
ExMax- 5.10-CYF	5 Nm / 10 Nm	7,5/15/30/60/120 seg.	~ 10 sg	4...20 mA	0...10 V	9A1809
ExMax- 15- CFY	15 Nm	7,5/15/30/60/120 seg.	~ 10 sg	4...20 mA	0...10 V	9A1810

ACCESSORIES AND SPECIAL DESIGNS	
Type:	Technical specifications:
MKR-VA/AL	Mounting bracket for installation on round air-ducts (diameter up to 600 mm)
Kit 2	Includes 2 meters pressure hose (inner diameter 6 mm) and 2 plastic fittings

EXREG-V VOLUME FLOW / PRESSURE CONTROLLER

Zones 1, 2, 21, 22

TECHNICAL SPECIFICATIONS	
Marking:	II 2(1)G Ex e mb [ia Ga] IIC T6 Gb II 2(1)D Ex tb ib [ia Da] IIIC T80°C Db IP66
Certificate:	EU-Type Examination Certificate
Supply voltage / frequency:	24 VAC/DC ± 15% (20,4...27,6 VAC/DC), 50...60 Hz
Current power consumption:	150 mA, ~ 3 W, internal fuse 350 mAT, without bracket, not removable
Galvanic isolation:	Supply to analogue inputs and outputs min. 1,5 kV, supply to relay output min. 1,5 kV
Electrical connection:	Terminals 0,14...2,5 mm^2 in integrated Ex-e terminal box, wire stripping lenght 9 mm, tightening torque 0,4...0,5 Nm, equipotential bonding 4 mm^2
Display / Control elements:	LCD display backlit, for configuration, user guidance, parameter setting and actual value display. Status display via LEDs. / 3 buttons for configuration
Sensor / Sensor circuit:	Piezo messure transmitter / Internal intrinsically safe circuit
Housing:	Aluminium die-cast housing, coated
Ambient Temperature - Humidity:	-20...+50 °C (storage temperature -35...+70 °C) / 0...95 % rH, non condensing
Pressure connection:	P+ / P- sleeves Ø 4...6 mm
Measuring range:	0...300 Pa, minimum measuring range is 2 % of full scale
Sensor damping (filter):	1...50 seconds, adjustable
Precision of pressure measurement:	± 2,5 % full scale ± 1 Pa
Zero point setting:	Via menu. Both tube connections P+ / P- must be mechanically short-circuited for the time of zero point setting
Volume flow:	Calculation via k factor (“shield factor”); adjustable parameters: V_{max}, V_{min}, V_{Nom}, k-factor
Control:	Adaptative PID controller (automatic or manual mode selectable)
Control tolerance:	1...5 % adjustable
Delay time:	3 s
Alarm monitoring:	Volume flow monitoring; adjustable functions: tolerance limit (fixed value and variable value), alarm delay
Life time mecanically / electrically:	$10x10^6$ / $100x10^3$
Dimensions:	180 × 107 × 66 mm
Weight:	~ 950 g
Cable entries:	2×M16, Ex-e plastic cable gland ~ Ø 5...9 mm

ATEX INSTRUMENTATION | ZONES 1, 2 (gas) & 21, 22 (dust)

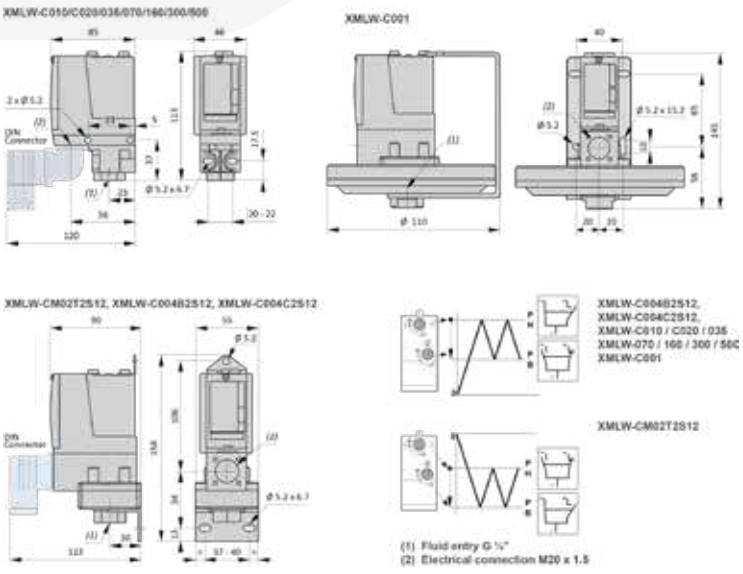
With a wide range of pressures, from 0.1 to 500 bars, the XMLW pressure switches allow to control fluids in hazardous areas.

They meet the highest level of protection for the explosive atmospheres.

EU-Type Examination Certificate

ITEM REFERENCES						
Pressure switch with display:	Gauge:	Setting range upper threshold (ph):	Fluids controlled:	Possible differential (add to PB to get PH):		
				Min. low setting:	Min. high setting:	Max. high setting:
XMLW-C004B2S12	4 bar	0.3 ... 4 bar	Hydraulic oils, water, air	0.17 bar	0.15 bar	2.5 bar
XMLW-C010B2S12	10 bar	0.7 ... 10 bar	Hydraulic oils, water, air	0.45 bar	0.70 bar	8 bar
XMLW-C035B2S12	35 bar	3.5 ... 35 bar	Hydraulic oils, water, air	1 bar	1.5 bar	22 bar
XMLW-C160D2S12	160 bar	12 ... 160 bar	Hydraulic oils, air	9 bar	21 bar	110 bar

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex d e IIC T6 Gb II 2D Ex tb IIIC T85°C Db For Tfluid < +65°C
Certificate:	EU-Type Examination Certificate
Housing:	Zamac
Operating temperature:	-20°C to +60°C
Ingress protection:	IP66 according to EN/IEC 60529
Rated thermal current:	6 A
Insulation voltage:	250 V
Contact block:	Single-pole snap action NO+NC
Electrical connection:	Screw terminal block
Short circuit protection:	By fuse 6 A gG (gl) to be installed outside the Ex area
Hydraulic connection:	1/4" gas female - Other on request
Cable entries:	1 x M20x1,5 for cable Ø 8 to 13 mm



LGW-2G-... PRESSURE SWITCH

Zones 1, 2

ATEX INSTRUMENTATION

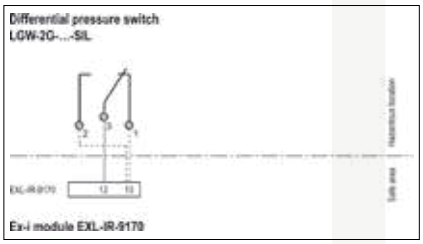
ZONES 1, 2 (gas)

The differential pressure switch LGW-2G-…-SIL is suitable for monitoring over-, differential- and underpressure of air, gaseous, non-aggressive media in air ducts, in supply or exhaust air units.

In combination with Ex-i switch type EXL-IR-9170 with intrinsically safe circuit, the sensors can be used in hazardous locations in zone 1 and 2. The switching amplifier may only be installed and operated in non-hazardous atmospheres.

The sensor has a passive, potential-free switch contact.

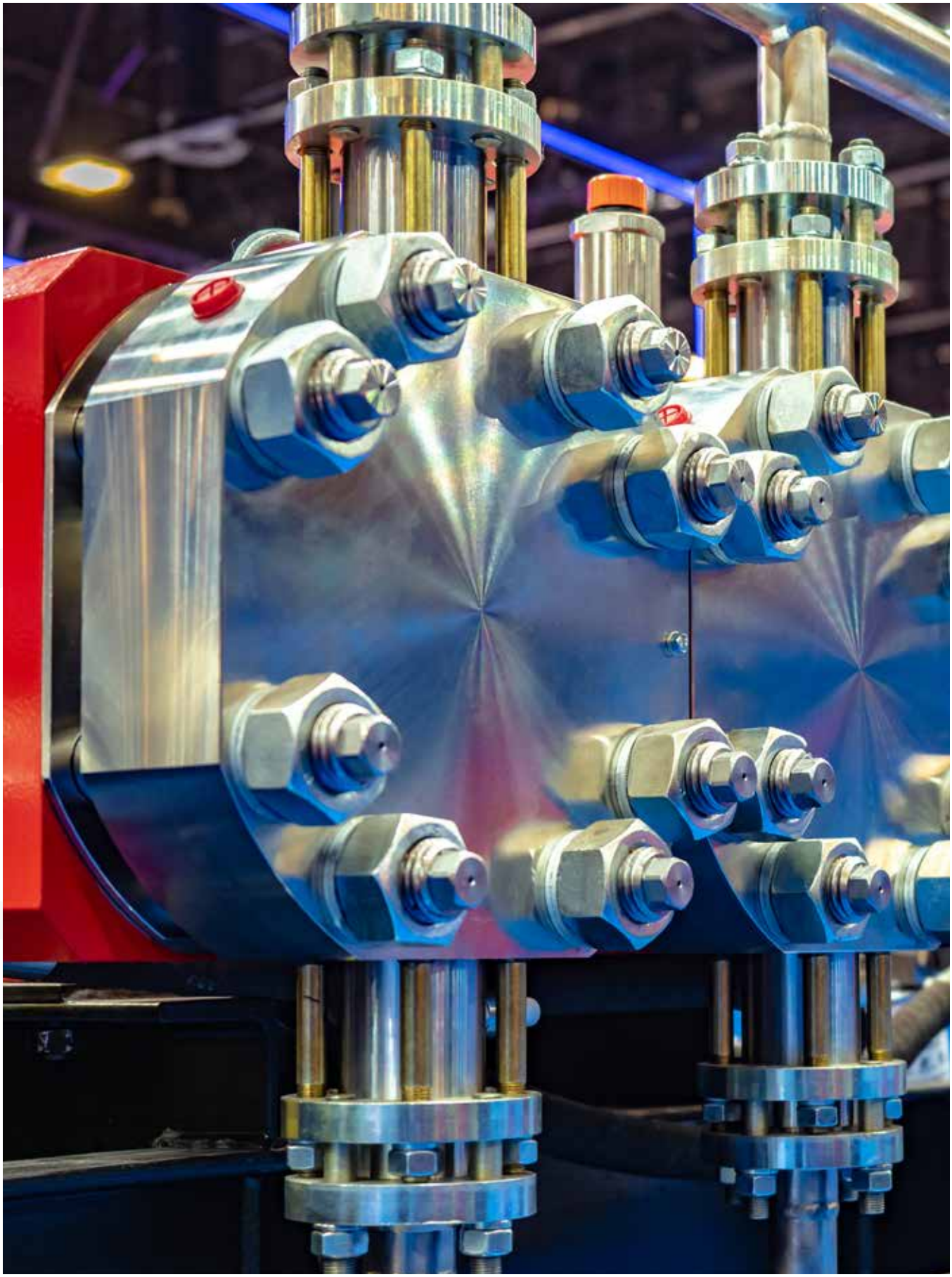
Declaration of Conformity



ITEM REFERENCES			
Designation:	Range:	Switch difference:	Item No.:
LGW-2G-40-300-SIL	40… 300 Pa	30 Pa +/- 15 %	9A2801
LGW-2G-100-1000-SIL	100… 1.000 Pa	30 Pa +/- 15 %	9A2802
LGW-2G-250-5000-SIL	250… 5.000 Pa	30 Pa +/- 15 %	9A2803
LGW-2G-3000-15000-SIL	3.000…15.000 Pa	30 Pa +/- 15 %	9A2804

Ex-i CIRCUIT						
Designation:	Voltage:	Max. voltage Uo:	Max. current Io:	Max. power Po:	Safety- related max. voltage:	Item No.:
9170/11-13-21s	110 - 230 VAC	9.6 V	10 mA	24 mW	253 V	9A2901
9170/11-11-11s	24 VDC	9.6 V	10 mA	24 mW	253 V	9A2902

TECHNICAL SPECIFICATIONS	
Marking:	Simple apparatus
Certificate:	Declaration of Conformity
Contact:	Single potential free switch
Max. operating pressure:	50.000 Pa (500 mbar)
Ambient temperature:	-15...+70 °C
Storage temperature:	-15...+70 °C
Humidity:	0...50 %rH, non condensing
Medium:	Gaseous, non aggressive
Diaphragm:	NBR, silicone free
Pressure connection:	Ø 4,6 mm
Enclosure:	Plastic, PC
Ingress protection:	IP54 (EN60529)
Dimensions and weight:	82 x 82 x 46,5 mm, approx. 200 g
Protection class:	Simple apparatus acc. to EN 60079-0/ EN 60079-11
Scope of delivery:	1 differential pressure switch type LGW-2G-…-SIL
Installation area:	Zone 1 or 2 when using a Ex-i switch type EXL-IR-9170
Installation Ex-i module (EXL-IR-9170):	Safe area
Cable entries:	1xM20 plastic cable gland (Ø 7-13 mm)



9.2

DETECTION AND MEASUREMENT

ATEX INSTRUMENTATION | **ZONES 1, 2 (gas) & 21, 22 (dust)**

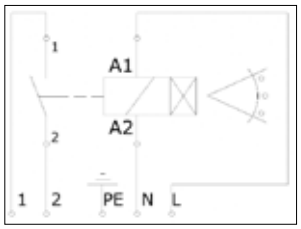
The HF motion detector EMH 90 operates at smallest movements in its detection range.

The detection also works through thin, non-conductive walls materials of glass, plastic or wood.

The sensitivity, switching time and photosensitivity can be set on the motion detector. These settings can only be done when the Ex d enclosure is open.

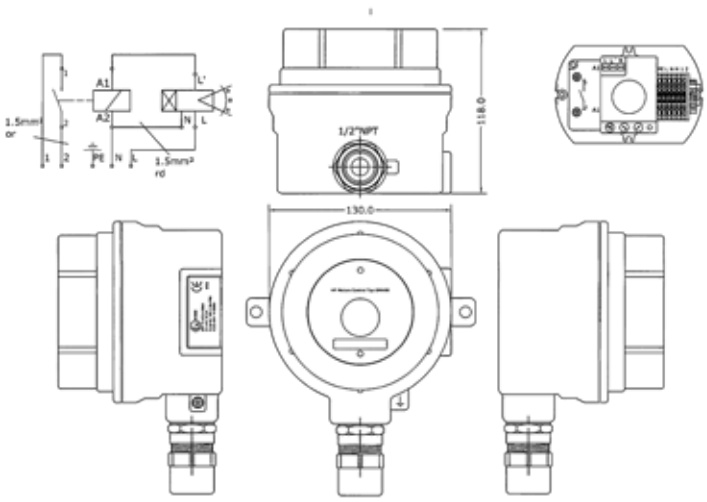
The HF motion detector EMH 90 is suitable for use in hazardous areas of Zone 1 and 21.

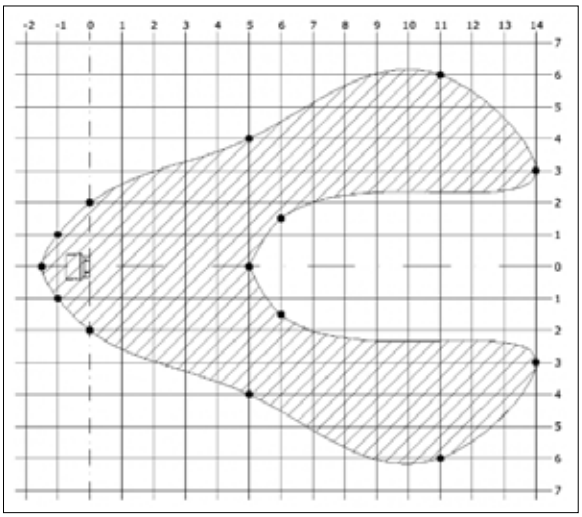
EU-Type Examination Certificate



ITEM REFERENCES	
Designation:	**Item No.:**
EMH 90	4D0701

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex d IIC T6 Gb II 2D Ex tb IIIC T85°C Db
Certificate:	EU-Type Examination Certificate
Housing:	Aluminium
Operating temperature:	-20°C to +40°C
Ingress protection:	IP66/67
Rated voltage:	230 VAC
Switching capacity:	max. 6 A
Settings:	Photosenditivity range working time (10 seg. ... 12 min.)
Connection terminals:	Input: L, N, PE 1,5mm² Output: 1,2 pot. Free contact, 1 NO
Cable entries:	1 x 1/2" NPT (Cable gland not included)





Distance measured in meters

ATEX INSTRUMENTATION | **ZONES 1, 2 (gas) & 21, 22 (dust)**

Magnetic proximity switches ideal for any contactless control, indispensable to detect and/or count any items passing by at remarkable speed.

Peculiar for applications in critical environements dominated by the presence of oils, greases, liquids, dusts, etc...

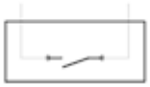
EU-Type Examination Certificate

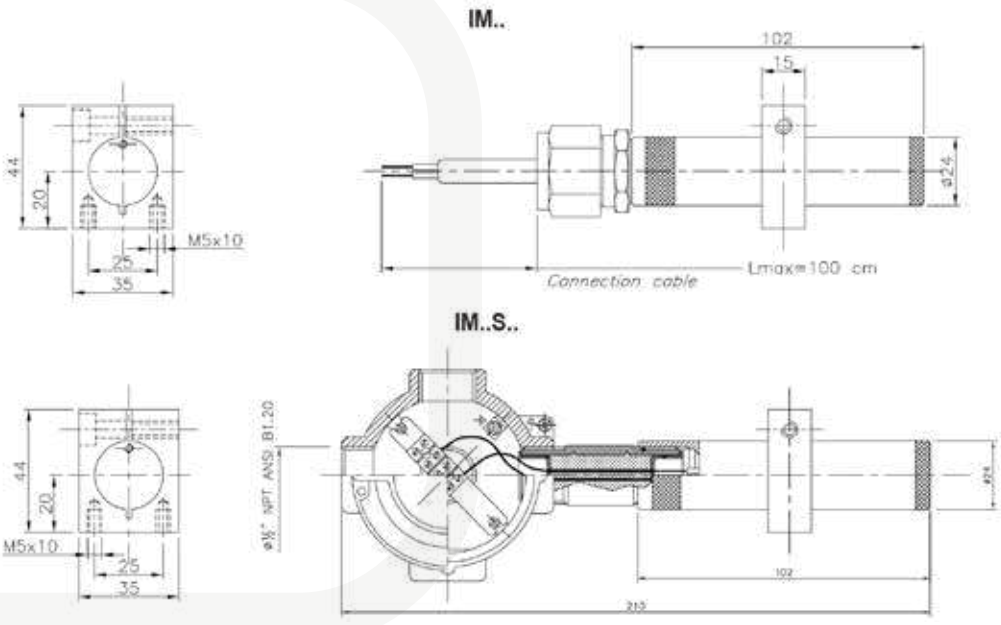
Not subject to any mechanical wear and thus, compared to traditional switches, a longer operating life is guaranted.

ITEM REFERENCES			
Designation:	**Contact:**	**Cable:**	**Item No.:**
IM/U	Monostable	1 m (included)	4D0501
IM/AB	Bistable	1 m (included)	4D0502
IM/UM-SX14N-MH2-4 (with junction box)	Monostable	Not included	4D0503
IM/AB-SX14N-MH2-4 (with junction box)	Bistable	Not included	4D0504

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex d IIC T6/T5 Gb II 2D Ex tb IIIC T85°C/T100°C Db
Certificate:	EU-Type Examination Certificate
Housing / Fixing brackets:	Stainless steel AISI 316L
Operating temperature:	-20°C to +40°C
Ingress protection:	IP66
Contact type:	Switching (NO)
Contact material:	Rhodium
Max. switching power:	40 VA
Max. switching voltage:	250 Vdc - 220 Vac
Max. current peak:	1 A
Contact resistance:	0,075 Ω
Contact vibration time:	0,3 ms
Switching frequency:	100 Hz
Switching hysteresis:	~ 5 mm
Set point accuracy:	0,01mm
Axial vibration resistance:	100 gr
Contact mechanical life:	10^8 operations
Connecting cable:	2x0,75 mm^2 - 3x0,75 mm^2
Weight:	370 g
Cable entries:	Stainless steel 1/2” NPT cable gland

INSTRUCTIONS
Permanent magnets must be mounted by countersunk screws in not-magnetic materials such as brass, aluminum, stainless steel or plastic.
Larger switch control distance is reached when the permanent magnet is directly fixed to an iron support.
Embedding the permanent magnet in a mass of iron causes a short circuit of the magnetic field; there should be a distance of the iron surface of 1-3 millimeters. This type of mounting significantly reduces the operating distance of magnetic switch.
The permanent magnets featuring north polarity have red protection cap whereas it is blue for south polarity. The protection caps are made of polyamide.

TYPE	
MONOSTABLE	
When a magnetic field is detected, the contact changes state. When it is no longer detected, the contact returns to the original position.	
BISTABLE	
When a magnetic field is detected, the contact changes state, and does not change again until a new magnetic field is detected.	
	



PERMANENT MAGNETS					
Designation:	**Diameter:**	**Thickness:**	**Central hole for screw fixing:**	**Weight:**	**Item No.:**
MG20 magnet	20mm	10mm	4,2mm	15g	4D0520
MG25 magnet	25mm	10mm	4,2mm	20g	4D0521

DETECTION DISTANCE				
	Magnet model MG20		Magnet model MG25	
	Installed on a metal surface	Installed on a non-metallic surface	Installed on a metal surface	Installed on a non-metallic surface
Activation distance between magnet and limit switch during approach.	28mm	18mm	38mm	26,5mm
Activation distance between magnet and limit switch during movement away.	35mm	23,5mm	46,5mm	33mm
Attention: The values reported were detected through internal measurements; These values may undergo variations depending on the installation conditions.				

ISD INDUCTIVE SENSOR

Zones 1, 2, 21, 22

ATEX INSTRUMENTATION

ZONES 1, 2 (gas) & 21, 22 (dust)

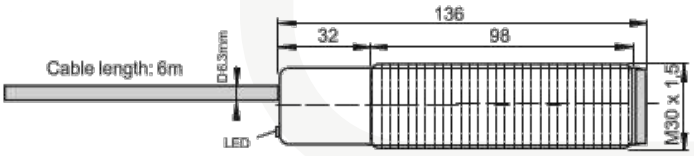
The ATEX/IECEx certified inductive sensors of the IS Series in M30 are designed for the protection and / or monitoring of doors, machine flaps and robots. These inductive sensors are dirt-sensitive and can be used in almost all industrial areas. The sensors detect metals (e.g., St37). Therefore no magnets or other encodings are needed on the opposite side of the sensors. Due to the sensor construction, a bridging is possible.

- Suitable for operation in Ex zones 1, 2, 21, 22 (gas and dust Ex)
- Performance level Plc, SIL 1, safety category 4
- PNP/NPN, analogue 0-10 V / 4-20 mA, fail-save
- Switching distances from 2...40 mm

EU-Type Examination Certificate

Note: The end of the cable must be connected outside the hazardous locations.

ITEM REFERENCES

Designation:	Material:	Dimensions:	Item No.:
ISD-10-B-GD-S162	Brass		9D0202
ISD-10-B-GD-S293	Stainless steel 316ss		9D0203

TECHNICAL SPECIFICATIONS

Marking:	II 2G Ex db IIC T5 Gb II 2D Ex tb IIIC T100°C Db IP67
Certificate:	EU-Type Examination Certificate
Housing:	M30 / Sensing area: Synthetic, PEEK mod.
Operating temperature:	-10°C to +50°C
Storage temperature range:	-45°C to +70°C
EMC, shock and vibration resistance:	According to EN 60947-5-2
Ingress protection:	IP67 according to EN 60529
Type:	SRP/CS - SREC, fail-safe inductive sensor PDDB, I1A30AP1
Performance Level (PL), EN 13849-1:	PL e
Safety category, EN 13849-1:	4
Safety integrity level, EN 62061:	SILCL 3
Safety-related reliability PFHd [1/h]:	2.47 x 10-8
MTTFd [Years]:	100
DC/CCF/Cat.:	99% / 92 / 4
Installation method:	Embaddable (flush) mountable
Rated operating distance sn:	10mm, (on steel 37, (sn x 3)² x 1mm), at non flush mounting, at EN 60947-2-5
Enable zone:	>=3mm ... <=8mm, (on steel 37, (30mm x 30mm x 1mm)
Hysteresis:	0.5-1.5mm
Safe switching off distance s(ar):	30mm
Repeatability:	<100um
Utilzation category:	DC 13
Supply voltage Ue:	24VDC +-10% (Power supply type PELV according to EN 60204, item 6.4.2)
Absolute maximum supply voltage Um:	30VDC
Rated insulation voltage:	75VDC/50VAC

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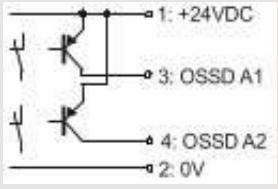
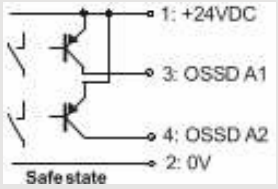
TECHNICAL SPECIFICATIONS		
Current consumption:	35mA	
Maximum power dissipation:	0.98W	
Response time to safety request:	20ms	
Power up delay time:	200ms	
OSSD:	2 x PNP (A1 and A2)	
Output voltage at 24 V:	Compatible with EN 61131-2 inputs type 1, 2, 3	
Voltage drop:	< 2V, (70mA)	
Current rating:	70mA	
Short-circuit protection:	Yes	
Display:	LED green (OSSD=ON), LED red (OSSD=OFF)	
Connection cable:	ISD-10-B-GD-S162: 4+PE x 0,5mm², TPU jacket, shielded, leads numbering marked, diameter: 6.3mm, length: 6m ISD-10-B-GD-S293: 4 x 0,22mm², shielded, FEP/silicone rubber, leads color-marked, dia. 4,4mm, length: 6m	
Cable, minimum bending radius:	70mm	
Accessories:	2x nuts M30. (Optional 1x clamp)	
Function and LED indication:	Object detected, LED green | No object detected, LED red	
Output with dynamic test function Object detected, Outputs switched ON:	2 x PNP-Outputs, Transistors conducted	2 x PNP-Outputs, Transistors open
		

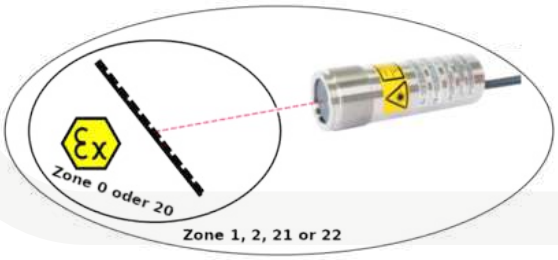
ATEX INSTRUMENTATION

ZONES 1, 2 (gas) & 21, 22 (dust)

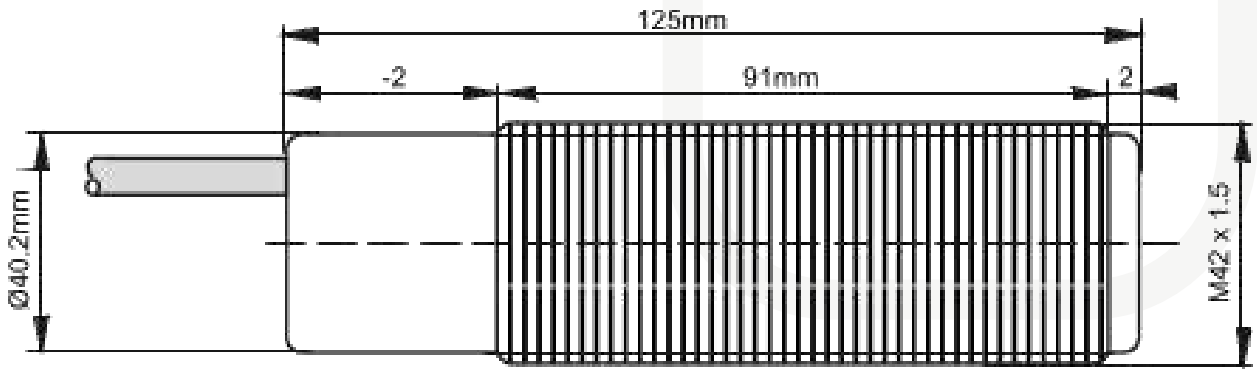
ATEX/IECEx certified Laser Distance Sensors designed to measure distances within potentially explosive atmospheres in Ex Zones (0), 1, 2, (20), 21, 22.

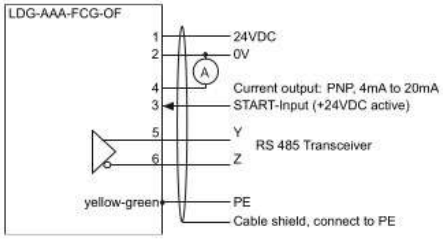
- Exact, precise and millimeter-accurate measurement by means of time-of-flight measurement.
- Easy alignment through visible red light laser.
- Measurement range digital output: 0.05m to 30m.
- Suitable for matt, shiny and different colored (also black) objects.
- Explosion-proof, robust stainless steel housing M42x1,5 in flameproof enclosure Ex “d”.
- Analog output signal 4mA to 20mA and serial data interface RS-485.
- Optical power limitation - sensors are allowed to radiate in zone 0 and 20.

EU-Type Examination Certificate



ITEM REFERENCES			
Designation:	Measurement range analog output:	Measurement range digital output:	Item No.:
LDG-AAA-FCG-OF	0.05m to 30m	0.05m to 30m	9D0101
LDG-AAB-HBA-OF	50mm to 4000mm	0.05m to 30m	9D0102
If the analog output is used: LDG-AAA-FCG-OF: The connection kit is needed to make the settings (example: 0.05m to 2m), and then the converter can be removed. LDG-AAB-HBA-OF: The analog output is direct from 0.05m to 4m. Expected values: 50mm=4mA to 2000mm=12mA. If the RS485 digital output is used: The connection kit is always needed			
Connection kit: - Software / - MOXA UPORT 1130 Converter / - MINI DB9F-TU-TB Adaptor			9D0103



TECHNICAL SPECIFICATIONS		
	LDG-AAA-FCG-OF	LDG-AAB-HBA-OF
Marking:	II 2(1)G Ex db [op is Ga] IIA T4 Gb II 2(1)D Ex tb [op is Da] IIIC T135°C Db	
Certificate:	EU-Type Examination Certificate	
Housing / Fixing brackets:	Stainless steel AISI 316L	
Operating temperature:	-10°C up to +35°C [1] / -10°C up to +50°C [2] [1] For a longer life time of the laser diode, the housing temperature of +35°C°C must not be exceeded [2] For housing temperature larger than +35°C° use the sensor in pulse mode. See please document "Datasheet supplement"	
Storage temperature range:	-20°C up to +70°C	
Relative humidity:	15% ... 80%	
Ingress protection:	IP67	
Measurement methods:	Time-of-flight measuring	
Light Source:	Laser Class 2, in accordance with EN 60825-1	
Maximum optical radiant intensity:	<=1mW, wave length: 650nm	
Response time:	minimum 0.05s, maximum 4.5s	minimum 0.1s, maximum 4.5s
Pollution degree:	4	
Utilization category:	D3A42AP1	
Supply voltage, Ue:	24VDC	
Absolute maximum supply voltage, Um:	30VDC	
Current consumption:	70mA	
Maximum power dissipation:	2.4W	
Typical measurement tolerance:	Up to 10m: +-1mm, applies for 100% target reflectivity, in low-light ambient, T_{amb} : 25°C	
Maximum measurement tolerance:	Up to 10m: +-2mm, applies for 10% to 500% target reflectivity, in strong light ambient	
Distance dependent increase of measurement tolerance:	<=0.15mm/m	
Analog current output, type:	PNP, 4mA to 20mA, short circuit protected	
Analog current outputs, operating range:	0.05m to 30m (0.05m = 4mA, 30m = 20mA)	50mm to 4000mm (50mm = 4mA, 4000mm = 20mA)
Analog current output, error indication:	3.5mA: Measurement invalid 20.5mA: Object out of measurement range	
Analog current output, resolution:	1mm = 0,0005mA	1mm = 0,004mA
Analog current output, load range:	500R <= R_L <= 1000R	
Serial interface, type:	RS 485, Format: 9600 baud, 8 data bits, 1 stop bit, Parity none, Handshaking none	
Serial interface, range:	0.05m to 30m	
Serial interface, resolution:	1mm	
Input type:	START Input, PNP compatible	
Input function:	"H" +24VDC: Starts measurement, "L" 0V: Stops measurement	
Power up delay time:	500ms	
Housing:	M42, Material: Stainless steel 1.4404	
Laser lifetime:	Appr. 30'000h, typically, at a housing temperature of +20°C. During continuous operation, urgent recommendation: Apply 0V to the START-input, when no measurement is necessary	
Connection cable:	Length: 5m, PUR jacket, 6+PE x 0.5mm², shielded, non-halogen, leads numbering marked, good chemical resistance, drag chain suitable	Length: 10m, PUR jacket, 6+PE x 0.5mm², shielded, non-halogen, leads numbering marked, good chemical resistance, drag chain suitable
Options:	Cable length: Up to 100m, upon request	
Accessories:	2 nuts M42 (included)	
Electrical connection: Wire number Function 1 24VDC 2 0V 3 START-Input (+24VDC active) 4 Current output: PNP, 4mA to 20mA 5 RS 485 - Y 6 RS 485 - Z yellow-green PE white Cable shield		

AR-022 TWILIGHT SWITCH

Zones 2, 22

ATEX INSTRUMENTATION | **ZONES 2 (gas) & 22 (dust)**

The AR-022 twilight switch is based on a highly sensitive photodiode and modern electronics and offers an electrical output that can deliver up to 4.000 VA on pure resistive or light inductive loads and an additional potential free contact.

The twilight switch can be applied successfully in circulation areas, staircases, storage spaces, cooling and freezing cells and business areas where safety and good visibility are important.

The twilight switch meets the latest explosion safety requirements and can be applied in a wide range of locations with potentially explosive atmosphere as a result of gas or dust.

Declaration of Conformity

ITEM REFERENCES	
Designation:	**Item No.:**
AR-022 Twilight Switch	9E0201

TECHNICAL SPECIFICATIONS	
Marking:	II 3G Ex nR IIC T6 Gc, II 3D Ex tc IIIC T80°C Dc
Certificate:	Declaration of Conformity
Operating temperature:	-20°C to +50°C
Standards applied:	EN 60079-0:2018, EN 60079-15:2010 and EN 60079-31:2014
Light sensitive cell:	Photodiode
Light sensitivity:	10 – 300 Lux
Delay:	± 1 minute
Supply voltage:	230 VAC, 50 Hz
Switched power AC1:	4,000 VA (resistive and light inductive loads)
Output contacts:	1. Switched 230 V AC supply (L', N2) | 2. Potential free contact (1, 2)
Rated current 250 V AC:	16 A continuous
Rated current 24 V DC:	2 A (potential free contacts 1 – 2 only)
Output:	Switched 230 VAC supply (L', N2) and potential free contact (1, 2)
Connection:	Connection terminals 8 x 2.5 mm^2
Material:	Die cast aluminum housing, RAL 7015, slate grey, polyamide frame with impact resistant safety glass
Ingress protection:	IP66 according to EN 60529
Mounting bracket:	Stainless steel mounting bracket, mounting holes Ø6,5 (4x), mutual distance 60 x 60 mm
Dimensions:	160 x 80 x 128 mm (incl. mounting bracket)
Weight:	1330gr (incl. mounting bracket)
Cable entries:	2xM20 cable glands for non armoured cable Ø6 – Ø14 mm

AR-025 SMOKE DETECTOR

Zones 2, 22

ATEX INSTRUMENTATION | ZONES 2 (gas) & 22 (dust)

The explosion-safe AR-025 optical smoke detector reacts to visible smoke particles. If too much smoke enters its measuring chamber, an alarm is triggered. In the measuring chamber, an integrated infrared light source generates a light pulse every 8 seconds.

Smoke particles from a fire change the light signal received by the light diode.
A relay trips and the alarm center reports a fire alarm.
The 12 V optical smoke detector is mounted on the ceiling in the center of the room.
The minimum distance to the side wall should be 30cm.

By changing a jumper, you can configure the optical smoke detector as NO or as NC detector. It is therefore suitable for every wired alarm system. The smoke detector is supplied externally with 12V operating voltage and is EN54 certified.

Declaration of Conformity

ITEM REFERENCES		
Designation:	**Output:**	**Item No.:**
AR-025/001	NO	9E0101
AR-025/002	NC	9E0102

TECHNICAL SPECIFICATIONS	
Marking:	II 3G Ex ec mc IIC T6 Gc II 3D Ex mc tc IIIC T80°C Dc
Certificate:	Declaration of Conformity
Standards applied:	EN 60079-0:2018, EN 60079-7:2015 / A1:2018, EN 60079-18:2015 / A1:2017 and EN 60079-31:2014
Operating temperature:	-20°C to +50°C
Sensor:	Photodiode
Supply voltage:	12 V DC
Rated current:	35 mA
Rated power:	0,368 W
Status indicator:	Green LED is blinking in operation, red LED lights continuously at an alarm
Switch power AC1:	1 A at 30 VDC
Output:	Switched NO or NC output with option to connect multiple detectors in series
Material:	Die cast aluminum housing (RAL 7015)
Connection:	Terminals 10 x 2,5 mm^2
Ingress protection:	IP65 according to EN 60529
Dimensions:	120 x 120 x 113 mm (excluding cable glands)
Weight:	1265 gr
Cable entries:	2xM16 non-armoured cable glands (5-9 mm)

9.3

REMOTE IO SOLUTIONS

IP20 EX I IO MODULE

Zones 1, 2, 21, 22

ATEX REMOTE IO SOLUTIONS | ZONES 1, 2 (gas) & 21, 22 (dust)

The compact IP20 IO module with Profinet or Modbus TCP/IP include busnode, isolating amplifier and 32 intrinsically safe analog and digital IO channels on smallest space and can be installed in Zone 1/21 with certified Ex e enclosure and connects sensors and actuators from Zone 0/20.

EU-Type Examination Certificate

PROFINET

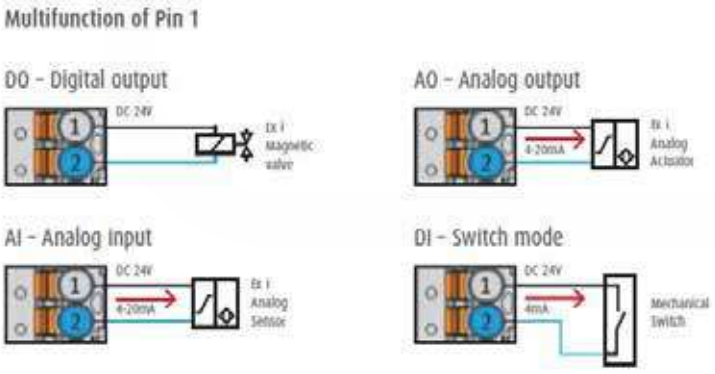
Modbus TCP

ITEM REFERENCES	
Designation:	**Item No.:**
IP20 Ex i IO module	9F0101

TECHNICAL SPECIFICATIONS	
Marking:	II 2(1)G Ex eb mb [ia Ga] IIC T4 Gb II (1)D [Ex ia Da] IIIC
Certificate:	EU-Type Examination Certificate
Operating temperature:	-40°C to +70°C
Ingress protection:	IP20
Power supply	
Operation voltage U_A/U_S:	DC 18...30V
Current module and sensor supply I_S:	DC 450 mA
Current actuator supply I_A:	DC 300 mA
Power dissipation:	max. 15 W
Reverse polarity protection:	Yes
LED Voltage > 18V	Green
LED Undervoltage:	Red
Fieldbus data	
Addressing Profinet:	DCP
Addressing Modbus TCP/IP:	DHCP
Transfer Rate:	10/100 MBit/s
Delay in signal change:	< 10ms
LED Ethernet status LINK:	Green
LED Ethernet status ACT:	Yellow
LED Modul status:	Green / Red
LED digital output on:	Yellow
LED error detection:	Red
Mechanical data	
Dimensions:	214x132x65 mm
Mounting holes:	Ø 5,2 mm
Mounting space:	200 mm
Mounting position:	Any position
Weight:	Approx. 2700 g
Housing material:	Aluminium (electroplated)
Housing marking:	Laser engraving

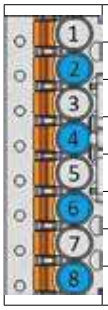
Features	
- Fully potted → extreme robust - Intrinsically safe IO channels • 16 DI Namur • 8 DO • 8 DO(AIO)* * Individually adjustable as DO, AI, AO or Switching Mode - None configuration on module required - Separate power supply for sensor and actuator	- Comprehensive diagnostics for each channel • open load detection • prefault detection • short circuit detection - Galvanic separation between channel and system - Internal temperature monitoring - Operating hour counter

IO channel (X1-X8)	
	8 DO(AIO)* 16 DI Namur 8 DO *Individually adjustable as DO, AI, AO or Switching Mode
1	DO / AI / AO / Switching Mode(+)
2	GND / Switching Mode(-)
3	DI
4	GND
5	DI
6	GND
7	DO
8	GND



IO function		Electrical connection	
DI Namur	8,2V (I<1,2mA = off) (I>2,1mA = on)	Earthing / Equipotential bonding via M4 screw and eyelet Cable cross-section	min. 4,0 mm²
DO (can also be used as power suply)	24V (I_{max} = 25mA)	CAGE CLAMP® connection technology	
AI and AO	24V 4..20mA (0..25mA)	X1-X8 (pluggable) Inputs / Outputs (Ex i) Cable cross-section	max. 1,5 mm²
Resolution AI and AO	16 Bit	X9 Power supply (Ex e) Cable cross-section	max. 2,5 mm²
Measurement deviation (at +25°C)	± 0,1%	X10 Bus (Ex e) Cable cross-section	max. 2,5 mm²
Ambient temperature influence	± 0,01%/K		
AO to DO	24V (I_{max} = 25mA)		
Switching Mode	24V (I_{max} = 4mA)		

Approval data					
Max. U_m X9 / X10	DC 60 V				
Terminals	**Parameter**				
Terminal block X1 to X8	(Output parameters of each Pin, Pins are not allowed to be combined)				
Pin_{26V}	U_0 = 26 V d.c. I_0 = 82 mA P_0 = 533 mW				
	Group IIC				
	L_0	3 mH	1 mH	0,5 mH	0 mH
	C_0	42 nF	62 nF	78 nF	99 nF
	Group IIB / III				
	L_0	20 mH	2 mH	0,5 mH	0 mH
	C_0	350 nF	350 nF	490 nF	770 nF
$Pin_{9,6V}$	U_0 = 9,6 V d.c. I_0 = 31 mA P_0 = 75 mW				
	Group IIC				
	L_0	49 mH	10 mH	1 mH	0 mH
	C_0	310 nF	640 nF	1,1 nF	3,6 nF
	Group IIB / III				
	L_0	100 mH	10 mH	1 mH	0 mH
	C_0	2 µF	3,6 µF	6.1 µF	26 µF
Pin_{GND}	galvanically separated from input GND				



Pin 1	U_0 = 26 V d.c.
Pin 2	GND
Pin 3	U_0 = 9,6 V d.c.
Pin 4	GND
Pin 5	U_0 = 9,6 V d.c.
Pin 6	GND
Pin 7	U_0 = 26 V d.c.
Pin 8	GND

ATEX REMOTE IO SOLUTIONS

ZONES 1, 2 (gas) & 21, 22 (dust)

Compact IO module for Ex Zone 1/21 with Profinet or Modbus TCP/IP.
The module include busnode, isolating amplifier and 32 intrinsically safe analog and digital IO channels on smallest space. The module can be installed directly in Zone 1/21 and connects sensors and actuators from Zone 0/20.

EU-Type Examination Certificate

PROFINET

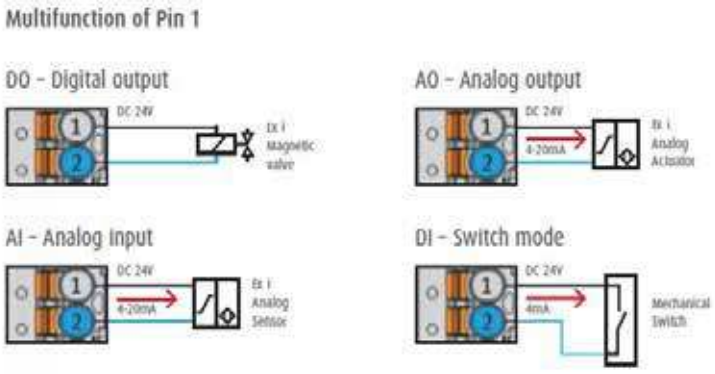
Modbus TCP

ITEM REFERENCES	
Designation:	**Item No.:**
IP67 Ex i IO module	9F0102A

TECHNICAL SPECIFICATIONS	
Marking:	II 2(1)G Ex eb mb [ia Ga] IIC T4 Gb II 2(1)D Ex tb [ia Da] IIIC T110°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-40°C to +70°C
Ingress protection:	IP66/67
Power supply	
Operation voltage U_A/U_S:	DC 18...30V
Current module and sensor supply I_S:	DC 450 mA
Current actuator supply I_A:	DC 300 mA
Power dissipation:	max. 15 W
Reverse polarity protection:	Yes
LED Voltage > 18V	Green
LED Undervoltage:	Red
Fieldbus data	
Addressing Profinet:	via DCP
Addressing Modbus TCP/IP:	DHCP or fix
Transfer Rate:	10/100 MBit/s
Delay in signal change:	< 10ms
LED Ethernet status LINK:	Green
LED Ethernet status ACT:	Yellow
LED Modul status:	Green / Red
LED digital output on:	Yellow
LED error detection:	Red
Mechanical data	
Dimensions:	214x214x125 mm
Mounting holes:	Ø 6,5 mm
Mounting space:	200 mm
Mounting position:	Any position
Weight:	Approx. 5400 g
Housing material:	Aluminium (electroplated)
Housing marking:	Laser engraving
Vibration (EN 60068):	20g
Shock (EN 60068):	50g
Cable glands (stainless steel):	M20x1,5 (6-13mm)

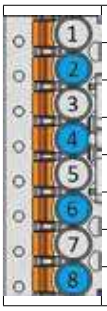
Features	
- Fully potted → extreme robust - Intrinsically safe IO channels • 16 DI Namur • 8 DO • 8 DO(AIO)* * Individually adjustable as DO, AI, AO or Switching Mode - None configuration on module required - Separate power supply for sensor and actuator	- Comprehensive diagnostics for each channel • open load detection • prefault detection • short circuit detection - Galvanic separation between channel and system - Internal temperature monitoring - Operating hour counter

IO variations (X1-X8)	
	8 DO(AIO)* 16 DI Namur 8 DO *Individually adjustable as DO, AI, AO or Switching Mode
1	DO / AI / AO / Switching Mode(+)
2	GND / Switch Mode(-)
3	DI
4	GND
5	DI
6	GND
7	DO
8	GND



IO function		Electrical connection	
DI Namur	8,2V (I<1,2mA = off) (I>2,1mA = on)	Earthing / Equipotential bonding via M4 screw and eyelet Cable cross-section	min. 4,0 mm²
DO (can also be used as power suply)	24V (I_{max} = 25mA)	CAGE PIN® connection technology	
AI and AO	24V 4..20mA (0..25mA)	X1-X8 (pluggable) Inputs / Outputs (Ex i) Cable cross-section	max. 1,5 mm²
Resolution AI and AO	16 Bit	X9 Power supply (Ex e) Cable cross-section	max. 2,5 mm²
Measurement deviation (at +25°C)	± 0,1%	X10 Bus (Ex e) Cable cross-section	max. 2,5 mm²
Ambient temperature influence	± 0,01%/K		
AO to DO	24V (I_{max} = 25mA)		
Switching Mode	24V (I_{max} = 4mA)		

Approval data					
Max. U_m X9 / X10	DC 60 V				
Terminals	**Parameter**				
Terminal block X1 to X8	(Output parameters of each Pin, Pins are not allowed to be combined)				
Pin_{26V}	U_0 = 26 V d.c. I_0 = 82 mA P_0 = 533 mW				
	Group IIC				
	L_0	3 mH	1 mH	0,5 mH	0 mH
	C_0	42 nF	62 nF	78 nF	99 nF
	Group IIB / III				
	L_0	20 mH	2 mH	0,5 mH	0 mH
	C_0	350 nF	350 nF	490 nF	770 nF
$Pin_{9,6V}$	U_0 = 9,6 V d.c. I_0 = 31 mA P_0 = 75 mW				
	Group IIC				
	L_0	49 mH	10 mH	1 mH	0 mH
	C_0	310 nF	640 nF	1,1 nF	3,6 nF
	Group IIB / III				
	L_0	100 mH	10 mH	1 mH	0 mH
	C_0	2 µF	3,6 µF	6.1 µF	26 µF
Pin_{GND}	galvanically separated from input GND				



Pin 1	U_0 = 26 V d.c.
Pin 2	GND
Pin 3	U_0 = 9,6 V d.c.
Pin 4	GND
Pin 5	U_0 = 9,6 V d.c.
Pin 6	GND
Pin 7	U_0 = 26 V d.c.
Pin 8	GND

ATEX REMOTE IO SOLUTIONS

ZONES 1, 2 (gas) & 21, 22 (dust)

This IO Box provides plant and machine manufacturers for the first time a decentralized and compact solution with Profinet or Modbus TCP/IP for hazardous area Zone 1/21.

Applications:
- Paint shops
- Pharmaceutical plants
- Chemical plants
- Tank farm
- Airfield tankers
- Bulk material plants
- Mixing / grinding plants
- Industrial heating / cooling systems
- Sewage treatment plants and much more

EU-Type Examination Certificate

PROFINET Modbus TCP

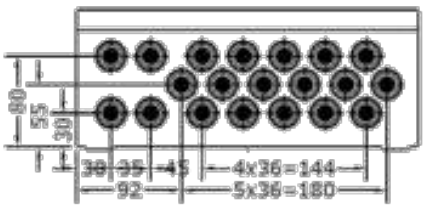
Customer value:
- For optimal combining of intrinsically safe signals in the lower field level.
- Allows very short cable lengths to the solenoid valves and initiators which means significant cost and time savings during installation and maintenance.
- The Ethernet connection is designed with increased safety. An Ex media converter in the safe area is no longer required and the full Ethernet performance can be used.

This ATEX certified system with field enclosure is designed for installation in Zone 1/21 and connects sensors and actuators from Zone 0/20. The system includes busnode, isolating amplifier and 32 intrinsically safe analog and digital IO channels on smallest space.

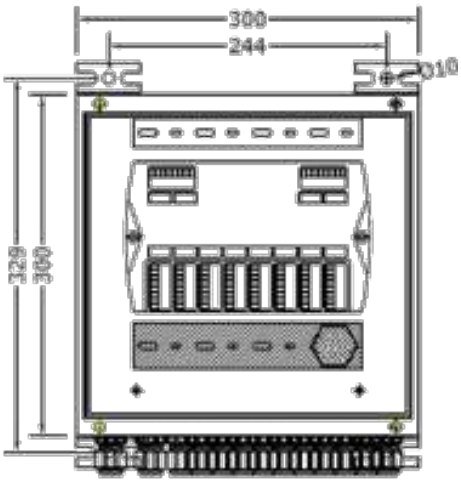
ITEM REFERENCES	
Designation:	**Item No.:**
IO Box	9F0103

Ex i Input /Output
8 DO; 16 DI Namur
8 additional channels individually adjustable as AI, AO or DO or switch mode

Modern Bus Technology
Current versions in Profinet or Modbus TCP/IP
Out of the box!
no programming work on the module



TECHNICAL SPECIFICATIONS	
Marking:	Ex II 2(1)G Ex eb mb [ia Ga] IIC T4 Gb Ex II 2(1)D Ex tb [ia Ga] IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-40°C to +54°C
Dimensions:	300x300x121 mm
Ingress protection:	IP65
Material:	Stainless steel 1.4404 (V4A)
Consist of: 1x IP20 Ex i IO module with Profinet or Modbus TCP/IP 2x Cable gland M20x1,5 black (4-13 mm) 16x Cable gland M20x1,5 blue (4-13 mm) 4x Wall mounting brackets Shield rail with 8 shield connection clamps or EMC cable glands on request	



ATEX REMOTE IO SOLUTIONS

ZONES 1, 2 (gas) & 21, 22 (dust)

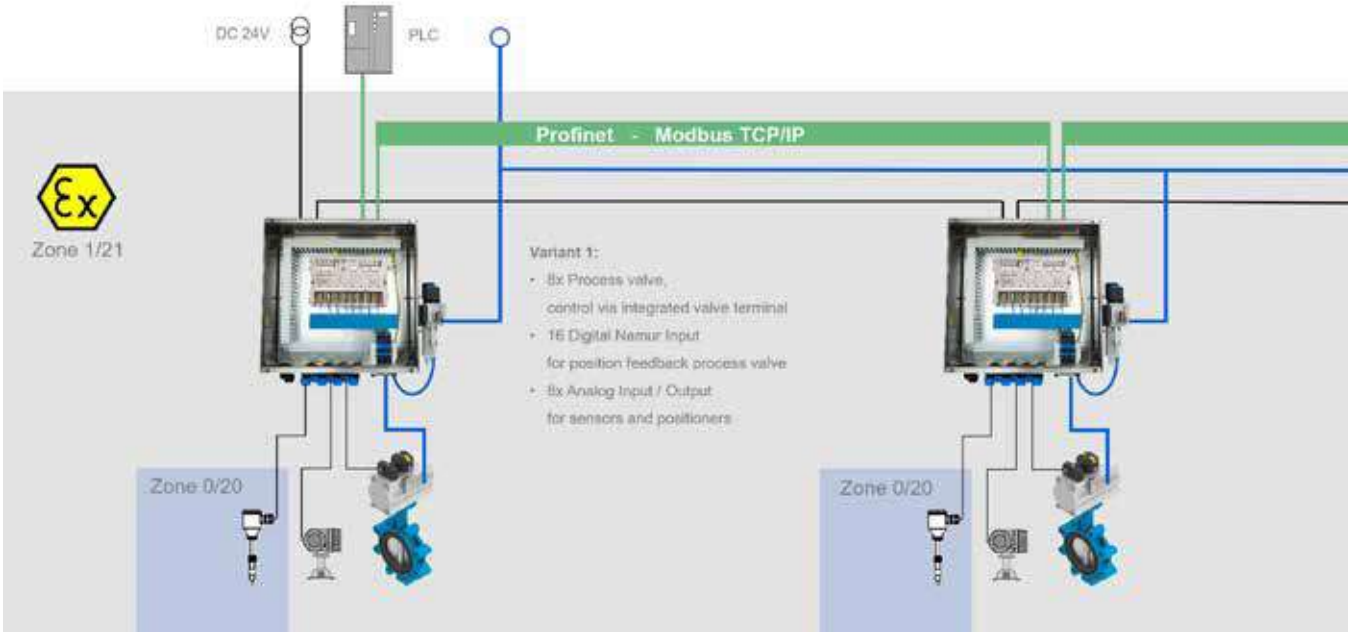
This 3 in 1 solution provides plant and machine manufacturers for the first time a decentralized and compact solution with Profinet or Modbus TCP/IP to control pneumatic actuators for hazardous area Zone 1/21

Applications:
- Paint shops
- Pharmaceutical plants
- Bulk materials handling systems
- Mixing / grinding plants
- Industrial heating / cooling systems
- Sewage treatment plants
- And much more

EU-Type Examination Certificate

Customer benefit: Compact - Simple - Fast
✓ Central Ethernet connection Profinet or Modbus TCP/IP
✓ Central pneumatic connection
✓ Easy decentralized installation - guarantees short distance to sensors and pneumatic actuators
✓ No compressed air tubing inside the box
✓ Cost savings and less installation effort

ITEM REFERENCES	
Designation:	**Item No.:**
IO Valve Box	9F0104



IP20 Ex i IO module	Festo valve terminal
- Profinet or Modbus TCP/IP - Include busnode, isolating amplifiers and intrinsically safe IO chanels Intrinsically safe IO channels - 16 DI Namur - 8 DO - 8 DO (AIO) Individually adjustable as DO, AI, AO or Switching Mode	The valve terminal CPV10-EX-VI is intrinsically safe II 2G Ex ib IIC T4 (-5°C* ≤ Ta ≤ 50°C) *Pressure dew point: -15 C, alternatively class x:3:x according to ISO 8573-1: 2010 - Pneumatic aluminum multipole, enclosure type IP65 - Valve width 10 mm wide, Flow rate 400 l/min - Operating pressure: 0 … 10 bar ; Pilot pressure: 3 … 8 bar - 4 valce discs with valve 2x 3/2- way (furhter variants on request) - Manual override detenting

TECHNICAL SPECIFICATIONS	
Marking:	Ex II 2(1)G/D Ex eb mb ib [ia Ga] IIC T4 Gb Ex tb [ia Da] IIIC T80°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-5C to +40°C
Dimensions:	380x380x161 mm
Ingress protection:	IP65
Material:	Ex e enclosure, Stainless steel 1.4404 (V4A)

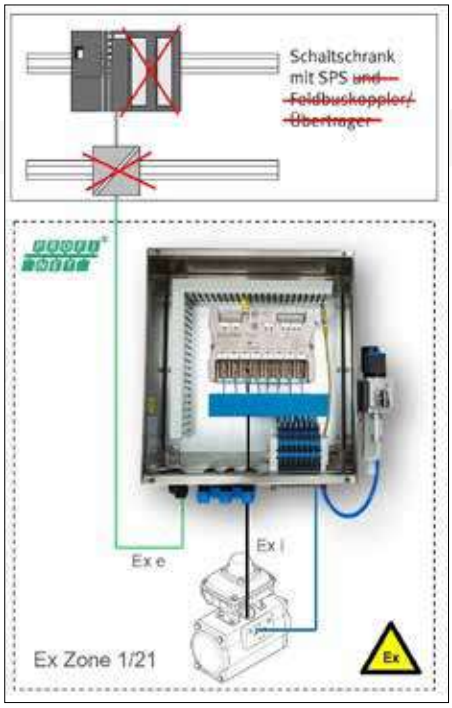
Consist of:
4x cable glands M20x1,5 (Ex e) 4-13 mm
20x cable glands M20x1,5 (Ex i) 4-13 mm
(all cable glands are closed with mushroom caps)
4x wall mounting bracket
2x pull in nuts M5 (mounting for optional Festo service unit combination MSB4)

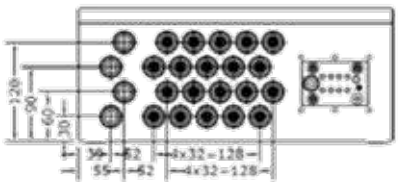
1x Ex i IO Module type 14200101

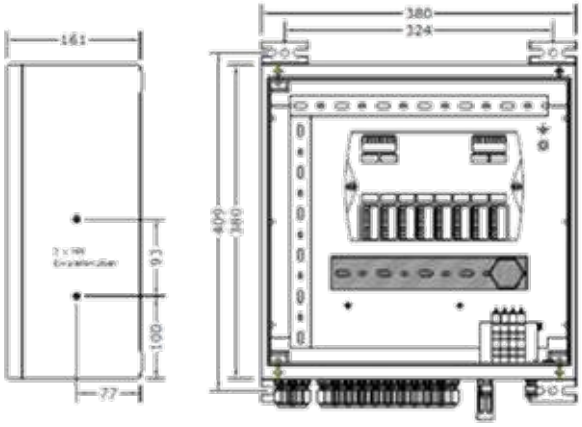
1x Festo valve terminal CPV10 Ex i with
aluminum multipole type 10P-10-4A-IC-R-Y-4CY-EX3+GQCA
Equipped with 4 x CY 2x3/2 valves, normally closed, with integrated
back pressure protection

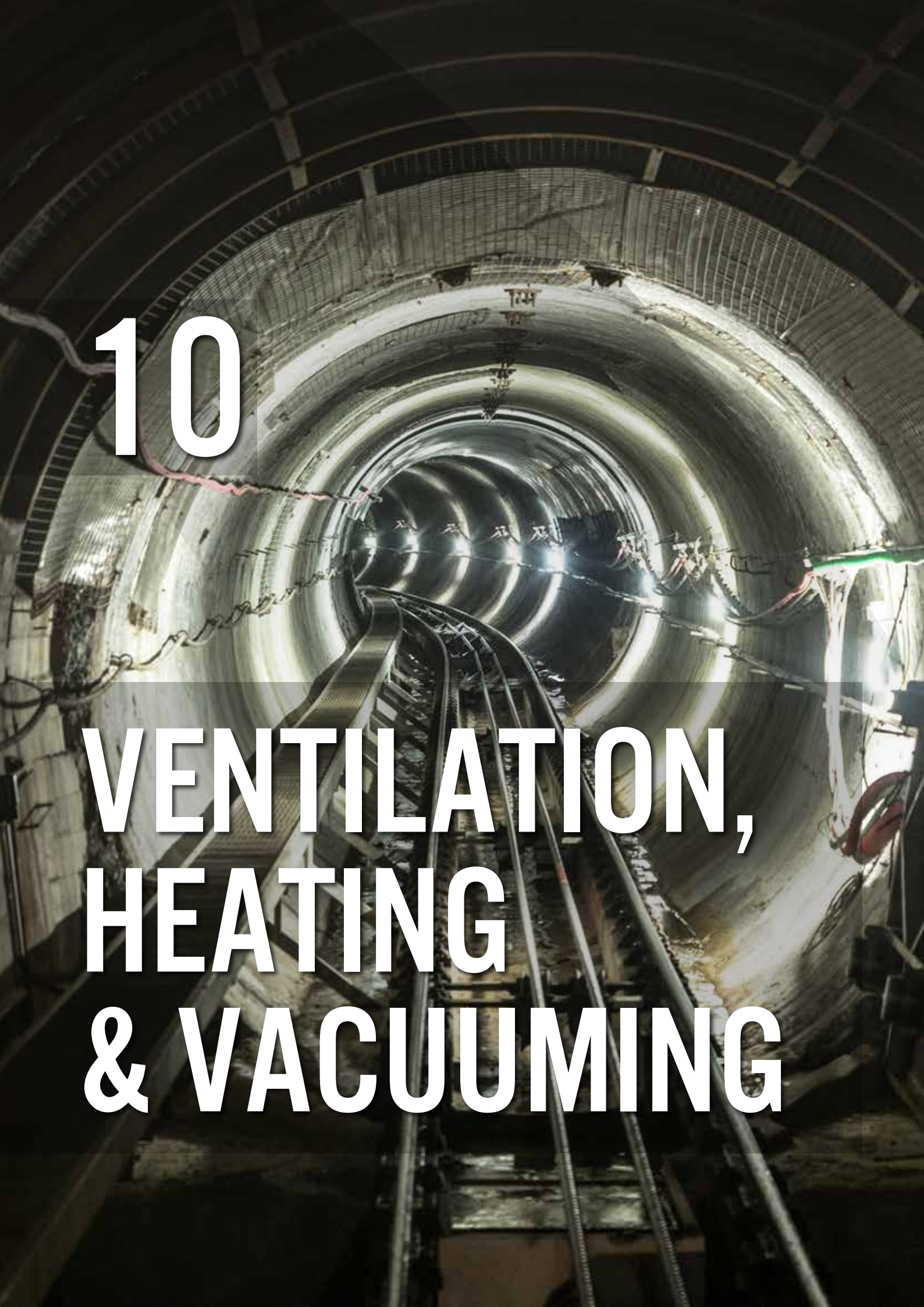
Shield rail with shield connection clamp or EMC cable glands on request

Remark: When using the Ex e cover caps (accessory), the Ex e enclosure may be opened while energized, provided that there are no other open Ex e connections in the enclosure.









10

VENTILATION, HEATING & VACUUMING

10 - VENTILATION, HEATING AND VACUUMING

Inpratex supplies a range of explosion-proof ATEX equipment for ventilation and extraction, heating and vacuuming, designed for safe use in industrial and offshore applications.

The range includes ATEX portable fans and extractors, developed for the safe and reliable extraction of hazardous vapours in classified areas, helping to improve ventilation and reduce risks in working environments.

Inpratex also offers ATEX portable heaters, capable of withstanding the harshest conditions while delivering robust, reliable and powerful performance, even in demanding industrial environments.

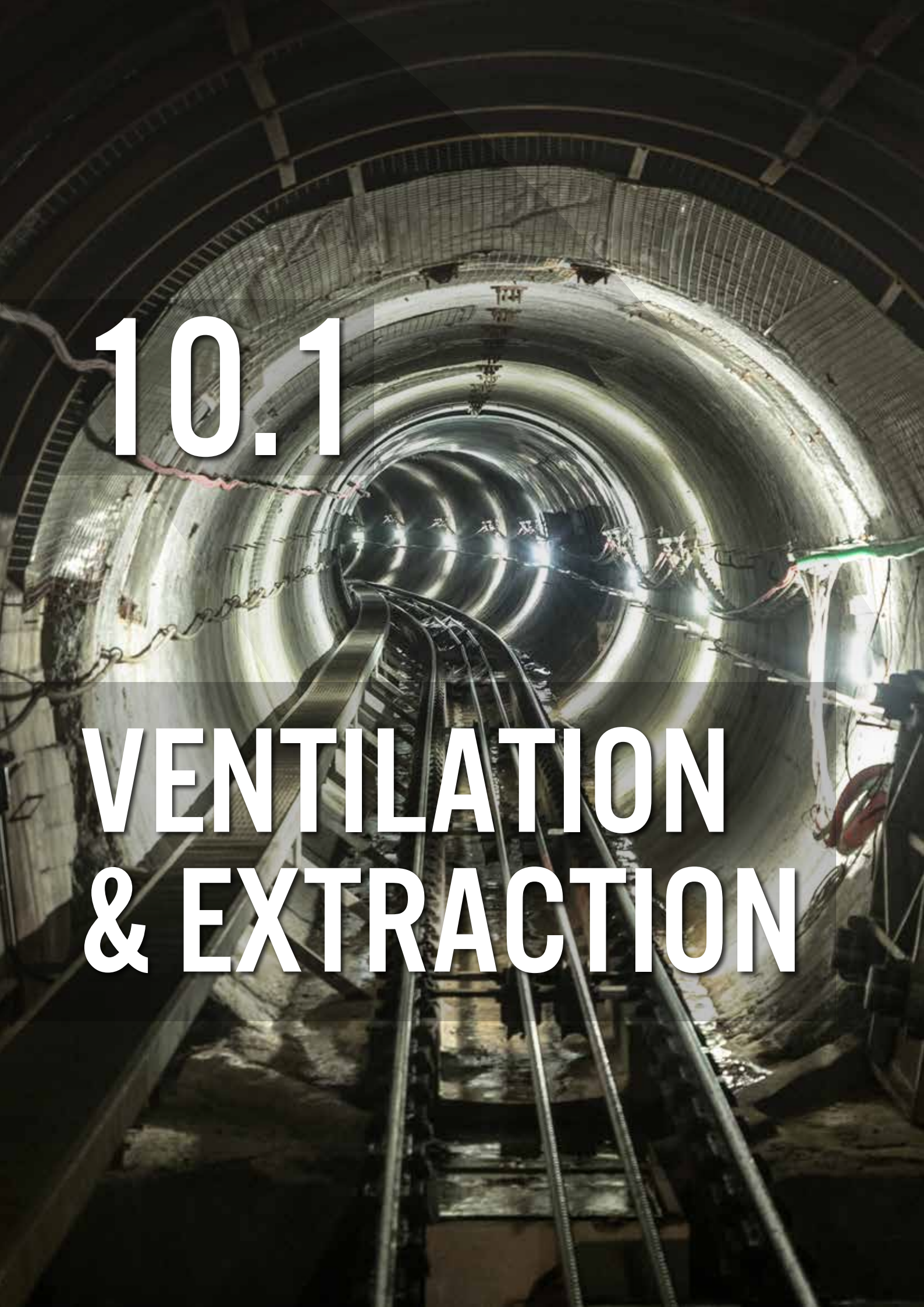
The section is completed with ATEX industrial vacuum cleaners, equipped with filtration systems suitable for the extraction of combustible dust, ensuring safe and efficient cleaning operations in hazardous areas.

10.1 - VENTILATION AND EXTRACTION 488

10.2 - HEATING 490

10.3 - VACUUMING 494

Our product ranges are constantly updated on our website: ***www.inpratex.com***



10.1

VENTILATION & EXTRACTION

CYCLONE AIR MOVER

Zones 1, 2

VENTILATION/EXTRACTION | ZONES 1, 2 (gas)

The ATEX CYCLONE Air Mover is a high-power portable ventilation fan designed for safe and reliable extraction of dangerous vapors in hazardous environments. With the use of interchangeable duct adaptors one unit can be configured for 30cm and 40cm applications.

The compact design and versatile construction provides increased mobility and performance in the most rigorous conditions. With maximum airflow of 5179 m3/hr, this Air Mover safeguards you when it matters most. Supplied with Marechal plug.

- Configurable for use with 30cm & 40cm ducting
- High airflow
- Operates on 50 or 60Hz
- Ergonomic design
- Easy carry handles
- Integral cable storage
- Stackable
- Used as blower or exhauster
- Tough and durable
- Lightweight
- Anti-static polyethylene housing

EU-Type Examination Certificate

ITEM REFERENCES				
Designation:	Adaptor:	Cable lenght:	Voltage:	Item No.:
SAF35/230-00/MAR/10HRE	-	10m HOFR	230 VAC	13B0101
SAF35/230-30/MAR/10HRE (Redy for ducting)	30cm	10m HOFR	230 VAC	13B0102

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb h IIB+H2 T4 Gb
Certificate:	EU-Type Examination Certificate
Operating temperature:	-40°C to +55°C
Run time:	Continuous
Motor protection:	Thermal cut-out
Fan casing:	Anti-static polyethylene. Flame retardant & chemical resistant
Cable lenght:	10m (or as required)
Voltage options:	230VAC (50/60Hz)
Start up current:	50Hz: 12A, 60Hz: 12A
Run current:	50Hz: 3A, 60Hz: 5A
Dimensions:	458mm (l) x 349mm (w) x 590mm (h) 458mm (l) x 498mm (w) x 590mm (h) (with adaptors)
Weight:	22kg (without cable)
Noise level @ 1m:	78dBA – 50Hz 81dBA – 60Hz
Plug:	Marechal 1P+N+E (ATEX)

ACCESSORIES	
Designation:	Item No.:
Antistatic Ducting 30cm ø x 5m Single Strap	SAFD30/05-EX/1S
Antistatic Ducting 30cm ø x 10m Single Strap	SAFD30/10-EX/1S

10.2 HEATING

FLEXIHEAT SAPH18440 PORTABLE HEATER

Zones 1,2

HEATING | ZONES 1,2 (gas)

The SAPH18440 FLEXIHEAT Ex Heater withstands the harshest conditions offering robust, reliable and powerful performance. Fully certified for use in hazardous zones classified as 1 or 2, this heater comes as 'Plug & Play' enabling efficient implementation and use of the system. Hosting optimised heating element design and a solid state electronic control system, our 440V Heater allows you to meet temperature requirements effectively and maintain optimum working conditions in temperatures as low as -40°C.

EU-Type Examination Certificate

- Compact, portable and lightweight
- Multiple lifting handles
- Solid state electronic control system
- Optimised heating element design
- Marine grade materials
- Can be used with or without ducting

ITEM REFERENCES			
Designation:	Plug:	Supply Voltage:	Item No.:
SAPH18440/20HR/MAR32/5P	Marechal 3P+N+E	400 to 440VAC (+/-10%) 3 phase 50/60hz	13B0120

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex db eb h mb IIB T3 Gb
Certificate:	EU-Type Examination Certificate
Operating temperature:	-40°C to +40°C
Specific condition of use:	The heater is to be used in a horizontal orientation only
Nominal output power:	18kW at 440VAC (15kW at 400VAC) Output power will vary according to the actual voltage of the supply
Nominal current draw:	Run 26A @ 440VAC (23A at 400V) | Start-up 32A at 440VAC
Free airflow:	2130m^3/h (1253cfm) at 50Hz | 2560m^3/h (1506cfm) at 60Hz
Air speed:	15.5m/s (51ft/s) at 50hz | 16.3m/s (54ft/s) at 60hz
Noise level:	83dbA at 1 m
Typical temperature rise:	Approx. 20°C above ambient
Ingress protection:	IP65
Weight:	55 kg (excluding cable)
Dimensions:	760 x 560 x 560 mm
Duct flange size:	300 mm diameter (can be used with or without ducting)
Cable lenght:	20 m (or as required)

FLEXIHEAT SAFH150P HEATING JACKETS

Zones 1, 2, 21, 22

HEATING | **ZONES 1, 2 (gas) & 21, 22 (dust)**

When heat is required to prevent or solve a problem, FLEXIHEAT Ex Heating Jackets simply and quickly wrap around pipes, valves, motor, pumps, vessels and more. They are exceptionally versatile and can be installed by one operative in seconds. With the plug and play design, the jackets can be configured in multiple different ways, with linkable power connections and clips to attach a number of jackets together. With the 2 different sizes and certification down to -40°C, the SAFH150P Heating Jackets have been proven time and again to get crucial operations going.

EU-Type Examination Certificate

- Operational in temperatures as low as -40°C
- Rapid and easy to install
- Options allow for virtually any sized pipe
- Tough and durable
- Different size options
- Suitable for straight or curved pipework
- Highly portable and lightweight
- Self-regulating heat output
- Linkable

ITEM REFERENCES						
Designation:	Size:	Power (at 10°C):	Currrent (at -15°C):	Supply Voltage:	Weight:	Item No.:
SAFH150P/400C110CEA	400x600 mm	80 W	0,96 A	110 VAC	2,2 kg	13B0130
SAFH150P/400C230CEA	400x600 mm	80 W	0,46 A	230 VAC	2,2 kg	13B0131
SAFH150P/700C110CEA	700x600 mm	104 W	1,25 A	110 VAC	3,5 kg	13B0132
SAFH150P/700C230CEA	700x600 mm	104 W	0,60 A	230 VAC	3,5 kg	13B0133

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb IIC T5 Gb II 2D Ex tb IIIC T95° Db IP65
Certificate:	EU-Type Examination Certificate
Operating temperature:	-40°C to +65°C
Typical heated surface temperature:	38°C
Self regulating temperature (heat cable):	65°C
Jacket material:	Rubber coated glass cloth, anti-static and non-flammable
Heating cable material:	Fluoropolymer
Maximum pipe diameter:	180 mm
Ingress protection:	IP65
Fixing method:	Adjustable tensioning belts with snap-lock buckles
Connector:	CEAG plug & coupler and braided cable

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FLEXIHEAT SAFH050P HEATING JACKETS

Zones 1, 2, 21, 22

HEATING | ZONES 1, 2 (gas) & 21, 22 (dust)

When heat is required to prevent or solve a problem, FLEXIHEAT Ex Heating Jackets simply and quickly wrap around pipes, valves, motor, pumps, vessels and more. They are exceptionally versatile and can be installed by one operative in seconds. With the plug and play design, the jackets can be configured in multiple different ways, with linkable power connections and clips to attach a number of jackets together. With its generous size and certification down to -40°C, the SAFH050P Heating Jackets have been proven time and again to get crucial operations going.

EU-Type Examination Certificate

- Operational in temperatures as low as -40°C
- Rapid and easy to install
- Options allow for virtually any sized pipe
- Tough and durable
- Different size options
- Suitable for straight or curved pipework
- Highly portable and lightweight
- Self-regulating heat output
- Linkable

ITEM REFERENCES						
Designation:	Size:	Power (at 10°C):	Currrent (at -15°C):	Supply Voltage:	Weight:	Item No.:
SAFH050P/1000C110CEA	1000x300 mm	72 W	0,87 A	110 VAC	3,0 kg	13B0134
SAFH050P/1000C230CEA			0,40 A	230 VAC		13B0135

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex eb IIC T5 Gb II 2D Ex tb IIIC T95° Db IP65
Certificate:	EU-Type Examination Certificate
Operating temperature:	-40°C to +65°C
Typical heated surface temperature:	38°C
Self regulating temperature (heat cable):	65°C
Jacket material:	Rubber coated glass cloth, anti-static and non-flammable
Heating cable material:	Fluoropolymer
Maximum pipe diameter:	100 mm
Ingress protection:	IP65
Fixing method:	Adjustable tensioning belts with snap-lock buckles
Connector:	CEAG plug & coupler and braided cable

10.3 VACUUMING

ST-22 EX MOBILE VACUUM CLEANER

Zones 22

ASPIRATION | **ZONES 22 (dust)**

The ST-22 EX is a static dissipative / grounded industrial vacuum cleaner system, electrically operated for use in potentially explosive atmospheres classified ATEX zone 22 for dust. Suitable for combustible dusts such as carbon and aluminum.

This model guarantees total filtration and dissipation electrostatics.

Equipped with certified filters, indicator filter, safety cap and ATEX certified turbine.

- Multi-stage filtration
- Electrostatic dissipation
- Explosion-proof turbine for atex zone 22
- Conductive bags with safety closure
- Pcb prefilter and additional cartridge
- Large wheels with brakes

Declaration of Conformity

Suitable for:
- Combustible particles
- Combustible carbonaceous dusts (carbon black, charcoal, coal or coke dust)
- Flour, grain, wood, plastic and chemicals
- Up to 2 kg of conductive or metal dusts

This vacuum cleaner is designed for the recovery of dry materials only.
Do not recover liquids.

ITEM REFERENCES				
Designation:	Power:	Voltage:	Cable lenght:	Item No.:
ST-22 EX	1000-1200 W max.	220-240 V / 50/60 Hz	10m	13C0101

TECHNICAL SPECIFICATIONS	
Marking:	II 3D Ex h tc IIIC T200°C Dc IP6X
Certificate:	Declaration of Conformity
Amperage:	5 A
Air Flow:	210 m^3/h
Vacuum Pressure:	2470 mm H_20
Sound Level:	72 dB(A)
Suction Inlet:	60 mm
Accessories diameter:	38/32 mm
Cart Type:	4 Wheel Dolly (4W)
Tank capacity:	30 l
Length:	50 cm
Width:	50 cm
Height:	98 cm
Weight:	30 kg
Cable length:	10m (plug not included)

BRUSHLESS VACUUM BL PRO ATEX Z22

Zones 22

ASPIRATION

ZONES 22 (dust)

Compact industrial vacuum cleaner ATEX BL PRO Z22, equipped with a powerful Brushless motor that allows you to work quickly and vacuum very fine dust. The BL PRO Z22 industrial vacuum cleaner has a main filter in Class M certified antistatic polyester. An optional HEPA 14 filter can be mounted in addition to vacuuming even the finest dust. The material is collected in a 45 Lt capacity AISI 304 stainless steel container.

Declaration of Conformity

ITEM REFERENCES				
Designation:	Power:	Voltage:	Capacity:	Item No.:
BL PRO Z22	1,1 - 1,5 kW	110-230 V / 50/60 Hz	45 litres	16A0101

TECHNICAL SPECIFICATIONS	
Marking:	II 3D Ex htc IIIB T140°C Dc
Certificate:	Declaration of conformity
Motor:	1x Brushless
Maximum vacuum:	230 mbar
Maximum air flow:	220 m^3/h
Suction inlet:	Ø 50 mm
Noise level:	72 dB(A)
Container:	Stainless steel AISI 304
Primary filter:	Star
Filter surface:	6000 cm^2
EN 60335-2-69 Class:	M Class
Filter material:	Antistatic polyester
Inlet air cooling filter:	E10
Exhaust air cooling filter:	E10
Absolute blowing filter:	E10
Absolute filter in suction:	Optional HEPA14 class - EN 1822
Material:	Fibreglass
Dimensions:	516x545 mm
Height:	1050 mm
Weight:	23 kg
Cable:	6,5m cable H07RN-F 3G1,5 (plug not included)

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ACCESSORIES			
Designation:	Item No.:	Designation:	Item No.:
Absolute filter (EN 1822-5)	HEPA14	ATEX Starter kit D40 (INCLUDED)	P13641
Disposable anti-static filter bag	P13655	ATEX Starter kit Pro D40	P13642
Reduction sleeve d50/40	P12302	Antistatic M class star filter	P12624

INDUSTRIAL VACUUM BL 20 JC Z22

Zones 22

ASPIRATION | **ZONES 22 (dust)**

The BL 20 JC Z22 industrial vacuum cleaner is one of the most compact vacuum cleaners we can propose. Suction takes place thanks to a high-performance Brushless motor that guarantees silence and power. The BL 20 JC Z22 industrial vacuum cleaner has a large surface filter (35,000 cm²) certified in class M, with a filtration efficiency of up to 1 micron. On request, it is possible to install an absolute filter H14 to be able to vacuum even the finest dust.

On this vacuum cleaner, there is a semi-automatic JetClean® filter cleaning system that allows you to clean the filter without having to stop the suction. The material is collected in an AISI 304 stainless steel container, on wheels, with a capacity of 20 Lt.

Declaration of Conformity

ITEM REFERENCES				
Designation:	Power:	Voltage:	Capacity:	Item No.:
BL 20 JC Z22	1,1 - 1,5 kW	110-230 V / 50/60 Hz	20 litres	16A0102

TECHNICAL SPECIFICATIONS	
Marking:	II 3D Ex htc IIIB T140°C Dc
Certificate:	Declaration of conformity
Motor:	Brushless
Maximum vacuum:	230 mbar
Maximum air flow:	220 m³/h
Suction inlet:	Ø 50 mm
Noise level:	72 dB(A)
Container:	Stainless steel AISI 304
Primary filter:	Conical cartridge
Filter surface:	35000 cm²
EN 60335-2-69 Class:	M Class
Filter material:	Antistatic polyester
Filter diameter:	305 mm
Filter cleaning:	Jet clean
Absolute filter in suction:	Optional HEPA14 class - EN 1822
Dimensions:	516x545 mm
Height:	1050 mm
Weight:	38 kg
Cable:	6,5m cable H07RN-F 3G1,5 (plug not included)

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ACCESSORIES		
	Designation:	**Item No.:**
	Absolute filter (EN 1822-5) 22.000 cm^2 filter surface H14 Class Filter (EN 1822) Glass fiber	HEPA14
	Antistatic kit PRO Ø 40mm Kit containing antistatic accessories for application with 40 mm diameter ATEX vacuum cleaner	P13642
	Reduction rubber sleeve for “EVA” hose Ø 50/40mm Antistatic carbon-filled rubber sleeve for 50/40 mm diameter EVA flexible hose	P12302
	Antistatic Starter kit Ø 40mm Basic kit containing antistatic accessories for application with 40 mm diameter ATEX vacuum cleaner	P13641

11

AIR CONDITIONERS

11 - AIR CONDITIONERS

Inpratex offers a wide range of air conditioning systems designed to safely maintain a comfortable climate in areas where the release of gas, vapor, or mist could potentially create an explosive atmosphere (Zone 2). Our units are widely used in office spaces, offshore temporary living quarters, crane cabins, and facilities storing chemicals and flammable substances.

Our product line includes explosion-proof split systems as well as various models of monoblock systems, where the evaporator and condenser are integrated into a single housing. Our split systems are based on reliable Toshiba technologies, providing a broad selection that facilitates maintenance and seamless integration with existing HVAC systems.

AIR CONDITIONERS

Our product ranges are constantly updated on our website: ***www.inpratex.com***

AIR CONDITIONERS | ZONES 2 (gas)

The AR-051 explosion-safe air conditioners are based on the Toshiba RAV range and are made to safely ensure a good climate in an area where a release of gas, vapor or mist could possibly cause an explosive atmosphere (Zone 2).
The units are widely used in office spaces, offshore temporary living quarters, crane cabins and at the storage of chemicals and flammable substances.

The AR-051 air conditioners are explosion-safe and certified in accordance with European directive 2014/34/EU (ATEX 114) and are CE marked. The systems can consist of a combination of explosion-safe and non-explosion-safe units, depending on the zoning of the area where the units are placed. During the conversion of the units to explosion-safe, the greatest possible attention is given to the maintainability and ease with which the units can be installed. The functionality remains completely intact.

Declaration of Conformity

ITEM REFERENCES (Industrial use, high and low temperatures, long pipes)

The industrial units have been designed for 24/7 operation, which, for instance, may be the case in process areas, laboratories and measuring rooms. The systems are provided with a stronger compressor, are energy efficient and extremely reliable.
- Based upon the Toshiba RAV-GP range of outdoor units.
- Pipe lengths of up to 50 meters for systems up to 10 kW and up to 75 meters for systems of 10 kW and higher.
- Cooling at an outside temperature of -15 °C up to +52 °C and heating starting at -27 °C.

Designation:	Cooling capacity:	Heating capacity:	Supply voltage:	Fuse rating:	Capacity:	Item No.:
	5,0 kW	5,6 kW	230 VAC / 50 Hz	16 A	1,61 kW	
	Air flow:	Cooling min/max:	Heating min/max:	Indoor unit model:	Outdoor unit model:	
AR-051/0513	480/800 m³/h	-15 .. 52 °C	-27 .. 15 °C	RAV-HM561BTP	RAV-GP561ATW	13A0201
	Double ventilator:	Inner unit dimensions:	Inner unit weight:	Outdoor unit dimensions:	Outdoor unit weight:	
	No	275 x 700 x 750 cm	23 kg	630 x 799 x 299 cm	45 kg	
Designation:	Cooling capacity:	Heating capacity:	Supply voltage:	Fuse rating:	Capacity:	Item No.:
	7,1 kW	8,0 kW	230 VAC / 50 Hz	16 A	1,85 kW	
	Air flow:	Cooling min/max:	Heating min/max:	Indoor unit model:	Outdoor unit model:	
AR-051/0713	750/1200 m³/h	-15 .. 52 °C	-27 .. 15 °C	RAV-HM801BTP	RAV-GP801ATW	13A0202
	Double ventilator:	Inner unit dimensions:	Inner unit weight:	Outdoor unit dimensions:	Outdoor unit weight:	
	No	275 x 1000 x 750 cm	31 kg	1050 x 1010 x 370 cm	74 kg	
Designation:	Cooling capacity:	Heating capacity:	Supply voltage:	Fuse rating:	Capacity:	Item No.:
	10,0 kW	11,2 kW	230 VAC / 50 Hz	20 A	2,73 kW	
	Air flow:	Cooling min/max:	Heating min/max:	Indoor unit model:	Outdoor unit model:	
AR-051/1013	1260/2100 m³/h	-15 .. 52 °C	-27 .. 15 °C	RAV-HM1101BTP	RAV-GP1101AT	13A0203
	Double ventilator:	Inner unit dimensions:	Inner unit weight:	Outdoor unit dimensions:	Outdoor unit weight:	
	Yes	275 x 1400 x 750 cm	41 kg	1550 x 1010 x 370 cm	104 kg	

ITEM REFERENCES (Industrial use, high and low temperatures, long pipes)						
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1213	12,5 kW	14,0 kW	230 VAC / 50 Hz	25 A	3,63 KW	13A0204
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1260/2100 m³/h	-15 .. 52 °C	-27 .. 15 °C	RAV-HM1401BTP	RAV-GP1401AT	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	Yes	275 x 1400 x 750 cm	41 kg	1550 x 1010 x 370 cm	104 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1423	14,0 kW	16,0 kW	400 VAC / 50 Hz	3x16 A	4,57 kW	13A0205
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1260/2100 m³/h	-15 .. 52 °C	-27 .. 15 °C	RAV-HM1601BTP	RAV-GP1601AT8	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	Yes	275 x 1400 x 750 cm	41 kg	1340 x 900 x 320 cm	95 kg	

ITEM REFERENCES (Industrial use, compact design)						
The compact industrial units have been designed for 24/7 operation and are eminently suitable for application in mobile installations, container applications and crane cabins • Based upon the Toshiba RAV-GM range of outdoor units. • For some models, the mains frequency 50 / 60 Hz is supported by the manufacturer. • Cooling at an outside temperature of -15 °C up to +46 °C and heating starting at -15 °C.						
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/0513 C	5,0 kW	5,3 kW	230 VAC / 50/60 Hz	16 A	1,83 kW	13A0206
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	480/800 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM561BTP	RAV-GM562ATP	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	275 x 700 x 750 cm	23 kg	550 x 780 x 290 cm	40 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/0713 C	6,7 kW	7,7 kW	230 VAC / 50 Hz	16 A	2,04 kW	13A0207
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	750/1200 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM801BTP	RAV-GM802ATW	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	275 x 1000 x 750 cm	31 kg	630 x 799 x 299 cm	47 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/0813 C	8,0 kW	8,6 kW	230 VAC / 50 Hz	16 A	2,39 kW	13A0208
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1000/1700 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM901BTP	RAV-GM902ATW	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	275 x 1400 x 750 cm	41 kg	630 x 799 x 299 cm	47 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1013 C	9,5 kW	11,2 kW	230 VAC / 50 Hz	20 A	2,60 kW	13A0209
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1260/2100 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1101BTP	RAV-GM1102ATW	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	275 x 1400 x 750 cm	41 kg	1050 x 1010 x 370 cm	85 kg	

ITEM REFERENCES (Industrial use, compact design)						
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1023 C	9,5 kW	11,2 kW	400 VAC / 50 Hz	3x16 A	2,87 kW	13A0210
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1260/2100 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1101BTP	RAV-GM1102AT8W	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	275 x 1400 x 750 cm	41 kg	1050 x 1010 x 370 cm	85 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1213 C	12,1 kW	13,0 kW	230 VAC / 50 Hz	25 A	4,01 KW	13A0211
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1260/2100 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1401BTP	RAV-GM1402ATW	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	275 x 1400 x 750 cm	41 kg	1050 x 1010 x 370 cm	85 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1223 C	12,1 kW	13,0 kW	400 VAC / 50 Hz	3x16 A	3,94 kW	13A0212
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1260/2100 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1401BTP	RAV-GM1402AT8W	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	275 x 1400 x 750 cm	41 kg	1050 x 1010 x 370 cm	85 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1423 C	14,0 kW	16,0 kW	400 VAC / 50 Hz	3x16 A	5,14 kW	13A0213
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1260/2130 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1601BTP	RAV-GM1602AT8W	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	275 x 1400 x 750 cm	41 kg	1050 x 1010 x 370 cm	85 kg	

ITEM REFERENCES (Light industrial use, in particular for 60 Hz applications)						

The light industrial units are designed for a mains frequency of 50 and 60 Hz.
- Based on the Toshiba RAV-GV model series.
- Mains frequency 50 / 60 Hz supported by the manufacturer.
- Cooling from an outside temperature of -15 °C to +46 °C and heating from -15 °C.

Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/0513 L	5,0 kW	5,3 kW	230 VAC / 50/60 Hz	16 A	1,85 kW	13A0214
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	480/800 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM561BTP	RAV-GV561ATP	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	275 x 700 x 750 cm	23 kg	550 x 780 x 290 cm	36 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/0713 L	6,7 kW	7,0 kW	230 VAC / 50/60 Hz	16 A	2,33 kW	13A0215
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	750/1200 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM801BTP	RAV-GV801ATP	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	275 x 1000 x 750 cm	31 kg	550 x 780 x 290 cm	39 kg	

AR-051 AIR CONDITIONER - DUCT

Zones 2

Full catalogue available on our website: www.inpratex.com

ITEM REFERENCES (Light industrial use, in particular for 60 Hz applications)						
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1013 L	9,5 kW	10,0 kW	230 VAC / 50/60 Hz	20 A	3,17 kW	13A0216
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1260/2100 m^3/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1101BTP	RAV-GV1101ATP	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	275 x 1400 x 750 cm	41 kg	630 x 800 x 300 cm	45 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1023 L	9,5 kW	10,0 kW	400 VAC / 50/60 Hz	3x16 A	3,10 kW	13A0217
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1260/2100 m^3/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1101BTP	RAV-GV1101AT8P	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	275 x 1400 x 750 cm	41 kg	710 x 900 x 320 cm	59 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1213 L	11,5 kW	12,1 kW	230 VAC / 50/60 Hz	25 A	4,70 KW	13A0218
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1260/2100 m^3/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1401BTP	RAV-GV1401ATP	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	275 x 1400 x 750 cm	41 kg	710 x 900 x 320 cm	62 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1223 L	12,1 kW	12,3 kW	400 VAC / 50/60 Hz	3x16 A	4,90 kW	13A0219
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1260/2100 m3/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1401BTP	RAV-GV1401AT8P	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	275 x 1400 x 750 cm	41 kg	710 x 900 x 320 cm	59 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1423 L	13,0 kW	13,5 kW	400 VAC / 50/60 Hz	3x16 A	5,40 kW	13A0220
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1260/2100 m3/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1601BTP	RAV-GV1601AT8P	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	275 x 1400 x 750 cm	41 kg	890 x 900 x 320 cm	66 kg	

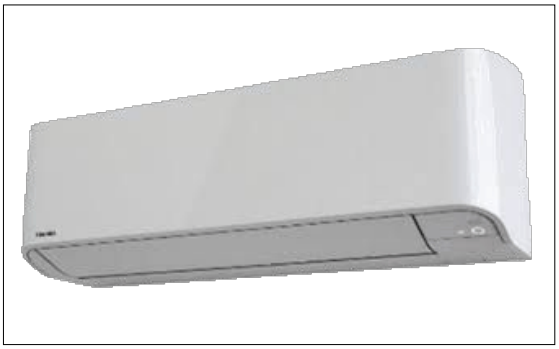
TECHNICAL SPECIFICATIONS	
Marking:	II 3G Ex ec h ic mc IIB+H_2 T3 Gc (external unit) II 3G Ex ec h ic IIB+H_2 T4 Gc (internal unit) Any combination of explosion-safe and non explosion-safe parts can be made
Certificate:	Declaration of Conformity
Conformity:	European directive 2014/34/EU (ATEX 114)
Standards applied:	EN 60079-0:2018, EN 60079-7:2015 / A1:2018, EN 60079-11:2012, EN 60079-18:2015 / A1:2017, EN 80079-36:2016 and EN 80079-37:2016
Piping size:	3/8” x 5/8”
Refrigerant:	R32
Remote control:	Wired remote control for fixed mounting against the wall. Provides access for service technicians to the error codes and high-level system parameters.

AIR CONDITIONERS | ZONES 2 (gas)

The AR-051 explosion-safe air conditioners are based on the Toshiba RAV range and are made to safely ensure a good climate in an area where a release of gas, vapor or mist could possibly cause an explosive atmosphere (Zone 2). The units are widely used in office spaces, offshore temporary living quarters, crane cabins and at the storage of chemicals and flammable substances.

The AR-051 air conditioners are explosion-safe and certified in accordance with European directive 2014/34/EU (ATEX 114) and are CE marked. The systems can consist of a combination of explosion-safe and non-explosion-safe units, depending on the zoning of the area where the units are placed. During the conversion of the units to explosion-safe, the greatest possible attention is given to the maintainability and ease with which the units can be installed. The functionality remains completely intact.

Declaration of Conformity



ITEM REFERENCES (Industrial use, high and low temperatures, long pipes)

The industrial units have been designed for 24/7 operation, which, for instance, may be the case in process areas, laboratories and measuring rooms. The systems are provided with a stronger compressor, are energy efficient and extremely reliable.

- Based upon the Toshiba RAV-GP range of outdoor units.
- Pipe lengths of up to 50 meters for systems up to 10 kW and up to 75 meters for systems of 10 kW and higher.
- Cooling at an outside temperature of -15 °C up to +52 °C and heating starting at -27 °C.

Designation:	Cooling capacity:	Heating capacity:	Supply voltage:	Fuse rating:	Capacity:	Item No.:
	5,0 kW	5,6 kW	230 VAC / 50 Hz	16 A	1,43 kW	
	Air flow:	Cooling min/max:	Heating min/max:	Indoor unit model:	Outdoor unit model:	
AR-051/0511	680/960 m³/h	-15 .. 52 °C	-27 .. 15 °C	RAV-HM561KRTP	RAV-GP561ATW	13A0301
	Double ventilator:	Inner unit dimensions:	Inner unit weight:	Outdoor unit dimensions:	Outdoor unit weight:	
	No	320 x 1050 x 250 cm	14 kg	630 x 799 x 299 cm	45 kg	
Designation:	Cooling capacity:	Heating capacity:	Supply voltage:	Fuse rating:	Capacity:	Item No.:
	7,1 kW	8,0 kW	230 VAC / 50 Hz	16 A	2,25 kW	
	Air flow:	Cooling min/max:	Heating min/max:	Indoor unit model:	Outdoor unit model:	
AR-051/0711	680/1040 m³/h	-15 .. 52 °C	-27 .. 15 °C	RAV-HM801KRTP	RAV-GP801ATW	13A0302
	Double ventilator:	Inner unit dimensions:	Inner unit weight:	Outdoor unit dimensions:	Outdoor unit weight:	
	No	320 x 1050 x 250 cm	14 kg	1050 x 1010 x 370 cm	74 kg	
Designation:	Cooling capacity:	Heating capacity:	Supply voltage:	Fuse rating:	Capacity:	Item No.:
	10,0 kW	11,2 kW	230 VAC / 50 Hz	20 A	3,13 kW	
	Air flow:	Cooling min/max:	Heating min/max:	Indoor unit model:	Outdoor unit model:	
AR-051/1011	1180/1610 m³/h	-15 .. 52 °C	-27 .. 15 °C	RAV-HM1101KRTP	RAV-GP1101AT	13A0303
	Double ventilator:	Inner unit dimensions:	Inner unit weight:	Outdoor unit dimensions:	Outdoor unit weight:	
	Yes	350 x 1200 x 280 cm	19 kg	1550 x 1010 x 370 cm	104 kg	

ITEM REFERENCES (Industrial use, compact design)

The compact industrial units have been designed for 24/7 operation and are eminently suitable for application in mobile installations, container applications and crane cabins

- Based upon the Toshiba RAV-GM range of outdoor units.
- For some models, the mains frequency 50 / 60 Hz is supported by the manufacturer.
- Cooling at an outside temperature of -15 °C up to +46 °C and heating starting at -15 °C.

Designation:	Cooling capacity:	Heating capacity:	Supply voltage:	Fuse rating:	Capacity:	Item No.:
AR-051/0211 C	2,5 kW	3,4 kW	230 VAC / 50/60 Hz	16 A	0,85 kW	13A0304
	Air flow:	Cooling min/max:	Heating min/max:	Indoor unit model:	Outdoor unit model:	
	450/670 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM301KRTP	RAV-GM302ATP	
	Double ventilator:	Inner unit dimensions:	Inner unit weight:	Outdoor unit dimensions:	Outdoor unit weight:	
	No	293 x 798 x 230 cm	10 kg	550 x 780 x 290 cm	29 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/0311 C	3,6 kW	4,0 kW	230 VAC / 50/60 Hz	16 A	1,13 kW	13A0305
	Air flow:	Cooling min/max:	Heating min/max:	Indoor unit model:	Outdoor unit model:	
	450/700 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM401KRTP	RAV-GM402ATP	
	Double ventilator:	Inner unit dimensions:	Inner unit weight:	Outdoor unit dimensions:	Outdoor unit weight:	
	No	293 x 1798 x 230 cm	10 kg	550 x 780 x 290 cm	34 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/0511 C	5,0 kW	5,3 kW	230 VAC / 50 Hz	16 A	1,66 kW	13A0306
	Air flow:	Cooling min/max:	Heating min/max:	Indoor unit model:	Outdoor unit model:	
	680/960 m³/h	-15 .. 46 °C	-15 .. 15 °C	RRAV-HM561KRTP	RAV-GM562ATP	
	Double ventilator:	Inner unit dimensions:	Inner unit weight:	Outdoor unit dimensions:	Outdoor unit weight:	
	No	320 x 1050 x 250 cm	14 kg	550 x 780 x 290 cm	40 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/0711 C	6,7 kW	7,7 kW	230 VAC / 50 Hz	16 A	2,30 kW	13A0307
	Air flow:	Cooling min/max:	Heating min/max:	Indoor unit model:	Outdoor unit model:	
	680/1040 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM801KRTP	RAV-GM802ATW	
	Double ventilator:	Inner unit dimensions:	Inner unit weight:	Outdoor unit dimensions:	Outdoor unit weight:	
	No	320 x 1050 x 250 cm	14 kg	630 x 799 x 299 cm	47 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/0811 C	8,0 kW	8,6 kW	230 VAC / 50 Hz	16 A	2,67 kW	13A0308
	Air flow:	Cooling min/max:	Heating min/max:	Indoor unit model:	Outdoor unit model:	
	680/1180 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM901KRTP	RAV-GM902ATW	
	Double ventilator:	Inner unit dimensions:	Inner unit weight:	Outdoor unit dimensions:	Outdoor unit weight:	
	No	320 x 1050 x 250 cm	14 kg	630 x 799 x 299 cm	47 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1011 C	9,5 kW	11,2 kW	230 VAC / 50 Hz	20 A	2,95 kW	13A0309
	Air flow:	Cooling min/max:	Heating min/max:	Indoor unit model:	Outdoor unit model:	
	1180 / 1610 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1101KRTP	RAV-GM1102ATW	
	Double ventilator:	Inner unit dimensions:	Inner unit weight:	Outdoor unit dimensions:	Outdoor unit weight:	
	No	348 x 1200 x 280 cm	19 kg	1050 x 1010 x 370 cm	85 kg	

ITEM REFERENCES (Industrial use, compact design)						
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1021 C	9,5 kW	11,2 kW	400 VAC / 50 Hz	3x16 A	3,38 KW	13A0310
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1180 / 1610 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1101KRTP	RAV-GM1102AT8W	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	350 x 1200 x 280 cm	19 kg	1050 x 1010 x 370 cm	85 kg	

ITEM REFERENCES (Light industrial use, in particular for 60 Hz applications)						
The light industrial units are designed for a mains frequency of 50 and 60 Hz. • Based on the Toshiba RAV-GV model series. • Mains frequency 50 / 60 Hz supported by the manufacturer. • Cooling from an outside temperature of -15 °C to +46 °C and heating from -15 °C.						
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/0511 L	5,0 kW	5,3 kW	230 VAC / 50/60 Hz	16 A	1,50 kW	13A0311
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	680/960 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM561KRTP	RAV-GV561ATP	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	320 x 1050 x 250 cm	14 kg	550 x 780 x 290 cm	36 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/0711 L	6,7 kW	7,0 kW	230 VAC / 50/60 Hz	16 A	2,20 kW	13A0312
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	680/1040 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM801KRTP	RAV-GV801ATP	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	320 x 1050 x 250 cm	14 kg	550 x 780 x 290 cm	39 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1011 L	9,5 kW	10,0 kW	230 VAC / 50/60 Hz	20 A	3,80 kW	13A0313
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1180/1610 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1101KRTP	RAV-GV1101ATP	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	348 x 1200 x 280 cm	19 kg	630 x 800 x 300 cm	45 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1021 L	9,5 kW	10,0 kW	400 VAC / 50/60 Hz	3x16 A	3,40 kW	13A0314
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1180/1610 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1101KRTP	RAV-GV1101AT8P	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	350 x 1200 x 280 cm	19 kg	710 x 900 x 320 cm	59 kg	

TECHNICAL SPECIFICATIONS	
Marking:	II 3G Ex ec h ic mc IIB+H_2 T3 Gc (external unit) II 3G Ex ec h ic IIB+H_2 T4 Gc (internal unit) Any combination of explosion-safe and non explosion-safe parts can be made
Certificate:	Declaration of Conformity
Conformity:	European directive 2014/34/EU (ATEX 114)
Standards applied:	EN 60079-0:2018, EN 60079-7:2015 / A1:2018, EN 60079-11:2012, EN 60079-18:2015 / A1:2017, EN 80079-36:2016 and EN 80079-37:2016
Piping size:	3/8” x 5/8”
Refrigerant:	R32
Remote control:	Infrared remote control

AR-051 AIR CONDITIONER - CASSETTE

Zones 2

AIR CONDITIONERS | ZONES 2 (gas)

The AR-051 explosion-safe air conditioners are based on the Toshiba RAV range and are made to safely ensure a good climate in an area where a release of gas, vapor or mist could possibly cause an explosive atmosphere (Zone 2).
The units are widely used in office spaces, offshore temporary living quarters, crane cabins and at the storage of chemicals and flammable substances.

The AR-051 air conditioners are explosion-safe and certified in accordance with European directive 2014/34/EU (ATEX 114) and are CE marked. The systems can consist of a combination of explosion-safe and non-explosion-safe units, depending on the zoning of the area where the units are placed. During the conversion of the units to explosion-safe, the greatest possible attention is given to the maintainability and ease with which the units can be installed. The functionality remains completely intact.

Declaration of Conformity

ITEM REFERENCES (Industrial use, high and low temperatures, long pipes)

The industrial units have been designed for 24/7 operation, which, for instance, may be the case in process areas, laboratories and measuring rooms. The systems are provided with a stronger compressor, are energy efficient and extremely reliable.
- Based upon the Toshiba RAV-GP range of outdoor units.
- Pipe lengths of up to 50 meters for systems up to 10 kW and up to 75 meters for systems of 10 kW and higher.
- Cooling at an outside temperature of -15 °C up to +52 °C and heating starting at -27 °C.

Designation:	Cooling capacity:	Heating capacity:	Supply voltage:	Fuse rating:	Capacity:	Item No.:
	5,0 kW	5,6 kW	230 VAC / 50 Hz	16 A	1,30 kW	
	Air flow:	Cooling min/max:	Heating min/max:	Indoor unit model:	Outdoor unit model:	
AR-051/0514	780/1050 m³/h	-15 .. 52 °C	-27 .. 15 °C	RAV-HM561UTP	RAV-GP561ATW	13A0401
	Double ventilator:	Inner unit dimensions:	Inner unit weight:	Outdoor unit dimensions:	Outdoor unit weight:	
	No	256 x 840 x 840 cm	24 kg	630 x 799 x 299 cm	45 kg	
Designation:	Cooling capacity:	Heating capacity:	Supply voltage:	Fuse rating:	Capacity:	Item No.:
	7,1 kW	8,0 kW	230 VAC / 50 Hz	20 A	1,77 kW	
	Air flow:	Cooling min/max:	Heating min/max:	Indoor unit model:	Outdoor unit model:	
AR-051/0714	810/1230 m³/h	-15 .. 52 °C	-27 .. 15 °C	RAV-HM801UTP	RAV-GP801ATW	13A0402
	Double ventilator:	Inner unit dimensions:	Inner unit weight:	Outdoor unit dimensions:	Outdoor unit weight:	
	No	256 x 840 x 840 cm	24 kg	1050 x 1010 x 370 cm	74 kg	
Designation:	Cooling capacity:	Heating capacity:	Supply voltage:	Fuse rating:	Capacity:	Item No.:
	10,0 kW	11,2 kW	230 VAC / 50 Hz	25 A	2,18 kW	
	Air flow:	Cooling min/max:	Heating min/max:	Indoor unit model:	Outdoor unit model:	
AR-051/1014	1170/2010 m³/h	-15 .. 52 °C	-27 .. 15 °C	RAV-HM1101UTP	RAV-GP1101AT	13A0403
	Double ventilator:	Inner unit dimensions:	Inner unit weight:	Outdoor unit dimensions:	Outdoor unit weight:	
	Yes	319 x 840 x 840 cm	28 kg	1550 x 1010 x 370 cm	104 kg	

AR-051 AIR CONDITIONER - CASSETTE

Zones 2

Full catalogue available on our website: www.inpratex.com

ITEM REFERENCES (Industrial use, high and low temperatures, long pipes)						
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1214	12,5 kW	14,0 kW	230 VAC / 50 Hz	25 A	3,21 KW	13A0404
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1230 / 2100 m^3/h	-15 .. 52 °C	-27 .. 15 °C	RAV-HM1401UTP	RAV-GP1401AT	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	Yes	319 x 840 x 840 cm	28 kg	1550 x 1010 x 370 cm	104 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1424	14,0 kW	16,0 kW	400 VAC / 50 Hz	3x16 A	4,57 kW	13A0405
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1260/2130 m^3/h	-15 .. 52 °C	-27 .. 15 °C	RAV-HM1601UTP	RAV-GP1601AT8	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	Yes	319 x 840 x 840 cm	28 kg	1340 x 900 x 320 cm	95 kg	

ITEM REFERENCES (Industrial use, compact design)

The compact industrial units have been designed for 24/7 operation and are eminently suitable for application in mobile installations, container applications and crane cabins

- Based upon the Toshiba RAV-GM range of outdoor units.
- For some models, the mains frequency 50 / 60 Hz is supported by the manufacturer.
- Cooling at an outside temperature of -15 °C up to +46 °C and heating starting at -15 °C.

Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/0514 C	5,0 kW	5,3 kW	230 VAC / 50/60 Hz	16 A	1,56 kW	13A0406
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	780/1050 m^3/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM561UTP	RAV-GM562ATP	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	256 x 840 x 840 cm	24 kg	550 x 780 x 290 cm	40 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/0714 C	6,7 kW	7,7 kW	230 VAC / 50 Hz	16 A	1,99 kW	13A0407
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	810/1230 m^3/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM801UTP	RAV-GM802ATW	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	256 x 840 x 840 cm	24 kg	630 x 799 x 299 cm	47 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/0814 C	8,0 kW	8,6 kW	230 VAC / 50 Hz	16 A	2,25 kW	13A0408
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	900/1600 m^3/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM901UTP	RAV-GM902ATW	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	319 x 840 x 840 cm	28 kg	630 x 799 x 299 cm	47 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1014 C	9,5 kW	11,2 kW	230 VAC / 50 Hz	20 A	2,86 kW	13A0409
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1170/2010 m^3/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1101UTP	RAV-GM1102ATW	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	319 x 840 x 840 cm	28 kg	1050 x 1010 x 370 cm	85 kg	

ITEM REFERENCES (Industrial use, compact design)						
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1024 C	9,5 kW	11,2 kW	400 VAC / 50 Hz	3x16 A	2,82 kW	13A0410
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1170/2010 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1101UTP	RAV-GM1102AT8W	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	319 x 840 x 840 cm	28 kg	1050 x 1010 x 370 cm	85 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1214 C	12,1 kW	13,0 kW	230 VAC / 50 Hz	25 A	3,88 KW	13A0411
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1230/2100 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1401UTP	RAV-GM1402ATW	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	319 x 840 x 840 cm	28 kg	1050 x 1010 x 370 cm	85 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1224 C	12,0 kW	13,0 kW	400 VAC / 50 Hz	3x16 A	3,81 kW	13A0412
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1230/2100 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1401UTP	RAV-GM1402AT8W	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	319 x 840 x 840 cm	28 kg	1050 x 1010 x 370 cm	85 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1424 C	14,0 kW	16,0 kW	400 VAC / 50 Hz	3x16 A	4,92 kW	13A0413
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1260/2130 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1601UTP	RAV-GM1602AT8W	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	319 x 840 x 840 cm	28 kg	1050 x 1010 x 370 cm	85 kg	

ITEM REFERENCES (Light industrial use, in particular for 60 Hz applications)						

The light industrial units are designed for a mains frequency of 50 and 60 Hz.
- Based on the Toshiba RAV-GV model series.
- Mains frequency 50 / 60 Hz supported by the manufacturer.
- Cooling from an outside temperature of -15 °C to +46 °C and heating from -15 °C.

Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/0514 L	5,0 kW	5,3 kW	230 VAC / 50/60 Hz	16 A	1,60 kW	13A0414
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	780/1050 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM561UTP	RAV-GV561ATP	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	256 x 840 x 840 cm	24 kg	550 x 780 x 290 cm	36 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/0714 L	6,7 kW	7,0 kW	230 VAC / 50/60 Hz	16 A	2,29 kW	13A0415
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	900/1600 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM801UTP	RAV-GV801ATP	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	256 x 840 x 840 cm	24 kg	550 x 780 x 290 cm	39 kg	

AR-051 AIR CONDITIONER - CASSETTE

Zones 2

Full catalogue available on our website: www.inpratex.com

ITEM REFERENCES (Light industrial use, in particular for 60 Hz applications)						
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1014 L	9,5 kW	10,0 kW	230 VAC / 50/60 Hz	20 A	3,15 kW	13A0416
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1170/2010 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1101UTP	RAV-GV1101ATP	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	319 x 840 x 840 cm	28 kg	630 x 800 x 300 cm	45 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1024 L	9,5 kW	10,0 kW	400 VAC / 50/60 Hz	3x16 A	3,15 kW	13A0417
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1170/2010 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1101UTP	RAV-GV1101AT8P	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	319 x 840 x 840 cm	28 kg	710 x 900 x 320 cm	59 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1214 L	11,5 kW	11,9 kW	230 VAC / 50/60 Hz	25 A	4,60 KW	13A0418
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1230/2100 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1401UTP	RAV-GV1401ATP	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	319 x 840 x 840 cm	28 kg	710 x 900 x 320 cm	57 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1224 L	12,1 kW	12,3 kW	400 VAC / 50/60 Hz	3x16 A	4,80 kW	13A0419
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1230/2100 m3/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1401BTP	RAV-GV1401AT8P	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	319 x 840 x 840 cm	28 kg	710 x 900 x 320 cm	59 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1424 L	13,0 kW	13,5 kW	400 VAC / 50/60 Hz	3x16 A	5,40 kW	13A0420
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1260/2130 m3/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1601UTP	RAV-GV1601AT8P	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	319 x 840 x 840 cm	28 kg	890 x 900 x 320 cm	66 kg	

TECHNICAL SPECIFICATIONS	
Marking:	II 3G Ex ec h ic mc IIB+H_2 T3 Gc (external unit) II 3G Ex ec h ic IIB+H_2 T4 Gc (internal unit) Any combination of explosion-safe and non explosion-safe parts can be made
Certificate:	Declaration of Conformity
Conformity:	European directive 2014/34/EU (ATEX 114)
Standards applied:	EN 60079-0:2018, EN 60079-7:2015 / A1:2018, EN 60079-11:2012, EN 60079-18:2015 / A1:2017, EN 80079-36:2016 and EN 80079-37:2016
Piping size:	3/8” x 5/8”
Refrigerant:	R32
Remote control:	Wired remote control for fixed mounting against the wall. Provides access for service technicians to the error codes and high-level system parameters.

AR-051 AIR CONDITIONER - CEILING

Zones 2

AIR CONDITIONERS | ZONES 2 (gas)

The AR-051 explosion-safe air conditioners are based on the Toshiba RAV range and are made to safely ensure a good climate in an area where a release of gas, vapor or mist could possibly cause an explosive atmosphere (Zone 2).
The units are widely used in office spaces, offshore temporary living quarters, crane cabins and at the storage of chemicals and flammable substances.

The AR-051 air conditioners are explosion-safe and certified in accordance with European directive 2014/34/EU (ATEX 114) and are CE marked. The systems can consist of a combination of explosion-safe and non-explosion-safe units, depending on the zoning of the area where the units are placed. During the conversion of the units to explosion-safe, the greatest possible attention is given to the maintainability and ease with which the units can be installed. The functionality remains completely intact.

Declaration of Conformity

ITEM REFERENCES (Industrial use, high and low temperatures, long pipes)

The industrial units have been designed for 24/7 operation, which, for instance, may be the case in process areas, laboratories and measuring rooms. The systems are provided with a stronger compressor, are energy efficient and extremely reliable.
- Based upon the Toshiba RAV-GP range of outdoor units.
- Pipe lengths of up to 50 meters for systems up to 10 kW and up to 75 meters for systems of 10 kW and higher.
- Cooling at an outside temperature of -15 °C up to +52 °C and heating starting at -27 °C.

Designation:	Cooling capacity:	Heating capacity:	Supply voltage:	Fuse rating:	Capacity:	Item No.:
	5,0 kW	5,6 kW	230 VAC / 50 Hz	16 A	1,39 kW	
	Air flow:	Cooling min/max:	Heating min/max:	Indoor unit model:	Outdoor unit model:	
AR-051/0512	540/900 m³/h	-15 .. 52 °C	-27 .. 15 °C	RAV-HM561CTP	RAV-GP561ATW	13A0501
	Double ventilator:	Inner unit dimensions:	Inner unit weight:	Outdoor unit dimensions:	Outdoor unit weight:	
	No	235 x 950 x 690 cm	23 kg	630 x 799 x 299 cm	45 kg	
Designation:	Cooling capacity:	Heating capacity:	Supply voltage:	Fuse rating:	Capacity:	Item No.:
	7,1 kW	8,0 kW	230 VAC / 50 Hz	20 A	1,80 kW	
	Air flow:	Cooling min/max:	Heating min/max:	Indoor unit model:	Outdoor unit model:	
AR-051/0712	750/1410 m³/h	-15 .. 52 °C	-27 .. 15 °C	RAV-HM801CTP	RAV-GP801ATW	13A0502
	Double ventilator:	Inner unit dimensions:	Inner unit weight:	Outdoor unit dimensions:	Outdoor unit weight:	
	No	235 x 1270 x 690 cm	29 kg	1050 x 1010 x 370 cm	74 kg	
Designation:	Cooling capacity:	Heating capacity:	Supply voltage:	Fuse rating:	Capacity:	Item No.:
	10,0 kW	11,2 kW	230 VAC / 50 Hz	25 A	2,38 kW	
	Air flow:	Cooling min/max:	Heating min/max:	Indoor unit model:	Outdoor unit model:	
AR-051/1012	1020/1860 m³/h	-15 .. 52 °C	-27 .. 15 °C	RAV-HM1101CTP	RAV-GP1101AT	13A0503
	Double ventilator:	Inner unit dimensions:	Inner unit weight:	Outdoor unit dimensions:	Outdoor unit weight:	
	Yes	235 x 1586 x 690 cm	37 kg	1550 x 1010 x 370 cm	104 kg	

AR-051 AIR CONDITIONER - CEILING

Zones 2

ITEM REFERENCES (Industrial use, high and low temperatures, long pipes)						
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1212	12,5 kW	14,0 kW	230 VAC / 50 Hz	25 A	3,59 KW	13A0504
	Air flow:	Cooling min/max:	Heating min/max:	Indoor unit model:	Outdoor unit model:	
	1200/2040 m^3/h	-15 .. 52 °C	-27 .. 15 °C	RAV-HM1401CTP	RAV-GP1401AT	
	Double ventilator:	Inner unit dimensions:	Inner unit weight:	Outdoor unit dimensions:	Outdoor unit weight:	
	Yes	235 x 1586 x 690 cm	37 kg	1550 x 1010 x 370 cm	95 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1422	14,0 kW	16,0 kW	400 VAC / 50 Hz	3x16 A	4,60 kW	13A0505
	Air flow:	Cooling min/max:	Heating min/max:	Indoor unit model:	Outdoor unit model:	
	1200/2040 m^3/h	-15 .. 52 °C	-27 .. 15 °C	RAV-HM1601CTP	RAV-GP1601AT8	
	Double ventilator:	Inner unit dimensions:	Inner unit weight:	Outdoor unit dimensions:	Outdoor unit weight:	
	Yes	235 x 1586 x 690 cm	237 kg	1340 x 900 x 320 cm	95 kg	

ITEM REFERENCES (Industrial use, compact design)						
The compact industrial units have been designed for 24/7 operation and are eminently suitable for application in mobile installations, container applications and crane cabins • Based upon the Toshiba RAV-GM range of outdoor units. • For some models, the mains frequency 50 / 60 Hz is supported by the manufacturer. • Cooling at an outside temperature of -15 °C up to +46 °C and heating starting at -15 °C.						
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/0312 C	3,6 kW	4,0 kW	230 VAC / 50/60 Hz	16 A	0,83 kW	13A0506
	Air flow:	Cooling min/max:	Heating min/max:	Indoor unit model:	Outdoor unit model:	
	540/900 m^3/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM401CTP	RAV-GM402ATP	
	Double ventilator:	Inner unit dimensions:	Inner unit weight:	Outdoor unit dimensions:	Outdoor unit weight:	
	No	235 x 950 x 690 cm	23 kg	550 x 780 x 290 cm	34 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/0512 C	5,0 kW	5,3 kW	230 VAC / 50/60 Hz	16 A	1,61 kW	13A0507
	Air flow:	Cooling min/max:	Heating min/max:	Indoor unit model:	Outdoor unit model:	
	540/900 m^3/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM561CTP	RAV-GM562ATP	
	Double ventilator:	Inner unit dimensions:	Inner unit weight:	Outdoor unit dimensions:	Outdoor unit weight:	
	No	235 x 950 x 690 cm	23 kg	550 x 780 x 290 cm	40 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/0712 C	6,7 kW	7,7 kW	230 VAC / 50 Hz	16 A	2,06 kW	13A0508
	Air flow:	Cooling min/max:	Heating min/max:	Indoor unit model:	Outdoor unit model:	
	750/1410 m^3/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM801CTP	RAV-GM802ATW	
	Double ventilator:	Inner unit dimensions:	Inner unit weight:	Outdoor unit dimensions:	Outdoor unit weight:	
	No	235 x 1270 x 690 cm	29 kg	630 x 799 x 299 cm	47 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/0812 C	8,0 kW	8,6 kW	230 VAC / 50 Hz	20 A	2,38 kW	13A0509
	Air flow:	Cooling min/max:	Heating min/max:	Indoor unit model:	Outdoor unit model:	
	900/1600 m^3/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM901CTP	RAV-GM902ATW	
	Double ventilator:	Inner unit dimensions:	Inner unit weight:	Outdoor unit dimensions:	Outdoor unit weight:	
	No	235 x 1586 x 690 cm	37 kg	630 x 799 x 299 cm	47 kg	

ITEM REFERENCES (Industrial use, compact design)						
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1012 C	9,5 kW	11,2 kW	230 VAC / 50 Hz	20 A	2,86 kW	13A0510
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1020/1860 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1101CTP	RAV-GM1102ATW	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	235 x 1586 x 690 cm	37 kg	1050 x 1010 x 370 cm	85 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1022 C	9,5 kW	11,2 kW	400 VAC / 50 Hz	3x16 A	2,83 KW	13A0511
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1020/1860 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1101CTP	RAV-GM1102AT8W	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	235 x 1586 x 690 cm	37 kg	1050 x 1010 x 370 cm	85 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1212 C	12,1 kW	13,0 kW	230 VAC / 50 Hz	25 A	4,01 kW	13A0512
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	12300/2040 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1401CTP	RAV-GM1402ATW	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	235 x 1586 x 690 cm	37 kg	1050 x 1010 x 370 cm	85 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1222 C	12,1 kW	13,0 kW	400 VAC / 50 Hz	3x16 A	3,94 kW	13A0513
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1200/2040 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1401CTP	RAV-GM1402AT8W	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	235 x 1586 x 690 cm	37 kg	1050 x 1010 x 370 cm	85 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1422 C	14,0 kW	16,0 kW	400 VAC / 50 Hz	3x16 A	4,94 kW	13A0514
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1260/2040 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1601CTP	RAV-GM1602AT8W	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	235 x 1586 x 690 cm	37 kg	1050 x 1010 x 370 cm	85 kg	

ITEM REFERENCES (Light industrial use, in particular for 60 Hz applications)

The light industrial units are designed for a mains frequency of 50 and 60 Hz.
- Based on the Toshiba RAV-GV model series.
- Mains frequency 50 / 60 Hz supported by the manufacturer.
- Cooling from an outside temperature of -15 °C to +46 °C and heating from -15 °C.

Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/0512 L	5,0 kW	5,3 kW	230 VAC / 50/60 Hz	16 A	1,50 kW	13A0515
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	540/900 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM561CTP	RAV-GV561ATP	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	235 x 950 x 690 cm	23 kg	550 x 780 x 290 cm	36 kg	

ITEM REFERENCES (Light industrial use, in particular for 60 Hz applications)						
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/0712 L	6,7 kW	7,0 kW	230 VAC / 50/60 Hz	16 A	2,20 kW	13A0516
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	750/1410 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM801CTP	RAV-GV801ATP	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	235 x 1270 x 690 cm	29 kg	550 x 780 x 290 cm	39 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1012 L	9,5 kW	10,0 kW	230 VAC / 50/60 Hz	20 A	3,80 kW	13A0517
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1020/1860 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1101CTP	RAV-GV1101ATP	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	235 x 1586 x 690 cm	37 kg	630 x 800 x 300 cm	45 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1022 L	9,5 kW	10,0 kW	400 VAC / 50/60 Hz	3x16 A	3,40 kW	13A0518
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1020/1860 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1101CTP	RAV-GV1101AT8P	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	235 x 1586 x 690 cm	37 kg	710 x 900 x 320 cm	59 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1212 L	11,5 kW	12,1 kW	230 VAC / 50/60 Hz	25 A	4,70 kW	13A0519
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1200/2040 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1401CTP	RAV-GV1401ATP	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	235 x 1586 x 690 cm	37 kg	710 x 900 x 320 cm	62 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1222 L	12,1 kW	12,3 kW	400 VAC / 50/60 Hz	3x16 A	4,90 kW	13A0520
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1200/2040 m³/h	-15 .. 46 °C	-15 .. 15 °C	RAV-HM1401CTP	RAV-GV1401AT8P	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	235 x 1586 x 690 cm	37 kg	710 x 900 x 320 cm	59 kg	
Designation:	**Cooling capacity:**	**Heating capacity:**	**Supply voltage:**	**Fuse rating:**	**Capacity:**	**Item No.:**
AR-051/1422 L	13,0 kW	13,5 kW	400 VAC / 50/60 Hz	3x16 A	5,40 kW	13A0521
	Air flow:	**Cooling min/max:**	**Heating min/max:**	**Indoor unit model:**	**Outdoor unit model:**	
	1260/2040 m³/h	-15 .. 46 °C	-15 .. 15 °C	AV-HM1601CTP	RAV-GV1601AT8P	
	Double ventilator:	**Inner unit dimensions:**	**Inner unit weight:**	**Outdoor unit dimensions:**	**Outdoor unit weight:**	
	No	235 x 1586 x 690 cm	37 kg	890 x 900 x 320 cm	66 kg	

AR-051 AIR CONDITIONER - CEILING

Zones 2

TECHNICAL SPECIFICATIONS	
Marking:	II 3G Ex ec h ic mc IIB+H_2 T3 Gc (external unit) II 3G Ex ec h ic IIB+H_2 T4 Gc (internal unit) Any combination of explosion-safe and non explosion-safe parts can be made
Certificate:	Declaration of Conformity
Conformity:	European directive 2014/34/EU (ATEX 114)
Standards applied:	EN 60079-0:2018, EN 60079-7:2015 / A1:2018, EN 60079-11:2012, EN 60079-18:2015 / A1:2017, EN 80079-36:2016 and EN 80079-37:2016
Piping size:	3/8” x 5/8”
Refrigerant:	R32
Remote control:	Wired remote control for fixed mounting against the wall. Provides access for service technicians to the error codes and high-level system parameters.

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AR-054 AIR CONDITIONER - WINDOW (COOLING ONLY)

Zones 2

MISCELLANEOUS | ZONES 2 (gas)

The explosion-safe AR-054 window air conditioners are made to safely provide a pleasant climate in an area that can contain an explosive atmosphere as a result of released gas. Due to the use of DC inverter technology, the window air conditioners meet the strict Ecodesign requirements laid down in the European directive 2009/125/EC. The offered solution is not only safe but also energy efficient.

No connections need to be made to the cooling system to install the compact window air conditioner and therefore there is no need to call in a specialized refrigeration technician. The mechanical and electrical installation of the unit is also extremely simple and can be accomplished quickly and efficiently.

The AR-054 air conditioners are explosion-safe and certified in accordance with European directive 2014/34/EU (ATEX 114) and are CE marked. The window air conditioners comply with the requirements for product category 3G and are suitable for use in Zone 2.

Declaration of Conformity

ITEM REFERENCES				
Designation:	Capacity cooling:	Capacity range:	Air flow:	Item No.:
AR-054/030	2,75 kW	0,5 - 3,2 kW	310 / 350 / 380 m^3/h	13A0103
AR-054/040	3,70 kW	0,6 - 4,0 kW	400 / 450 / 490 m^3/h	13A0104

TECHNICAL SPECIFICATIONS		
Marking:	II 3G Ex ec h ic mc IIB+H_2 T3 Gc	
Certificate:	Declaration of Conformity	
Standards applied:	Conformity: 2014/34/EU (ATEX), 2014/30/EU (EMC) and 2009/125/EC (EcoDesign) Standards: EN 60079-0:2018, EN 60079-7:2015 / A1:2018, EN 60079-11:2012, EN 60079-18:2015 / A1:2017, EN 80079-36:2016 and EN 80079-37:2016	
Ambient temperature:	-20°C to +45°C	
Operating temperature:	+18°C to +43°C	
Supply voltage:	230 VAC	
Mains frequency:	50 Hz	
Connection:	Fixed power cable 3 x 2.5 mm^2, 5 m	
Electric power:	AR-054/030: 0,81 kW	AR-054/040: 1,09 kW
Fuse rating:	10 A	
Dimensions:	AR-054/030: (H x W x D) 375x 560 x 710 mm	AR-054/040: (H x W x D) 428x 660 x 700 mm
Weight:	AR-054/030: 34 kg	AR-054/040: 46 kg
SEER:	5,1	
Refrigerant:	R32	
Sound pressure:	45 / 47 / 49 dB(A)	
Remote control:	Infrared remote control supplied as standard	

OPTIONS	
Designation:	Description:
AR-054/990	Blygold PoluAl XT coating of the heat exchanger fins for increased corrosion resistance

AR-056 AIR CONDITIONER - MONOBLOCK

Zones 2

AIR CONDITIONERS | ZONES 2 (gas)

The explosion-safe AR-056 monoblock air conditioner is designed to safely provide a pleasant climate in a room where an explosive atmosphere can arise as a result of released gas, vapor or mist. This monoblock air conditioner is mounted indoors against the wall, making it the perfect solution for situations where there is no space available to install an outdoor unit. Due to the smart design, the air conditioner is very compact and takes up little space. Also, very little space needs to be kept free around the unit, making it possible to place it almost anywhere.

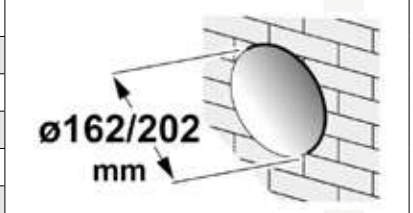
The AR-056 air conditioner is delivered completely ready for use and pre-filled. with refrigerant; it is not necessary to call in a refrigeration technician.
The mechanical and electrical installation of the unit is very simple and can therefore be carried out quickly and efficiently.
The mounting kit is included as standard.

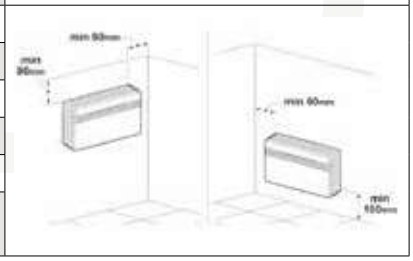
Declaration of Conformity

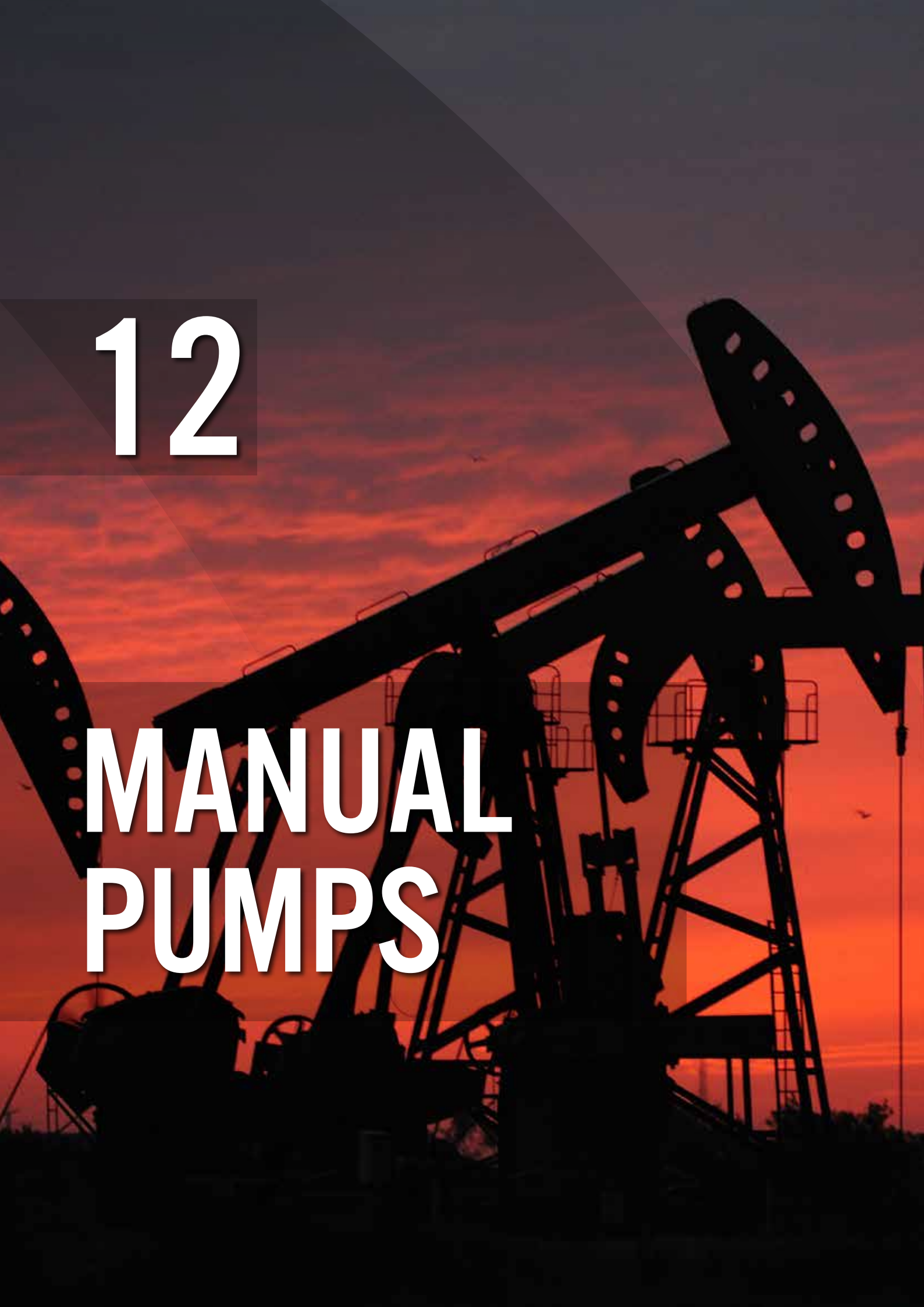
The AR-056 monoblock air conditioner is the ideal solution for use in small spaces such as offices, laboratories, process containers and containers for the storage of chemicals. The AR-056 is explosion-safe and certified in accordance with European directive 2014/34/EU (ATEX114) and is CE marked. The air conditioner meets the requirements for product category 3G and is therefore suitable for use in an explosion-hazardous environment classified as zone 2 (gas).

ITEM REFERENCES		
Designation:	**Description:**	**Item No.:**
AR-056/112	Heat pump execution, cooling and heating	

TECHNICAL SPECIFICATIONS	
Marking:	II 3G Ex ec h ic mc IIB+H2 T3 Gc (unit) II 3G Ex ic IIC T6 Gc (Infrared remote control)
Certificate:	Declaration of Conformity
Standards applied:	EN 14986:2017, EN 60079-0:2018, EN 60079-7:2015 / A1:2018, EN 60079-11:2012, EN 60079-18:2015 / A1:2017, EN 80079-36:2016 and EN 80079-37:2016
Operating temperature:	-20°C to +50°C
Capacity:	3,1 kW cooling and 2,4 kW heating (nominal)
Dehumidification:	1,3 l/h
Ventilation speeds:	350, 390 and 490 m^3/h
Power supply:	220 / 240 VAC, 50 Hz, 1 phase
Electric power:	1,2 kW nominal, 1,5 kW maximum
Current:	4,3 A nominal, 7,5 A maximum
Power connection:	Factory mounted H07RN-F cable, 3 x 1,5 mm^2, length 10 meter
Dimensions:	903 x 520 x 215 mm
Weight:	39 kg
Free space:	Top side: 80 mm, down side: 100 mm, sides: 60 mm
Wall openings:	Ø162 - Ø202 mm (2 pieces)
Ambient temperature:	Cooling: -20 °C … +43 °C, heating: -15 °C … +24 °C
Refrigerant:	R32 (0,46 kg)
Condensate pump:	The unit does not have a condensate pump. Connect a hose to allow the condensate to flow out freely.







12

MANUAL PUMPS

12 - MANUAL PUMPS

Inpratex offers a range of ATEX-certified manual pumps, designed for the safe transfer of liquids in potentially explosive atmospheres.

These manually operated pumps are particularly suitable for the emptying of mobile containers such as jerrycans, drums and containers, ensuring simple, controlled and safe handling during transfer operations.

The ATEX manual pumps, operable with one hand, allow for efficient and safe extraction of the contained substance or liquid, minimising the risk of ignition and ensuring compliance with safety requirements in hazardous areas.

AT0 UNLINED MANUAL SEMI-ROTARY PUMP

AT1 UNLINED MANUAL SEMI-ROTARY PUMP

AT2 UNLINED MANUAL SEMI-ROTARY PUMP

Our product ranges are constantly updated on our website: ***www.inpratex.com***

ATO UNLINED MANUAL SEMI-ROTARY PUMP

Zones 1, 2, 21, 22

ATEX PUMPS | **ZONES 1, 2 (gas) & 21, 22 (dust)**

EU-Type Examination Certificate

ATEX manual semi-rotary pump designed for the transfer of fluids in a potentially explosive atmosphere.

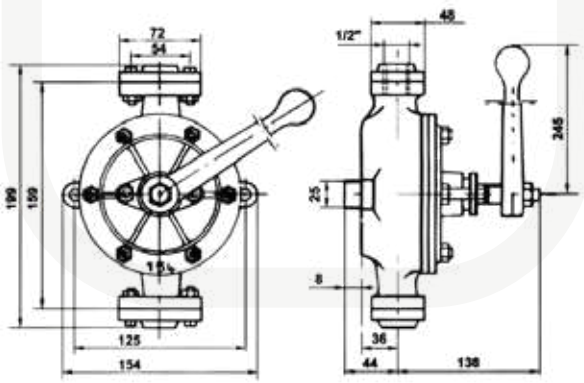
The pump includes a 300 micron stainless steel filter, which protects it from all outside intrusions.

It is delivered with a grounding cable and a clip, connection of which ensures electrostatic conductivity.

COMPATIBLE FLUIDS:
Water, petrol, gasoil, alcohol, toluene, triclorethylene, acetone, white spirit, etc.

ITEM REFERENCES			
Designation:	**Flow rate:**	**Weight:**	**Item No.:**
AT0 Manual Semi-Rotary Pump	900 l/h	4,2 kg	9B0100

TECHNICAL SPECIFICATIONS	
Marking:	Ⓔx II 2G Ext - Ex h IIB T6...T4 Gb Int - Ex h IIB T3...T2 Gb Ⓔx II 2D Ex h IIIC T80°C...120°C Db IP65 The maximum admissible temperature for the pumped liquid is 120°C.
Certificate:	EU-Type Examination Certificate
Body/Lid/Lever:	Cast iron (EN-GJL-200 o 250)
Internal mechanism:	Brass (Cu Zn39 Pb1 Al B)
Couplings:	Ø 3/4" Cast iron (EN-GJL-200)
Pump axle and screws:	Steel (11SMNPB37)
Seat gasket:	PTFE braid
Coupling gasket:	PEB (Expanded PTFE)
Fixing:	2 lugs (dist. betw. centres 148mm - Ø 12mm)
Filter:	300 microns, 304 stainless steel rose (Z6 CN 18.19)
Cable lenght:	2m with clamp for earthing
Sealing of the shaft:	PTFE braid held by a cast iron compression gland
Flow rate - Double stroke:	80 per min
Total lift height:	22 m
Sealing control with compressed air:	5 kg/cm^2
Intake capacity:	7 m
Flow by double stroke:	0,27 l
Angular travel of the lever:	115°
Operating temperature:	-20°C to +40°C



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AT1 UNLINED MANUAL SEMI-ROTARY PUMP

Zones 1, 2, 21, 22

ATEX PUMPS | ZONES 1, 2 (gas) & 21, 22 (dust)

EU-Type Examination Certificate

ATEX manual semi-rotary pump designed for the transfer of fluids in a potentially explosive atmosphere.

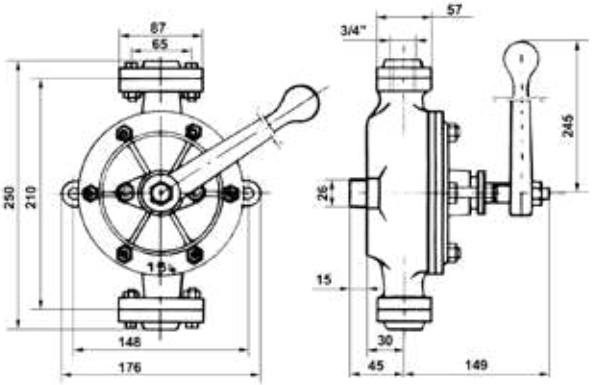
The pump includes a 300 micron stainless steel filter, which protects it from all outside intrusions.

It is delivered with a grounding cable and a clip, connection of which ensures electrostatic conductivity.

COMPATIBLE FLUIDS:
Water, petrol, gasoil, alcohol, toluene, triclorethylene, acetone, white spirit, etc.

ITEM REFERENCES			
Designation:	Flow rate:	Weight:	Item No.:
AT1 Manual Semi-Rotary Pump	1300 l/h	6,5 kg	9B0101

TECHNICAL SPECIFICATIONS	
Marking:	Ex II 2G Ext - Ex h IIB T6...T4 Gb Int - Ex h IIB T3...T2 Gb Ex II 2D Ex h IIIC T80°C...120°C Db IP65 The maximum admissible temperature for the pumped liquid is 120°C.
Certificate:	EU-Type Examination Certificate
Body/Lid/Lever:	Cast iron (EN-GJL-200 o 250)
Internal mechanism:	Brass (Cu Zn39 Pb1 Al B)
Couplings:	Ø 3/4" Cast iron (EN-GJL-200)
Pump axle and screws:	Steel (11SMNPB37)
Seat gasket:	PTFE braid
Coupling gasket:	PEB (Expanded PTFE)
Fixing:	2 lugs (dist. betw. centres 148mm - Ø 12mm)
Filter:	300 microns, 304 stainless steel rose (Z6 CN 18.19)
Cable lenght:	2m with clamp for earthing
Sealing of the shaft:	PTFE braid held by a cast iron compression gland
Flow rate - Double stroke:	80 per min
Total lift height:	22 m
Sealing control with compressed air:	5 kg/cm^2
Intake capacity:	7 m
Flow by double stroke:	0,27 l
Angular travel of the lever:	115°
Operating temperature:	-20°C to +40°C



AT2 UNLINED MANUAL SEMI-ROTARY PUMP

Zones 1, 2, 21, 22

ATEX PUMPS | **ZONES 1, 2 (gas) & 21, 22 (dust)**

EU-Type Examination Certificate

ATEX manual semi-rotary pump designed for the transfer of fluids in a potentially explosive atmosphere.

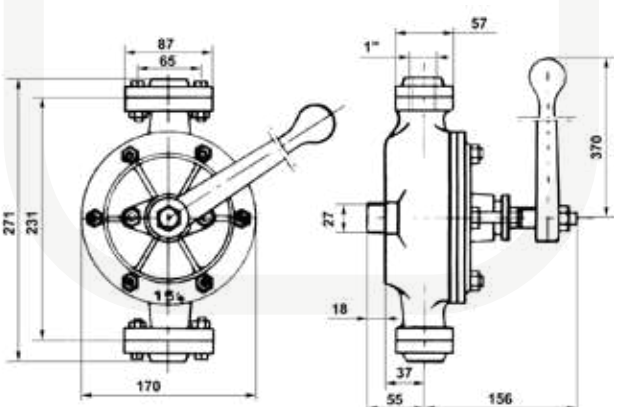
The pump includes a 300 micron stainless steel filter, which protects it from all outside intrusions.

It is delivered with a grounding cable and a clip, connection of which ensures electrostatic conductivity.

COMPATIBLE FLUIDS:
Water, petrol, gasoil, alcohol, toluene, triclorethylene, acetone, white spirit, etc.

ITEM REFERENCES			
Designation:	**Flow rate:**	**Weight:**	**Item No.:**
AT2 Manual Semi-Rotary Pump	2000 l/h	8,5 kg	9B0102

TECHNICAL SPECIFICATIONS	
Marking:	Ex II 2G Ext - Ex h IIB T6...T4 Gb Int - Ex h IIB T3...T2 Gb Ex II 2D Ex h IIIC T80°C...120°C Db IP65 The maximum admissible temperature for the pumped liquid is 120°C.
Certificate:	EU-Type Examination Certificate
Body/Lid/Lever:	Cast iron (EN-GJL-200 o 250)
Internal mechanism:	Brass (Cu Zn39 Pb1 Al B)
Couplings:	Ø 1" Cast iron (EN-GJL-200)
Pump axle and screws:	Steel (11SMNPB37)
Seat gasket:	PTFE braid
Coupling gasket:	PEB (Expanded PTFE)
Fixing:	2 x M12, dist. betw. centres 142mm
Filter:	300 microns, 304 stainless steel rose (Z6 CN 18.19)
Cable lenght:	2m with clamp for earthing
Sealing of the shaft:	PTFE braid held by a cast iron compression gland
Flow rate - Double stroke:	80 per min
Total lift height:	15 m
Sealing control with compressed air:	5 kg/cm^2
Intake capacity:	7 m
Flow by double stroke:	0,41 l
Angular travel of the lever:	115°
Operating temperature:	-20°C to +40°C



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13 MISCELLANEOUS

13 - MISCELLANEOUS

Inpratex offers a selection of ATEX-certified equipment, suitable for use or installation in hazardous environments and potentially explosive atmospheres.

The range includes door holders, cameras, electric strikes, as well as other ATEX-certified devices and products or equipment specifically designed for safe operation in explosive atmospheres, ensuring reliability, safety and regulatory compliance in demanding industrial applications.

ELECTRIC DOOR HOLDER MAGNETS

CAMERAS

PANEL PC

ELECTRIC STRIKES

PORTABLE GAS DETECTORS

PRINTERS

Our product ranges are constantly updated on our website: ***www.inpratex.com***

EXM ELECTRIC DOOR HOLDER MAGNETS

Zones 1, 2, 21, 22

MISCELLANEOUS | **ZONES 1, 2 (gas) & 21, 22 (dust)**

EXM door holder magnets to keep doors open or closed as long as supply voltage is available. Explosion-proof magnets for fire doors, fire dampers or safety doors and locks.

When the supply voltage is cut off, the magnet looses its retention force and the safety operation is working when using appropriate mechanisms like springs, weights, cranks or similar safety placements provided by the customer.

Maintenance free.
An inspection is recommended every 6 months.

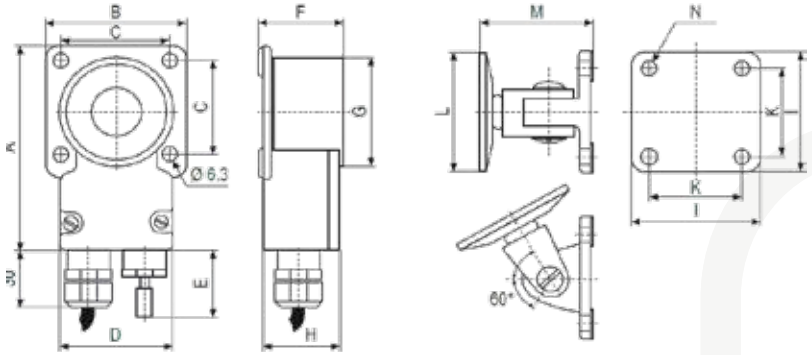
EU-Type Examination Certificate

ITEM REFERENCES

Type	Current consumption:	Power:	Force:	Dimensions: (connectors included)	Weight:	Item No.:
EXM-650	45 mA	~ 1 W	650 N	~ 138x66x43 mm	~ 650 gr	7F0201
EXM-1300	65 mA	~ 1,5 W	1300 N	~ 164x86x58 mm	~ 1950 gr	7F0202
EXM-2000	160 mA	~ 3,7 W	2000 N	~ 164x86x58 mm	~ 1950 gr	7F0203

TECHNICAL SPECIFICATIONS

Marking:	II 2G Ex mb IIC T6 Gb II 2D Ex tb IIIC T80°C Db IP65
Certificate:	EU-Type Examination Certificate
Housing:	Steel, plastic (Polycarbonate)
Operating temperature:	-20°C to +55°C
Power supply:	24 VDC ± 10% (21,6...26,4 VDC)
Ripple:	max. 20%
Ingress protection:	IP65
Connection:	~ 1 m cable PVC, non-halogen and silicone free. Wire cross section ~ 1 mm² Connections in hazardous areas require an Ex-e terminal box!
Delivery:	Electromagnetic holder without anchor plate and mounting material



Dimensions	EXM-650, GH-6	EXM-1300, ...-2000, GH-13/20
A	104 mm	130 mm
B	66 mm	86 mm
C	52 mm	70 mm
D	55 mm	64 mm
E	34 mm	34 mm
F	43 mm	58 mm
G	Ø 54 mm	Ø 81 mm
H	38 mm	43 mm
I	60 mm	80 mm
K	44 mm	60 mm
L	Ø 56 mm	Ø 86 mm
M	51 mm	62 mm
N	Ø 6.3 mm	Ø 8.0 mm

ACCESSORIES AND SPECIAL DESIGNS

Type:	Technical Specifications:
...-05	Magnet with 5 m cable (PVC, non-halogen and silicon free)
...-15	Magnet with 15 m cable (PVC, non-halogen and silicon free)
GH-6	Anchor plate for EXM-650
GH-13/20	Anchor plate for EXM-1300 and EXM-2000
ExBox-3P	Ex-e terminal boxes for zone 1, 2, 21, 22
EXC-K4/S...	Ex-e terminal boxes with integral fuse
EXC-T1	Ex-e pushbutton for manual release
N1 power supply	Input: 100...230 VAC, 0.29-0.18 A, 50/60 Hz | 120...230 VDC, 0.14-0.07 A | Output: 24 VDC, max. 0.6 A

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AR-030 DOOR MAGNET

Zones 2, 22

MISCELLANEOUS | ZONES 2 (gas) & 22 (dust)

The AR-030 explosion-safe door magnet is a universally-applicable door magnet for floor or wall mounting. The magnetic head can easily be positioned horizontally or vertically. The door magnet is manufactured from impact-resistant plastic with a vandal-proof release button and a factory sealed cable, 5 meters long.

The door-retaining magnet system provides a completely reliable solution.
For normal use, the doors are held open by electromagnets. In case of fire or alarm, the door magnets are switched off from the porter's lodge or automatically by the fire alarm system, so that the door closers or springs close the doors immediately. The doors can still be opened, but close again straight afterwards.

The AR-030 door magnet is explosion-safe and certified in accordance with European Directive 2014/34/EU and is CE marked.

The door magnet is therefore suitable for a wide variety of applications.

Declaration of Conformity

ITEM REFERENCES						
Type:	Current consumption:	Power:	Holding force:	Connection:	Weight:	Item No.:
AR-030/001	100 mA AC / 63 mA DC	1,5 W	490 N	Factory sealed cable, 3 x 1 mm², 5 meters	770 gr	7F0401

TECHNICAL SPECIFICATIONS	
Marking:	II 3G Ex ec IIC T6 Gc II 3D Ex tc IIIC T80°C Dc
Certificate:	Declaration of Conformity
Standards applied:	EN 60079-0:2018, EN 60079-7:2015 / A1:2018 and EN 60079-31:2014
Supply voltage:	24V AC/DC ± 10%
Magnet diameter:	50 mm
Mounting spacing:	Floor/ceiling mounting: 150 mm, wall mounting: 175 mm
Activation time:	100%
Material:	Black plastic anchor plate and housing, magnet nickel plated
Ingress protection level:	IP65 according to EN 60529
EN 1155 corrosion class:	3 (High resistance to corrosion)
Connection:	Factory sealed cable, 3 x 1 mm2, length 5 meters
Ambient temperature:	-25°C to +50°C

ACCESSORIES		
Type:	Model:	Size:
AR-030/002	Anchor plate (standard)	Ø 55 x 18 mm, ± 20°
AR-030/003	Anchor plate with angle adjustment	Ø 55 x 50 mm, ± 60°

OZC 3 DIGITAL CAMERA

Zones 2, 22

MISCELLANEOUS | **ZONES 2 (gas) & 22 (dust)**

The OZC 3 is the only explosion proof camera boasting a 4x optical zoom. Designed for ATEX Zone 2 (Gas) and 22 (Dust) environments, this camera merges compact durability with high functionality. It withstands drops up to 2.1m, operates down to -10 degrees Celsius, and resists dust intrusion. The OZC 3 is a modified version of the TG-7, in collaboration with OM System.

This camera excels in hazardous areas, offering specialized shooting modes for low light and dusty environments (construction mode), alongside a mode tailored for clear capturing labels. Ideal for maintenance and inspection tasks, it's engineered for precision and safety.

One of the modifications - amongst others - to make this camera explosion safe is that the xenon tube flash function has been removed. All hardware and components in relation with the xenon tube flash function have been disassembled and removed from the circuitry.

- Perfect for Maintenance & Inspections
- 4K | 12 MP
- LED Flash
- 4x Lossless Optical Zoom, 14x Maximum Zoom
- Hazardous Area Capture Mode
- Label Capture Mode
- Connect with Ex Smart Devices
- Extremely Rugged
- Including Rugged Case

EU-Type Examination Certificate

The OZC 3 employs advanced Sensor Shift Image Stabilization software to stabilize videos and images. This feature proves invaluable during video inspections, allowing users to move around the site and capture all equipment, machinery, and surroundings without worrying about distorted or shaky footage.

This results in clearer, more professional material that surpasses what the latest generation of smartphones can offer.

The use of a camera's flash poses an ignition risk, making it non-compliant with ATEX regulations. This presents a challenge in potentially explosive environments where a consistent light source may not always be available, such as confined spaces within factories or machinery rooms, or outdoor hazardous areas dependent on natural daylight for illumination.

The OZC 3 stands out as the sole intrinsically safe camera designed to overcome this obstacle. It achieves exceptional sensitivity through its advanced image processing engine, meaning the camera utilizes software enhancements to produce high-quality, bright images combined with the LED flash.

ITEM REFERENCES	
Designation:	**Item No.:**
OZC-3 Digital Camera	4D0810

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OZC 3 DIGITAL CAMERA

Zones 2, 22

TECHNICAL SPECIFICATIONS	
Marking:	II 3G Ex ic IIC T4 Gc II 3D Ex ic IIIB T135°C Dc
Certificate:	EU-Type Examination Certificate
Operating temperature:	-10°C to +40°C
Ingress protection:	IP54
Image sensor:	12 MP - 1/2.3" BSI CMOS
Processor:	TruePic VIII
Lenses:	25-100mm (35mm equiv.) - 4x Optical Zoom / F2.0 (W) - F4.9 (T)
Macro capability:	Super macro: less than f=5.4mm, from 0.1m to 0.3m / above 5.4mm, from 0.01m to 0.3m Microscope: 0.01m - 0.30m
One push tele-converter:	x2 (P, A, Movie mode), x2/x4 (Microscope mode)
Image stabilization:	Sensor Shift Image Stabilization
Monitor:	3.0", approx. 1,037k dots (3:2)
ISO:	100 - 12,800
Shutter speed:	1/2 - 1/2000 sec. (A mode: up to 4 sec.)
Still photo recording:	JPEG, RAW (12-bit lossless compression) JPEG+RAW [RAW] 4000 x 3000 [JPEG] 4000 x 3000 ~ 1280 x 960
Sequential shooting:	[Sequential shooting H]: approx. 20 fps with selectable 10/20 fps [Sequential shooting L]: approx. 5 fps [Pro Capture]: approx. 10 fps *Electronic Shutter
Interval shooting:	Creating Time-lapse movie is possible with interval shooting up to 299 frames. Time priority, Frame priority selectable *Exposure smoothing is available
Video:	3840×2160 (4K) 30p, 25p / IPB (approx. 102Mbps) 1920 x 1080 (FHD) / 60p, 50p, 30p, 25p / IPB (approx. 52Mbps, approx. 30Mbps, approx. 18Mbps) 1280 x 720 (HD) / 30p, 25p / IPB (approx. 26Mbps, approx. 14Mbps, approx. 10Mbps) *Frame rates may drop when particular Art Filters and Movie Effects are used.
Tough capabilities:	Waterproof to depths of 50 ft / 15 m Freezproof to 14°F / -10°C Crushproof to 220 lbf / 100 kgf Shockproof from 7 ft / 2.1 m Anti-fog dual pane lens cover glass
GPS / Field Sensor System:	GPS (GLONASS, Galileo, QZSS), compass, manometer, temperature sensor, acceleration sensor
Creative features:	Live Composite, Art Filters, HDR, Underwater Modes, Macro Modes, Construction Mode
Connectivity:	USB Type-C Micro HDMI (type D) Built-in Wi-Fi (IEEE 802.11b/g/n) Built-in Bluetooth (Version 4.2 Bluetooth Low Energy)
Power:	LI-92B Li-ion battery
Dimensions:	113.9 mm (W) x 65.8 mm (H) x 32.7 mm (D) / 4.48 in (W) x 2.59 in (H) x 1.28 in (D)
Weight:	Approx. 249 g (with battery and memory card, based on CIPA standards) (0.55 lb / 8.78 oz)

The OZC 3 is compatible with the following SD cards:

- SanDisk: Extreme Pro SDXC UHS-I Card (256GB, 512GB, 1TB)
- SanDisk: Extreme Pro SDHC/SDXC UHS-II Card (32GB, 64GB, 128GB, 256GB)
- SanDisk: Extreme PLUS SDHC/SDXC UHS-I Card (32GB, 64GB, 128GB, 256GB)
- KIOXIA: EXCERIA PRO SDXC UHS-II Memory Card (64GB, 128GB, 256GB)
- KIOXIA: EXCERIA PLUS SDHC/SDXC UHS-I Memory Card (32GB, 64GB, 128GB, 256GB, 512GB, 1TB)

Micro SD to SD adapters are NOT supported. The SD card must be formatted before use. For video recording SD class 6 or higher is recommended.

CTTV CAMERA AKONDIA 749-V1

Zones 1, 2, 21, 22

CAMERAS | **ZONES 1, 2 (gas) & 21, 22 (dust)**

AkONDIA 749-V1 is a low resolution, cost-effective ATEX video surveillance and security camera. Perfect for monitoring processes or spaces that do not require a high video resolution and prioritize equipment costs.

Another key feature of the AkONDIA 749-V1 is its physical robustness, allowing it to operate in demanding industrial environments.

Ex d cast aluminum enclosure and tempered glass window.

Suitable for installation in zones 1, 2, 21 and 22.

EU-Type Examination Certificate

ITEM REFERENCES		
Designation:	**Cable gland:**	**Item No.:**
CCTV Camera AkONDIA 749-V1 - L	Brass for armored cable	4D0801
CCTV Camera AkONDIA 749-V1 - LT	Nickel-plated brass for armored cable	4D0802

TECHNICAL SPECIFICATIONS	
Marking:	II 2G Ex d IIC T6 Gb II 2D Ex tb IIIC T85°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-20°C to +40°C
Housing:	SOF 57N. Aluminum light alloy. External Epoxy RAL7000
Ingress protection:	IP66
Weight:	1,5 kg approx.
Terminals:	4 x 1,5mm² + PE 1,5mm²
Camera:	CCTV (color)
Power supply:	12VDC
Current consumption:	68mA
Resolution:	1Mpx
Horizontal resolution:	420TVL
Minimum illumination:	0,2Lux
Compression:	H264
Lens angle:	135°
Maximum signal transmission distance without signal loss:	12m
Pin description:	PE: general system grounding Y: video signal GND: video ground (here would go the ground of the RCA or BNC connectors) -: power supply negative +: power supply positive
Cable entries:	1x3/4” cable gland for armoured cable (13,2-20,5mm)

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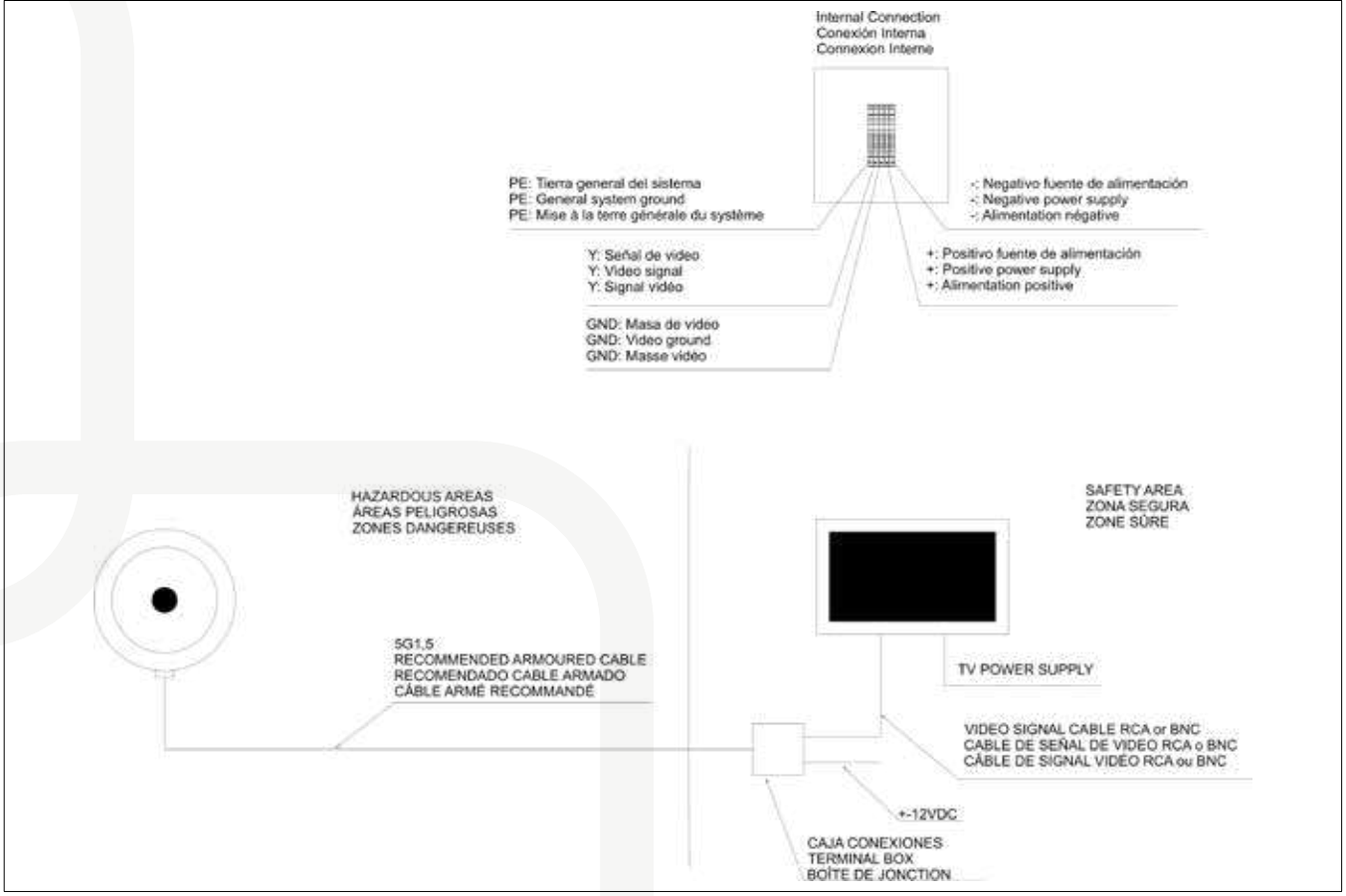
ACCESSORIES

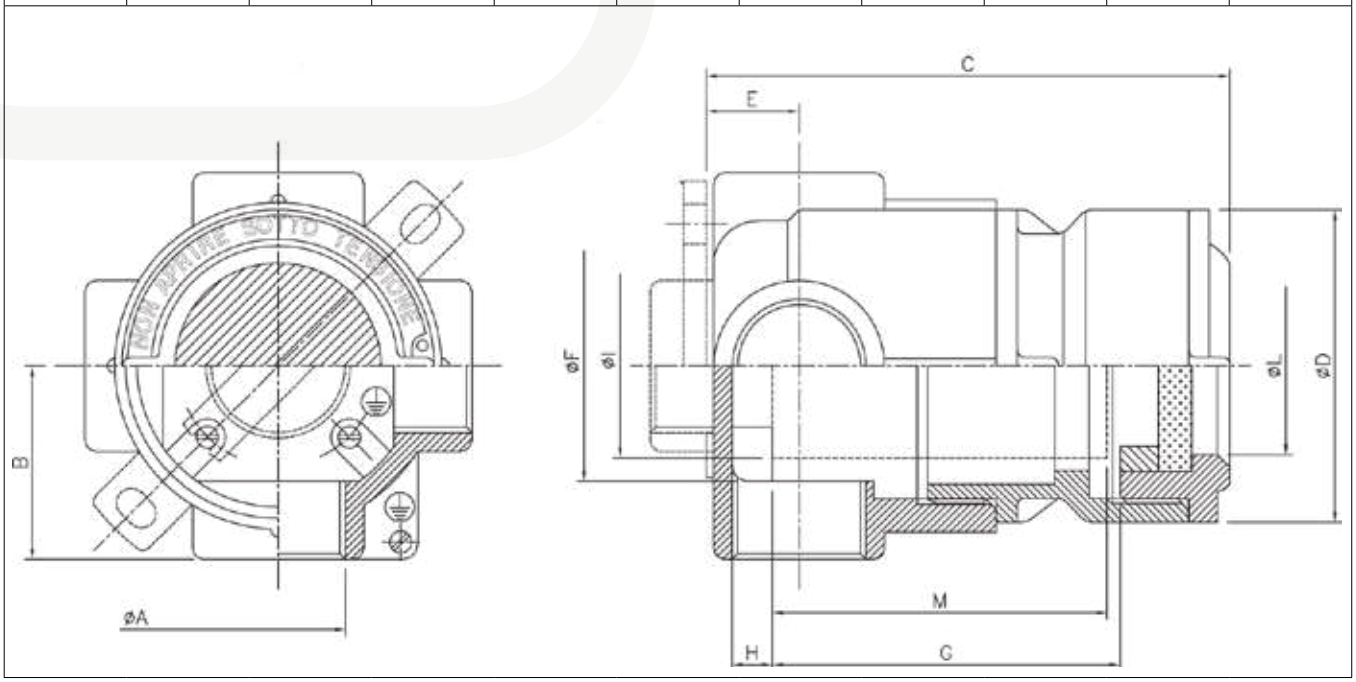
Designation:	Item No.:
12 m 5G1,5 armoured cable	4D0901

CONNECTION CHART



DIMENSIONS

ØA: 3/4”	B: 69mm	C: 93mm	ØD: 130mm	E: 32mm	ØF: 100mm	G: 48mm	H: 8mm	Øl: 96mm	M: 46mm	ØL: 82mm



HEXAGON SERIES PCL-X-10.1 PANEL PC

Zones 1, 2, 21, 22

MISCELLANEOUS | **ZONES 1, 2 (gas) & 21, 22 (dust)**

Hexagon Series PCL-X-10.1, are industrial Panel PC with 10.1" display suitable for use in ATEX Zone 1/21. They are equipped with a capacitive touch screen for user interaction, a capacitive button for equipment power on and a terminal boards for Ex e/ Ex i connections and contains last generation Intel Processors for very low power consumption and very efficient heat dissipation.

PCL-X_10.1 may optionally contain, in "Ex q" enclosure, Bluetooth or Wi-fi radiofrequency modules, whose limits of radiated power and frequency comply with requirements of EN 60079-0.

EU-Type Examination Certificate

ITEM REFERENCES				
Designation:	Processor:	RAM:	Hard Disk:	Item No.:
PCL-X-10.1-F-US (Full)	Intel Atom x6425E	8 Gb	256 Gb	13F0101
PCL-X-10.1-B-US (Base)	Intel Atom N3350	4 Gb	64 Gb	13F0102

TECHNICAL SPECIFICATIONS	
Marking:	II 2(1)G Ex eb q [ia Ga] IIC T5...T4 Gb II 2(1)D Ex tb [ia Da] IIIC T95°C...T130°C Db IP66
Certificate:	EU-Type Examination Certificate
Operating temperature:	-10°C to +55°C up to P_n = 33W | Temperature Class T4, main fuse 2A
Display:	10.1" optically bonded to special cover glass 1280x800px resolution
Touch-screen:	Industrial grade capacitive touch sensor, capacitive power-on button with LED
Housing:	Anodized aluminium, glass
Ingress protection:	Standalone use, IP66 (both front and back) acc. to EN IEC 60079-0 Panel mount installation, IP66 acc. to EN IEC 60079-0
Power supply:	24 VDC ±10%
OS:	Windows 10% IoT Enterprise LTSC 2019
Connections:	Standard: 1x LAN Gb Ex e, 1 x USB Ex e, 1 x RS-485 Ex e (Available on request: 2 x LAN 10/100Mb Ex e, 2 x USB Ex e, Bluetooth/WiFi module)
Integrative Exi Active Barriers:	5 x D.I. channels for non-Ex push buttons (up to SIL3 in dual channel) 2 x D.O. channels for non-Ex (5V, 15mA) LEDs (Simple Apparatus)
Other features:	Capacitive power button with status LED
Weight:	1,5 kg approx.
Dimensions:	320,00 x 263,50 x 50 mm (H x W x D)
Panel cut dimension:	308,00 x 251,50 mm
Mechanical protection:	Rugged desing, IP66 according to EN 60079-0, both front and back Suitable for installation without enclosure, inside non-Ex certified enclosures or inside Ex be / Ex tb enclosures

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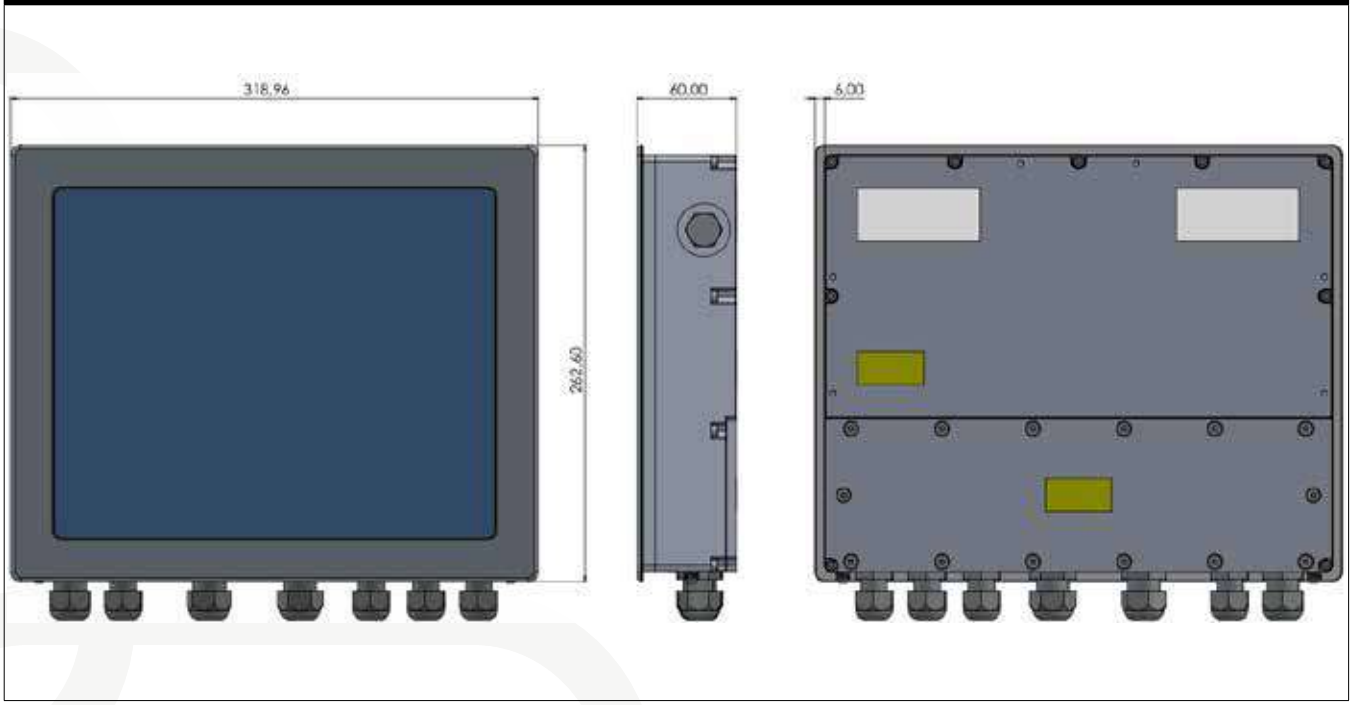
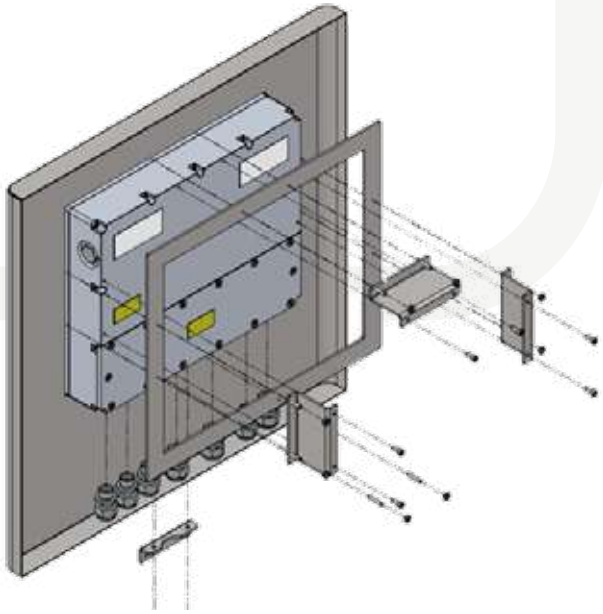
MECHANICAL DRAWING



Panel mounting on Ex eb / Ex tb enclosure	Accessories available on request
Use of mounting kit with reinforcement back frame allows installation on Ex eb / Ex tb certified cabinets. Installation can be done as well inside standard non-certified cabinet free standing. Nominal window cut-out: 308 x 251.50 (W x H) mm	PCL-X-10.1 can be supplied mounted inside a Stainless Steel AISI 304 custom cabinet with integrated handles. Arm mounting or foot pedestal thanks to symmetric design. Supports RITTAL CP40 stainless steel.



ACCESSORIES

Designation:	Item No.:
QX-10.1 Custom cabinet with integrated handles	13F0201
Wall/cabinet swivel joint	13F0202
“U” tube	13F0203

ELECTRIC STRIKE EX118R (USE ON FIRE DOORS)

Zones 1, 2, 21, 22

MISCELLANEOUS

ZONES 1, 2 (gas) & 21, 22 (dust)

The EX118R electric strike is designed for use on fire doors in hazardous areas. It is equipped with monitoring contact as standard. The FaFix radius keeper can be adjusted by 3 mm. The connecting cable is 10 metres long.

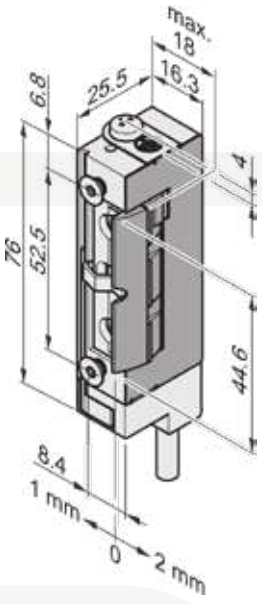
- For use in potentially explosive atmospheres, e.g. laboratories, chemical plants, mills, paint finishing plants
- Universal installation position, vertical and horizontal
- Holding force of 9,000 N
- Monitoring contact as standard

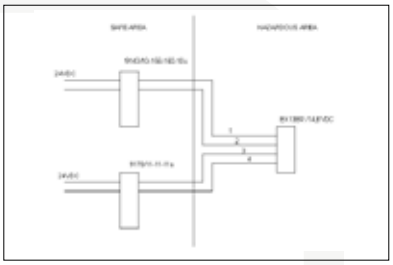
The door strike must only be operated using the following individual parts:
- Power supply14.8 V, 160 mA
- EX-I switching amplifier type 9170/11-11-11S

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	Item No.:
EX118R------Z91 | 9143/10-156-160-10S | 9170/11-11-11S	7F0303

TECHNICAL SPECIFICATIONS ELECTRIC STRIKE EX138R--------Z91	
Marking:	II 2G Ex ib IIB T4 Gb II 2D Ex ib IIIC 95 °C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	T4: -20°C to +50°C
Adjustable keeper (FF, FaFix®):	Yes
Monitoring contact (RR):	Yes
Diode (05):	Yes
Fail-unlocked:	Yes / 123 mA
Continuous duty:	14,8 V DC
Certified in compliance with:	DIN EN 14846:2008
Load cycles for in-plant test:	250000
Installation position:	Vertical and horizontal
Break-in resistance:	9000 N
Length:	76 mm
Connecting cable:	10 m
Suitable for fire doors:	Yes
Width:	18 mm
FaFix® adjustment range:	3 mm
Depth:	25,5 mm
Latch bolt engaging depth:	6 mm
Scope of delivery:	Delivery without striking plate with connecting cable
DIN direction:	Universal





TECHNICAL SPECIFICATIONS	POWER SUPPLY 9143/10-156-160-10S	Ex i SWITCHING REPEATER 9170/11-11-11S
Marking:	II 3(2)G Ex nA [ib Gb] IIC/IIB T4 Gc II (2)D [Ex ib Db] IIIC I (M2) [Ex ib Mb] I	II (1)G [Ex ia Ga] IIC II (1)D [Ex ia Da] IIIC
Certificate:	EU-Type Examination Certificate	EU-Type Examination Certificate
Power supply:	24 V AC / DC	24 V DC
Nominal voltage U_N:	12.5 ... 14.7 V	
Max. nominal current I_N:	140 mA	
Output / channel:		2 change-over contacts

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ELECTRIC STRIKE EX138R

Zones 1, 2, 21, 22

MISCELLANEOUS | **ZONES 1, 2 (gas) & 21, 22 (dust)**

The EX138R electric strike is designed for use on doors in explosive atmospheres. It is equipped with monitoring contact as standard. The FaFix radius keeper can be adjusted by 3 mm. The connecting cable is 10 metres long.

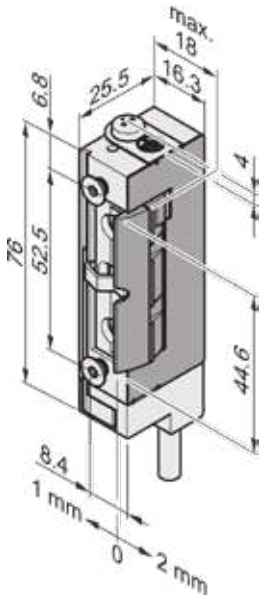
- For use in potentially explosive atmospheres, e.g. laboratories, chemical plants, mills, paint finishing plants
- Universal installation position, vertical and horizontal
- Holding force of 9,000 N
- Monitoring contact as standard

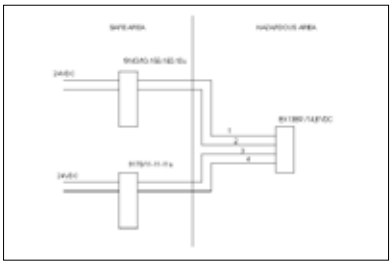
The door strike must only be operated using the following individual parts:
- Power supply14.8 V, 160 mA
- EX-I switching amplifier type 9170/11-11-11S

EU-Type Examination Certificate

ITEM REFERENCES	
Designation:	Item No.:
EX138R------Z91 | 9143/10-156-160-10S | 9170/11-11-11S	7F0302

TECHNICAL SPECIFICATIONS ELECTRIC STRIKE EX138R--------Z91	
Marking:	II 2G Ex ib IIB T4 Gb II 2D Ex ib IIIC 95 °C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	T4: -20°C to +50°C
Adjustable keeper (FF, FaFix®):	Yes
Monitoring contact (RR):	Yes
Diode (05):	Yes
Fail-unlocked:	Yes / 123 mA
Continuous duty:	14,8 V DC
Certified in compliance with:	DIN EN 14846:2008
Load cycles for in-plant test:	250000
Installation position:	Vertical and horizontal
Break-in resistance:	9000 N
Length:	76 mm
Connecting cable:	10 m
Suitable for fire doors:	No
Width:	18 mm
FaFix® adjustment range:	3 mm
Depth:	25,5 mm
Latch bolt engaging depth:	6 mm
Scope of delivery:	Delivery without striking plate with connecting cable
DIN direction:	Universal





TECHNICAL SPECIFICATIONS	POWER SUPPLY 9143/10-156-160-10S	Ex i SWITCHING REPEATER 9170/11-11-11S
Marking:	II 3(2)G Ex nA [ib Gb] IIC/IIB T4 Gc II (2)D [Ex ib Db] IIIC I (M2) [Ex ib Mb] I	II (1)G [Ex ia Ga] IIC II (1)D [Ex ia Da] IIIC
Certificate:	EU-Type Examination Certificate	EU-Type Examination Certificate
Power supply:	24 V AC / DC	24 V DC
Nominal voltage U_N:	12.5 ... 14.7 V	
Max. nominal current I_N:	140 mA	
Output / channel:		2 change-over contacts

SINGLE GAS CLIP

Zones 0, 1, 2

MISCELLANEOUS | **ZONES 0, 1, 2 (gas)**

ATEX certified portable gas detector that ensures constant protection against toxic gas in the harshest working environments. Whether it's the hottest or the coldest environment, the Single Gas Clip is designed and tested to provide worker safety in the harshest working conditions.

- Unmatched sensor reliability for H_2S, CO or O_2
- Adjustable alarm set points
- Real-time gas reading capability
- 0.1 ppm resolution for H_2S sensor and display
- Two-way IR comms for event downloads, bump tests detector configuration and firmware updates
- Programmable unique 6 digit detector identification
- Simple-to-use one-button operation
- Bump Test notification and confirmation when intervals are set
- Calibration notification and confirmation when intervals are set
- No hidden service charges or maintenance fees
- Lightweight & durable - clamps on tight with alligator clip

EU-Type Examination Certificate

ITEM REFERENCES				
Designation:	**Description:**	**Gas:**	**Temperature:**	**Item No.:**
SGC-H Single Gas Clip H_2S	Portable gas detector for Hydrogen Sulfide (H_2S)*	H_2S | Measuring range: 0-100 ppm Low alarm limit: 10 ppm - High alarm limit: 15 ppm	-40°C to +50°C	14A0101
SGC-C Single Gas Clip CO	Portable gas detector for Carbon Monoxide (CO)*	CO | Measuring range: 0-300 ppm Low alarm limit: 35 ppm - High alarm limit: 200 ppm	-40°C to +50°C	14A0102
SGC-O Single Gas Clip O_2	Portable gas detector for Oxygen (O_2)*	O_2 | Measuring range: 0-30% by vol. Low alarm limit: 19.5% - High alarm limit: 23.5%	-35°C to +50°C	14A0103
**All versions include calibration cap*				

TECHNICAL SPECIFICATIONS	
Marking:	Ex II 1G Ex ia IIC T4 Ga
Certificate:	EU-Type Examination Certificate
Operating temperature:	H_2S: -40°C to +50°C | CO: -40°C to +50°C | O_2: -35°C to +50°C
Humidity:	5% to 95% RH (non-condensing)
Battery Life:	24 months of operation / 2 minutes of alarm per day
Alarms:	Visual, vibrating & audible (minimum 95 dB). Detector life countdown (EOL), Low, High & Over limit (OL)
LEDs:	4 red alarm bar LEDs
Display:	High viewing angle Alphanumeric Liquid Crystal Display
Logs:	25 Events - newer events replace older events
Tests:	Full function self-test upon activation and every 20 hours. Continuous automatic battery tests
Ingress protection:	IP 67
Weight:	76g
Dimensions:	85 x 50 x 28 mm
Sensor Type:	Single plug-in electrochemical cell
User Options:	User ID, Low Alarm, High Alarm, Calibration Interval, Bump Interval, Self-Test Interval, Calibration Gas, Display sensor/life remaining, Bump Due LED

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MULTI GAS CLIP SIMPLE PLUS

Zones 0, 1, 2

MISCELLANEOUS | **ZONES 0, 1, 2 (gas)**

ATEX certified portable 4 gas detector that ensures constant protection against toxic gas in the harshest working environments. Reliably test for hydrogen sulfide (H_2S), carbon monoxide (CO), oxygen (O_2) and combustible gases (LEL) with this simple-to-use and simple-to-maintain detector. Just turn it on and have worry free assurance of protection against toxic gases 24/7 for 3f ull years.

- **Operates for 3 years continuously with no charging**
- **Detects combustible gases (LEL), hydrogen sulfide (H_2S), carbon monoxide (CO) & oxygen (O_2)**
- **Routine calibrations not necessary saving test gas & downtime**
- **Infrared LEL sensor does not require oxygen to detect gas**
- **Low maintenance cost - infrared LEL sensor is immune to poisons**
- **Simple-to-use one-button operation & large, easy-to-read screen**
- **Lightweight & durable - alligator clip clamps on tight**

All detectors are charged and calibrated during manufacturing.
Bump testing before each use is advised.

EU-Type Examination Certificate

ITEM REFERENCES				
Designation:	**Description:**	**Gases:**	**Temperature:**	**Item No.:**
Multi Gas Clip Simple Plus	Non-charging infrared 3 year 4 gas detector for H_2S, CO, O_2 & LEL	H_2S - 0 - 100 ppm (0.1 ppm increments) CO - 0 - 500 ppm (1 ppm increments) Combustible (LEL) - 0 - 100% LEL (0.1% increments) O_2 - 0 - 30% vol. (0.1% increments)	-40°C to +50°C	14B0101
Included with detector: calibration cap, calibration certificate & Quick Start Guide				

TECHNICAL SPECIFICATIONS	
Marking:	II 1G Ex ia IIC T4 Ga
Certificate:	EU-Type Examination Certificate
Operating temperature:	-40°C to +50°C
Humidity:	5% to 95% RH (non-condensing)
Battery Life:	1095 Days continuous (based on avg. of 1 minute of alarm/day)
Alarms:	Visual, vibrating & audible (minimum 95 dB). Low, High, STEL, TWA & OL (Over Limit)
LEDs:	4 red alarm bar LEDs Yellow back-light (activated on button press) Red back-light (activated on alarm condition) Yellow maintenance notification LED
Display:	High viewing angle alphanumeric Liquid Crystal Display (LCD)
Logs:	50 Bump tests, 50 events, 50 calibrations. Continuous 1 second data logging (typical capacity > 2 months)
Tests:	Full function self-test upon activation. Sensors, battery and circuitry tests run continuously
Ingress protection:	IP68
Weight:	220 g
Dimensions:	120.65 x 69.85 x 31.75 mm
Sensor Type:	H_2S, CO & O_2: Plug-in electrochemical cell | Combustible (LEL): Soldered infrared (IR)
User Options:	Custom user message, TWA/STEL intervals, Languages (6), Latching alarms, Self-test lock, Bump test interval, Low/High alarm, Maintenance notification, TWA method, Sensor enable/disable, SAFE display, Dock lock, Calibration gas concentration, Calibration interval, TWA/STEL alarm, % LEL or % CH_4 by-vol

EX P SOLUTION FOR LABEL PRINTER

Zones 2

MISCELLANEOUS

ZONES 2 (gas)

Installed inside an Ex p stainless steel enclosure, standard label printers can be used directly in hazardous areas. Already printed labels are extracted from the printer by means of an additional door in the front of the enclosure. The printer doesn't need to be switched off during this procedure. A window in the frontdoor and the additional lamp installed inside make it easy to read the printed labels. The enclosure also has a door on the side. The printer is installed on a sliding system, which makes it easy to carry out inspections and to apply new labels.

The Ex p systems works thanks to an overpressure inside the enclosure compared to the surrounding pressure.

After a pre-cleaning phase, in which, if possible, existing gases are expelled, the controller switches on the installed internal devices.

Declaration of Conformity

ITEM REFERENCES	
Designation:	**Item No.:**
Ex pz printer enclosure	15A0101

TECHNICAL SPECIFICATIONS	
Marking:	II 3G Ex pzc IIC T4 X Gc
Certificate:	Declaration of Conformity
Operating temperature:	-20°C to +40°C
Design:	
Material:	Stainless steel 1.431
Dimensions:	450x650x580mm
Ingress protection:	IP65
Hinged front door with additional door with window	
Remark: maximum time for label output: 15 sec.	
External electrical devices (in enclosure door):	
1 Ex d Signal lamp RED (Bypass)	
1 Ex d key switch 1NO/1NC (Bypass)	
Internal devices on backside mounting plate:	
1 Ex pz/pD Controler Type A42-M2 230VAC for monitoring Ex p enclosures in Zones 2,22	
Marking:	II 3G Ex nA [ic] [pz] IIC T4 Gc
Operating temperature:	-20°C to +60°C
Rated voltage:	230 VAC
With Ex i panel with display | 1 socket for printer connection | 1 Ex e terminal box for internal/external wiring	
1 removable internal plate on slides for printer installation (printer not supplied). Space available: 350x450x450mm approx.	
External connections (on back side):	
2 plastic cable glands M20x1,5 (4-13 mm)	
1 Ex px/pD Pressure Control Device Type A42-P1	
1 Ex p Inlet kit 230 VAC	
Including: Air pressure regulator R 1/4" | Ex digital solenoid valve 3/8 with exhaust flow | Ex valve switch AC 220-240V | 1 Extermal earth stud	
All external devices marked with Resopal labels	
Control box completely wired	

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AR-090 LABEL PRINTERS

Zones 2, 22

MISCELLANEOUS | ZONES 2 (gas) & 22 (dust)

The AR-090 label printers are based on the ZT411 series of industrial printers by Zebra. They are the result of over 50 years of innovation in thermal printers. The IP54 basic version is suitable for an environment in which dust fibers and electrically non-conductive dust cause an explosion hazard. An overpressure system was selected for use in environments where gas or electrically conductive dust poses a hazard. Due to the slight overpressure, no gas or dust can enter the housing.

The AR-090 has a broad range of application. A suitable AR-090 is available for every environment where category 3 equipment must be used. The printer is used in very diverse production processes that require application of a sticker, e.g. in order to record the product's production date, the batch number or the traceability.

Declaration of Conformity

The AR-090 label printer is available in a model where the labels are printed on a contiguous strip. If needed for a particular application, there is also an AR-090 label printer with a cutting mechanism; it cuts the labels, after which they are collected in a catch basin.

The housing of the explosion-safe printers is made from 316 stainless steel and complies with the latest explosion-safe standards.

ITEM REFERENCES		
Designation:	**Description:**	**Item No.:**
AR-090/001 - DUST	Suitable for category IIIB dusty environments (dustproof housing IP54)	
AR-090/002 - DUST	Suitable for category IIIB dusty environments (dustproof housing IP54), with cutting mechanism and catch basin for labels	
AR-090/003 - GAS & DUST	Suitable for category IIC and IIIC gaseous and dusty environments (overpressure system)	
AR-090/004 - GAS & DUST	Suitable for category IIC and IIIC gaseous and dusty environments (overpressure system), with cutting mechanism and catch basin for labels	

AR-090 LABEL PRINTERS

Zones 2, 22

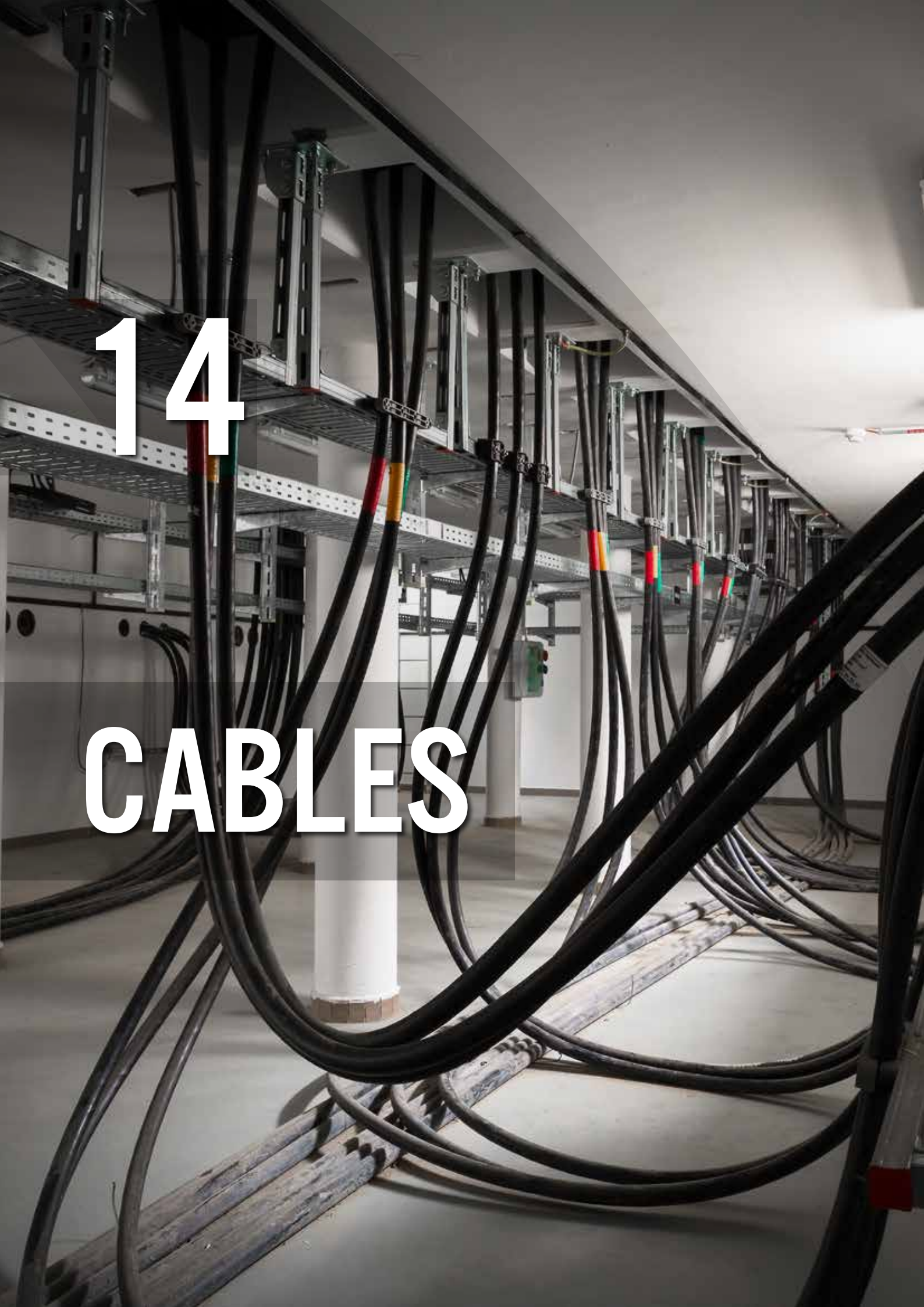
TECHNICAL SPECIFICATIONS	
Marking:	II 3G Ex pzc IIC T6 Gc II 3D Ex tc IIIB T80°C Dc or II 3D Ex pzc IIIC T80°C Dc
Certificate:	Declaration of Conformity
Operating temperature:	-20°C to +40°C
Printer:	Zebra ZT411, with optional cutting unit and catch tray
Resolution:	300 dpi
Printing width/length:	104 mm / 1854 mm
Communication:	USB and 10/100 Ethernet LAN interface
Supply voltage:	100 to 240 VAC, 50/60 Hz
Electric power:	100 Watts
Electrical connection:	Fixed power cable H07RN-F 3 x 1.5 mm^2, 5 m
Housing:	316 stainless steel housing, window made from impact-resistant polycarbonate
Ingress protection:	P54 in accordance with EN 60529
Conditions of use:	+5°C to +40°C, relative humidity 20% to 85% uncondensed
Dimensions:	638 x 374 x 447 mm
Weight:	39,3 Kg (Zebra ZT411 16,3 Kg, stainless steel housing 23,0 Kg)

Ex Warning Sign.

Manufactured in glasspack, semirigid plastic material suitable for outdoor and indoor mounting.

ITEM REFERENCES	
Designation:	**Item No.:**
Ex Warning Sign	12A0101

TECHNICAL SPECIFICATIONS	
Material:	Glasspack
Certificate:	UNE RD 485/97
Colour:	Yellow / Black on White background
Thickness:	0,7 mm
Dimensions:	210x210 mm



14 CABLES

14 - CABLES

Inpratex offers a specific range of industrial cables designed for installation and use in potentially explosive atmospheres, ensuring safety, reliability and long-term durability in demanding industrial environments.

The range includes flexible cables, armoured cables and earthing cables, manufactured using high-quality materials and advanced technology, suitable for both the national and international markets.

These cables are suitable for use in explosive atmospheres and comply with the requirements of Directive 2014/35/EU, ensuring compliant and safe installations in hazardous areas.

CABLE FOR INTRINSIC SAFETY CIRCUITS

NON-ARMORED CABLE

ARMOURED CABLE

EARTHING AND GROUNDING CABLES

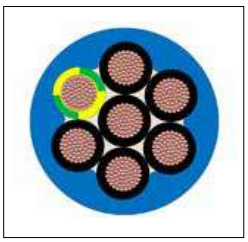
Our product ranges are constantly updated on our website: ***www.inpratex.com***

CABLE EB VV-F 300/500V

CABLES FOR USE IN ATEX ZONES

Flexible cable for fixed installation, suitable for intrinsic safety circuits in electrical installations, control, signal and measurement regulation, machine tools, production machines, etc.

They can also be used in the following applications:
- Data transfer systems
- Electronic control and signalling



Suitable for Intrinsic Safety installations according to UNE EN 60079-14.
Non-flame propagation according to UNE-EN 60332-1-2, EN 60332-1-2 and IEC 60332-1-2.

STRUCTURE
Flexible electrolytic copper conductor (Class 5) in accordance with UNE-EN 60228, EN 60228 and IEC 60228
Polyvinyl Chloride type TI 2 according to UNE-EN 50363-3
Conductor identification according to UNE 21089 and HD 308 S2
Polyvinyl Chloride type TM 2 according to UNE-EN 50363-4-1
Blue colour

TECHNICAL FEATURES
Rated voltage 300V/500V
Test voltage 2,000V C.A.
Maximum temperature 70 °C (160 °C for 5sec. in case of short circuit)
Minimum radius of curvature 5 x Outside diameter in fixed installation
Operating temperature -30°C to +70°C in fixed and protected installation

EB VV-F 300/500V				
Item No.:	Cond. x section (mm^2):	Outer Diameter (mm):	Cable weight (kg/km):	Resistance at 20°C (Ω/km):
10A100600020160200	2 x 0,5	5,80	42	39,0
10A100600030160200	3 G 0,5	6,20	51	39,0
10A100600040160200	4 G 0,5	7,20	69	39,0
10A100600050160200	5 G 0,5	8,20	89	39,0
10A100600060160200	6 G 0,5	9,20	111	39,0
10A100600070160200	7 G 0,5	9,20	115	39,0
10A100600080160200	8 G 0,5	9,90	132	39,0
10A100600100160200	10 G 0,5	11,90	185	39,0
10A100600120160200	12 G 0,5	12,30	203	39,0
10A100600140160000	14 G 0,5	12,60	219	39,0
10A100600160160200	16 G 0,5	13,30	246	39,0
10A100600200160200	20 G 0,5	14,50	296	39,0

CABLE EB VV-F 300/500V

EB VV-F 300/500V				
Item No.:	Cond. x section (mm²):	Outer Diameter (mm):	Cable weight (kg/km):	Resistance at 20°C (Ω/km):
10A100600250160200	25 G 0,5	16,50	382	39,0
10A100600300160200	30 G 0,5	17,20	425	39,0
10A100600370160200	37 G 0,5	18,80	512	39,0
10A100600400160200	40 G 0,5	19,20	530	39,0
10A100600500160200	50 G 0,5	21,30	680	39,0
10A100600020180200	2 x 0,75	6,60	56	26
10A100600030180200	3 G 0,75	6,80	65	26
10A100600040180200	4 G 0,75	7,60	83	26
10A100600050180200	5 G 0,75	8,60	105	26
10A100600060180200	6 G 0,75	9,90	132	26
10A100600070180200	7 G 0,75	9,90	135	26
10A100600080180200	8 G 0,75	10,40	158	26
10A100600100180200	10 G 0,75	12,20	212	26
10A100600120180200	12 G 0,75	12,60	234	26
10A100600140180200	14 G 0,75	13,40	268	26
10A100600160180200	16 G 0,75	14,20	302	26
10A100600200180200	20 G 0,75	15,50	366	26
10A100600250180200	25 G 0,75	17,70	475	26
10A100600300180200	30 G 0,75	18,90	546	26
10A100600370180200	37 G 0,75	20,70	661	26
10A100600400180200	40 G 0,75	21,50	681	26
10A100600500180200	50 G 0,75	23,30	855	26
10A100600020190200	2 x 1	7,00	66	19,5
10A100600030190200	3 G 1	7,20	76	19,5
10A100600040190200	4 G 1	8,10	98	19,5
10A100600050190200	5 G 1	8,90	120	19,5
10A100600060190200	6 G 1	10,30	156	19,5
10A100600070190200	7 G 1	10,30	164	19,5
10A100600080190200	8 G 1	11,20	192	19,5
10A100600100190200	10 G 1	13,20	257	19,5
10A100600120190200	12 G 1	13,60	284	19,5
10A100600140190200	14 G 1	14,00	311	19,5
10A100600160190200	16 G 1	14,80	351	19,5
10A100600200190200	20 G 1	16,50	437	19,5
10A100600250190200	25 G 1	19,00	575	19,5
10A100600300190200	30 G 1	19,80	639	19,5
10A100600370190200	37 G 1	21,60	772	19,5
10A100600410190200	41 G 1	22,80	835	19,5
10A100600500190200	50 G 1	25,90	1.100	19,5

CABLE H07RN-F 450/750V

CABLES FOR USE IN ATEX ZONES

Highly flexible cable suitable for installation in portable machines according to HD516, agricultural tools and machinery according to HD516, indoor and outdoor installations according to HD516, at premises at risk of fire or explosion according to ITC-BT29.

STANDARDS / GENERAL FEATURES
According to construction standards UNE 21027-4
Flame retardant according to EN60332-1-2 / IEC60332-1-1
Oil resistance according to UNE-EN60811-2-1
Resistance to UV rays
Resistance to low temperatures
Resistance to water absorption
Resistance to abrasion

STRUCTURE
Annealed electrolytic copper, Class 5 flexibility according to EN60228
Rubber insulation type EI4
Ductr identification HD308 (Colours) or EN50334 (with black numbering + ground wire) (Also available on request without agrounding Ductr)
Stranding in concentric layers
Outer sheath made of thermoset (PCP) polychloroprene (PCP, type EM2)
Black colour

TECHNICAL FEATURES
Rated voltage 450/750V
Test voltage 2,500V C.A. for 5 min.
Temperature range –40°C to 80°C in fixed installation, –25°C to 60°C in mobile installation
Minimum bending radius: 6 x Outer diameter
Electrical resistance according to UNE 60228

H07RN-F 450/750V					
Item No.:	Cond. x Section mm^2:	Min. Outer D. mm:	Max Outer D. mm:	Cable Weight kg/km:	Min. Bend Radious mm:
10A120100020200000	2 x 1,5	8,5	11,0	135	66
10A120100030200000	3 G 1,5	9,2	11,9	165	71
10A120100040200000	4 G 1,5	10,2	13,1	200	79
10A120100050200000	5 G 1,5	11,2	14,4	240	86
10A120100070200000	7 G 1,5	14,0	17,5	385	105
10A120100120200000	12 G 1,5	17,6	22,4	516	134
10A120100190200000	19 G 1,5	20,7	26,3	800	158
10A120100240200000	24 G 1,5	24,3	30,7	882	184
10A120100250200000	25 G 1,5	25,1	25,9	920	155
10A120100010220000	1 x 2,5	6,3	7,9	72	47
10A120100020220000	2 x 2,5	10,2	13,1	195	79
10A120100030220000	3 G 2,5	10,9	14,0	235	84
10A120100040220000	4 G 2,5	12,1	15,5	290	93

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CABLE H07RN-F 450/750V

H07RN-F 450/750V					
Item No.:	Cond. x Section mm^2:	Min. Outer D. mm:	Max Outer D. mm:	Cable Weight kg/km:	Min. Bend Radious mm:
10A120100050220000	5 G 2,5	13,3	17,0	294	102
10A120100070220000	7 G 2,5	16,5	20,0	520	120
10A120100120220000	12 G 2,5	20,6	26,2	810	157
10A120100190220000	19 G 2,5	25,5	31,0	1.200	186
10A120100240220000	24 G 2,5	28,8	36,4	1.650	218
10A120100010230000	1 x 4	7,2	9,0	99	54
10A120100020230000	2 x 4	11,8	15,1	270	91
10A120100030230000	3 G 4	12,7	16,2	320	97
10A120100040230000	4 G 4	14,0	17,9	395	107
10A120100050230000	5 G 4	15,6	19,9	485	119
10A120100070230000	7 G 4	21,0	21,8	681	131
10A120100010240000	1 x 6	7,9	9,8	130	59
10A120100030240000	3 G 6	14,1	18,0	360	108
10A120100040240000	4 G 6	15,7	20,0	475	120
10A120100050240000	5 G 6	17,5	22,2	760	133
10A120100010250000	1 x 10	9,5	11,9	230	71
10A120100030250000	3 G 10	19,1	24,2	880	145
10A120100040250000	4 G 10	20.9	26.5	1,060	159
10A120100050250000	5 G 10	22.9	29.1	1,300	175
10A120100010260000	1 x 16	10.8	13.4	320	80
10A120100030260000	3 G 16	21.8	27.6	1,090	166
10A120100040260000	4 G 16	23.8	30.1	1,345	181
10A120100050260000	5 G 16	26.4	33.3	1,680	200
10A120100010270000	1 x 25	12.7	15.8	450	95
10A120100040270000	4 G 25	28.9	36.6	1,995	220
10A120100050270000	5 G 25	32.0	40.4	2,470	242
10A120100010300000	1 x 35	14.3	17.9	605	107
10A120100030300000	3 G 35	29.3	37.1	1,910	223
10A120100040300000	4 G 35	32.5	41.1	2,645	247
10A120100050300000	5 G 35	37.0	45.0	2,810	270
10A120100010340000	1 x 50	16.5	20.6	825	124
10A120100040340000	4 G 50	37.7	47.5	3,635	285
10A120100050340000	5 G 50	40.0	50.8	4,050	305
10A120100010390000	1 x 70	18.6	23.3	1,090	140
10A120100040390000	4 G 70	42.7	54.0	4,830	324
10A120100010450000	1 x 95	20.8	26.0	1,405	156
10A120100040450000	4 G 95	48.4	61.0	6,320	366
10A120100010510000	1 x 120	22.8	28.6	1,745	172
10A120100040510000	4 G 120	53.0	66.0	6,830	396
10A120100010580000	1 x 150	25.2	31.4	1,887	188
10A120100040580000	4 G 150	58.0	73.0	8,320	438
10A120100010650000	1 x 185	27.6	34.4	2,274	206
10A120100040650000	4 G 185	64.0	80.0	9,800	480
10A120100010730000	1 x 240	30.6	38.3	2,304	230
10A120100040730000	4 G 240	72.0	91.0	12,800	546
10A120100010760000	1 x 300	33.5	41.9	2,880	251

CABLE RZ1MZ1-K 0.6/1KV - CCA-S1B,D1,A1

CABLES FOR USE IN ATEX ZONES

Flexible and reinforced cable suitable for electrical installations in premises with risk of fire and explosion according to ITC-BT-029, which complies with the requirements of the CPR Regulation for the classification of construction products. Recommended for low-voltage distribution networks, connections and lighting in all types of industrial plants with an extreme degree of demand and protection against all types of mechanical aggressions and extreme environments.

Cable suitable for fixed installations, protected or not, where a low emission of smoke and corrosive gases is required in case of fire.

STANDARDS / GENERAL FEATURES
Flame retardant according to EN60332-1-2 / IEC60331-1-1
Fire retardancy, heat emission and fire growth rate and flaming particle fallout according to EN 50399
Low halogen content according to UNE-EN 50267, EN 50267 and IEC 60754
Low emission of corrosive gases according to UNE-EN 50267, EN 50267 and IEC 60754 (conductivity < 2.5 µS/mm and pH > 4.3)
Smoke transmittance according to UNE-EN 61034-2, EN 61034-2 and IEC 61034-2

STRUCTURE
Electrolytic Polished Copper Conductor (Class 5) according to UNE-EN 60228, EN 60228 and IEC 60228
Insulation Cross-linked polyethylene (XLPE) type DIX 3 according to UNE 21123, HD 603 S1 and IEC 60502-1
Conductor identification according to UNE 21089 and HD 308 S2
Thermoplastic polyolefin reinforcement seat according to UNE 21123 and UNE-HD 603-1
Steel wire armour + steel strip counter-bar, minimum 90% coverage according to IEC 60502-1
Outer jacket of thermoplastic polyolefin type DMZ-E according to UNE 21123 and UNE-HD 603-1
Green colour

TECHNICAL FEATURES
Design standard according to IEC 60502-1 and UNE 21123-4
Rated voltage 0,6/1kV
Test voltage 3,500V C.A.
Maximum temperature 90 °C (250 °C for 5sec. in case of short circuit)
Minimum bending radius 10 x Outside diameter in fixed installation
Operating temperature -40 °C to +90 °C
Very high impact resistance (AG4)
BGood resistance to chemical attack

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CABLE RZ1MZ1-K 0.6/1KV - CCA-S1B,D1,A1

RZ1MZ1-K 0.6/1kV				
Item No.:	Cond. x section mm²:	Outer D. mm:	Cable Weight kg/km:	Resistance Ω/km at 20°C:
10A133700020200500	2 x 1,5	12,9	290	13,30
10A133700030200500	3 G 1,5	13,4	300	13,30
10A133700040200500	4 G 1,5	14,1	350	13,30
10A133700050200500	5 G 1,5	15,8	391	13,30
10A133700070200500	7 G 1,5	16,5	475	13,30
10A133700080200500	8 G 1,5	17,4	535	13,30
10A133700100200500	10 G 1,5	19,4	578	13,30
10A133700120200500	12 G 1,5	19,7	640	13,30
10A133700160200500	16 G 1,5	21,2	775	13,30
10A133700240200500	24 G 1,5	25,3	1.005	13,30
10A133700300200500	30 G 1,5	26,8	1.418	13,30
10A133700440200500	44 G 1,5	33,2	2.582	13,30
10A133700020220500	2 x 2,5	13,8	341	7,98
10A133700030220500	3 G 2,5	14,3	410	7,98
10A133700040220500	4 G 2,5	15,1	474	7,98
10A133700050220500	5 G 2,5	16,8	502	7,98
10A133700070220500	7 G 2,5	17,6	568	7,98
10A133700080220500	10 G 2,5	21,6	738	7,98
10A133700100220500	12 G 2,5	22,1	854	7,98
10A133700030230500	3 G 4	15,4	488	4,95
10A133700040230500	4 G 4	16,4	573	4,95
10A133700050230500	5 G 4	18,8	625	4,95
10A133700030240500	3 G 6	17,0	620	3,30
10A133700040240500	4 G 6	18,6	799	3,30
10A133700050240500	5 G 6	21,5	870	3,30
10A133700040250500	4 G 10	21,0	995	1,91
10A133700050250500	5 G 10	21,8	1.085	1,91
10A133700040260500	4 x 16	24,6	1.480	1,21
10A133700050260500	5 G 16	27,2	1.700	1,21
10A133700040270500	4 x 25	28,8	2.200	0,780
10A133700050270500	5 G 25	31,8	2.520	0,780
10A133700040300500	4 x 35	30,5	2.680	0,554
10A133700040340500	4 x 50	35,2	3.450	0,386
10A133700030390500	3 x 70	37,3	4.050	0,272
10A133700040390500	4 x 70	42,1	4.680	0,272
RZ1MAZ1-K				
10A133700010240500	1 x 6	12,0	217	3,30
10A133700010250500	1 x 10	12,8	265	1,91
10A133700010260500	1 x 16	13,6	336	1,21
10A133700010270500	1 x 25	15,6	469	0,780
10A133700010300500	1 x 35	16,8	583	0,554
10A133700010340500	1 x 50	18,2	719	0,386
10A133700010390500	1 x 70	19,9	949	0,272
10A133700010450500	1 x 95	23,6	1.353	0,206
10A133700010510500	1 x 120	25,6	1.623	0,161
10A133700010580500	1 x 150	27,5	1.933	0,129
10A133700010650500	1 x 185	29,7	2.358	0,106
10A133700010730500	1 x 240	32,7	2.967	0,080

SPIRAL CABLE, STEEL (1 CORE)

ATEX GROUNDING

For use in hazardous areas according to EN 60079-14.

The steel spiral cables offer superior mechanical strength.

The cable withstands continuous daily use and is extremely resistant to acids, alkalis, mineral oils, greases and other chemicals due to its cable coating.

These spiral cables meet all requirements of the standards EN 60079-0 and EN 60079-14 and may be used accordingly in potentially explosive atmospheres.

The spiral cables are free of silicone.

The cable ends can be assembled with eyelets at no extra charge.

ITEM REFERENCES				
Designation:	Cable colour:	Core:	Block length:	Item No.:
1m straight cable	Green	Steel-core	-	A179008
3m spiral cable	Green	Steel-core	160 mm	A173019
5m spiral cable	Green	Steel-core	260 mm	A173020
10m spiral cable	Green	Steel-core	600 mm	A173021
1m straight cable	Green/Yellow	Steel-core	-	A173010
3m spiral cable	Green/Yellow	Steel-core	160 mm	A173022
5m spiral cable	Green/Yellow	Steel-core	260 mm	A173023
10m spiral cable	Green/Yellow	Steel-core	600 mm	A173024

TECHNICAL SPECIFICATIONS	
Cable type:	ST-Li2Y
Cable colour:	Green or Green / Yellow
Cross section:	4 mm^2
Wire type:	Steel cable
Ambient temperature:	-40°C...+80°C

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SPIRAL CABLE, COPPER (1 CORE)

ATEX GROUNDING

The copper spiral cables offer extremely high flexibility. The copper core used consists of 226 individual copper strands, which minimize the risk of cable breakage. The cable coating protects well against acids, alkalis, mineral oils, greases and other chemicals.

These spiral cables meet all requirements of the standards EN 60079-0 and EN 60079-14 and may be used accordingly in explosive areas.

The spiral cables are free of silicone. The cable ends can be assembled with eyelets at no extra charge.

For use in hazardous areas according to EN 60079-14.

ITEM REFERENCES				
Designation:	Cable colour:	Cross section:	Block length:	Item No.:
1m straight cable	Green/Yellow	4 mm²	-	A179010
1m spiral cable	Green/Yellow	4 mm²	100 mm	A416106
3m spiral cable	Green/Yellow	4 mm²	600 mm	A416123
5m spiral cable	Green/Yellow	4 mm²	1000 mm	A416107
10m spiral cable	Green/Yellow	4 mm²	2000 mm	A416108
1m spiral cable	Green/Yellow	2,5 mm² (according to TRGS 727)	100 mm	A179013
3m spiral cable	Green/Yellow	2,5 mm² (according to TRGS 727)	600 mm	A416332
5m spiral cable	Green/Yellow	2,5 mm² (according to TRGS 727)	1000 mm	A416333

TECHNICAL SPECIFICATIONS	
Cable type:	LIF11Y11Y, 226x0,15mm
Cable colour:	Green / Yellow
Cross section:	4 mm² / 2,5 mm²
Wire type:	Copper
Ambient temperature:	-40°C...+80°C

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NON-SPARKING TOOLS

15- NON-SPARKING TOOLS

Inpratex non-sparking tools are the ideal solution for applications and processes in potentially explosive (ATEX) environments, where safety is a critical factor. Inpratex offers a wide range of ergonomic, easy-to-use non-sparking tools with a functional and robust design, suitable for demanding industrial applications.

These non-magnetic non-sparking tools are manufactured using special Aluminium-Bronze (Al-Bron) or Copper-Beryllium (Cu-Be) alloys, ensuring safe use in ATEX-classified areas, even in the presence of hazardous, flammable or combustible vapours, liquids, dusts or residues.

In addition, Inpratex also offers non-sparking tools specifically designed for use in acetylene atmospheres, where tools with a copper content exceeding 65% are not permitted, in full compliance with applicable safety requirements.

PLIERS
PINCERS
ADJUSTABLE WRENCHES
OPEN-END WRENCHES
HEXAGONAL KEYS
COMBINATION WRENCHES
DOUBLE OFFSET RING WRENCHES
RING WRENCHES
SLOGGING WRENCHES
SOCKET WRENCHES
IMPACT SOCKET WRENCHES
SCREWDRIVERS
CUTTING TOOLS
HAMMERS
PICKAXES AND SHOVELS
AXES
RAKES
PIPE TOOLS
SPECIAL WRENCHES
FILES
BRUSHES
TWEEZERS
EXTRACTORS
MISCELLANEOUS

TOOLS FOR ACETYLENE ENVIRONMENTS

SAFETY KITS

Gamas de productos constantemente actualizadas en nuestro sitio web: ***www.inpratex.com***

NON-SPARKING TOOLS

ZONES 1, 2 (gas) & 21, 22 (dust)

Non-sparking tool range made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres.

These Non-sparking are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

- Non-sparking tools can not reach the hardness of conventional tools. For this reason, special care must be taken when using them, avoiding heavy stress and high temperatures.

- If for all wrench/screwdriver it is imperative to use the size corresponding to the nut or screw, in the case of anti-spark spanners is even more so, since if a wrench/screwdriver of a different size is used improperly, the shearing effect that would be caused, would lead to its deterioration.

- The use of anti-spark tools should not be the only preventive measure in areas where they are designed for this purpose. Other objects, such as clothing or other materials must also be suitable for anti-spark applications.

IMPORTANT CONSIDERATION:

The hardness and resistance that can be achieved with the materials used to manufacture non-sparking tools is significantly lower than that which can be obtained in tools made of steel. Due to these special characteristics of the material employed, non sparking tools can not be guaranteed against any deformation or breakage. Non sparking tools will be replaced under guarantee only when the hardness of the damaged tool does not reach (or exceeds) the one indicated in our catalogue: 283-365 Brinell for those made in copper-beryllium and 229-291 Brinell for those made in aluminum bronze.

MATERIALS		
Copper-Beryllium Alloy		
Composition:	Be	1.8 % - 2 %
	Ni+Co	0.2 % - 1.2 %
	Other	<0.5 %
	Rest	Cu
Hardness:	283-365 Brinell	
Tensile strength:	1250 N/mm^2	
Aluminium-Bronze Alloy		
Composition:	Al	10 % - 12 %
	Ni	4 % - 6 %
	Fe+Mn	<5.8 %
	Other	<0.5 %
	Rest	Cu
Hardness:	229-291 Brinell	
Tensile strength:	800 N/mm^2	

PROPERTIES AND CHARACTERISTICS	
Property:	Application or benefit:
Non-sparking	Suitable for potentially explosive environments.
Non-magnetic safety	Essential for equipments that require complete non-magnetic safety
Corrosion resistant	Specially well suited for applications in corrosive environments like encountered in marine works or fire-fighting applications
Forged after casting	Provides higher mechanical properties and better finishing.
Ergonomic designs	The use of bi-material anti-slippery handles, dipping anti-slippery handles, totally ergonomic designs make operations easier, more comfortable and master.
CAUTION: These tools are not classified as anti-static because they do conduct electricity. Do not use high copper content tools (>65%) in direct contact with acetylene due to the possible formation of explosive acetylide, specially in the presence of moisture.	

DIFFERENCES AND CORRECT CHOICE		
Concept:	COPPER-BERILLIUM Cu-Be	ALUMINIO-BRONCE Al-Bron
Hardness:	283-365 Brinell.	229-291 Brinell.
Magnetism:	Non ferrous substance in the composition makes it safer when non-magnetic applications are required.	Minimum ferrous component makes them not 100% non-magnetic, although its low magnetism make it appropiate for non critical non-magnetic applications.
Durability:	Much higher due to the higher hardness and tensile strength. Higher efforts can be made.	Not as much as Cu-Be.
Price:	Higher price due to the special raw material used.	Around 30 % lower price.

MAIN APPLICATION FIELDS			
Petrochemicals	Plastic manufacturing	Breweries	Air Forces
Refineries	Pharmaceutical Industry	Alcohol processing industries	Navy
Oil Companies	Fireworks Industry	Distilleries	Weapon & ammunition fabrication
Gas & oil pipe lines	Chemical Industry	Fire-fighters	Aerospace industry
Power Stations	Paper making Industries	Mines	Automobile Industry
Paint Manufacturing	Flour silos and mills	Defence	Etc.

COPPER BERYLLIUM ALLOY

Non ferrous substance in the composition makes it safer when non-magnetic applications are required.

ALUMINIUM BRONZE ALLOY

Minimum ferrous component makes them not 100% non-magnetic, although its low magnetism make it appropiate for non critical non-magnetic applications.

NON-SPARKING PLIERS

NON-SPARKING TOOLS

ZONES 1, 2 (gas) & 21, 22 (dust)

Non-sparking pliers, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking pliers are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

COMBINATION

	Size:	Weight:	Alloy:	Item No.:
	160 mm	250 gr	Copper-Beryllium	11A70100
			Aluminium-Bronze	11A70530
	180 mm	320 gr	Copper-Beryllium	11A70101
			Aluminium-Bronze	11A70531
	200 mm	370 gr	Copper-Beryllium	11A70102
			Aluminium-Bronze	11A70532

FLAT NOSE

	Size:	Weight:	Alloy:	Item No.:
	160 mm	170 gr	Copper-Beryllium	11A70103
			Aluminium-Bronze	11A70533

ROUND NOSE

	Size:	Weight:	Alloy:	Item No.:
	160 mm	160 gr	Copper-Beryllium	11A70104
			Aluminium-Bronze	11A70534

LONG NOSE

	Size:	Weight:	Alloy:	Item No.:
	160 mm	250 gr	Copper-Beryllium	11A70105
			Aluminium-Bronze	11A70535
	180 mm	270 gr	Copper-Beryllium	11A76130
			Aluminium-Bronze	11A76131
	200 mm	370 gr	Copper-Beryllium	11A70106
			Aluminium-Bronze	11A70536

BENT NOSE

	Size:	Weight:	Alloy:	Item No.:
	160 mm	250 gr	Copper-Beryllium	11A73148
			Aluminium-Bronze	11A73149
	180 mm	270 gr	Copper-Beryllium	11A73146
			Aluminium-Bronze	11A73151
	200 mm	370 gr	Copper-Beryllium	11A73647
			Aluminium-Bronze	11A73650

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NON-SPARKING PLIERS

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DIAGONAL CUTTING				
	Size:	Weight:	Alloy:	Item No.:
	160 mm	250 gr	Copper-Beryllium	11A70107
			Aluminium-Bronze	11A70537
	200 mm	370 gr	Copper-Beryllium	11A76474
			Aluminium-Bronze	11A76475

HEAVY DUTY CUTTING				
	Size:	Weight:	Alloy:	Item No.:
	160 mm	260 gr	Copper-Beryllium	11A72094
			Aluminium-Bronze	11A72095
	180 mm	320 gr	Copper-Beryllium	11A70108
			Aluminium-Bronze	11A70538

GAS PIPE				
	Size:	Weight:	Alloy:	Item No.:
	210 mm	370 gr	Copper-Beryllium	11A70109
			Aluminium-Bronze	11A70539

SLIP JOINT				
	Size:	Weight:	Alloy:	Item No.:
	8”	250 gr	Copper-Beryllium	11A70114
			Aluminium-Bronze	11A70544

WIRSTRIPPER				
	Size:	Weight:	Alloy:	Item No.:
	170 mm	270 gr	Copper-Beryllium	11A73903
			Aluminium-Bronze	11A73904

NON-SPARKING PINCERS

NON-SPARKING TOOLS

ZONES 1, 2 (gas) & 21, 22 (dust)

Non-sparking pincers, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking pincers are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

GROOVE JOINT			
	Size:	Alloy:	Item No.:
	10”	Copper-Beryllium	11A70110
		Aluminium-Bronze	11A70540
	12”	Copper-Beryllium	11A70111
		Aluminium-Bronze	11A70541

BOX JOINT			
	Size:	Alloy:	Item No.:
	10”	Copper-Beryllium	11A73897
		Aluminium-Bronze	11A73898

BOX JOINT			
	Size:	Alloy:	Item No.:
	10”	Copper-Beryllium	11A72300
		Aluminium-Bronze	11A72302

CURVED JAW GRIP			
	Size:	Alloy:	Item No.:
	9”	Copper-Beryllium	11A79463
		Aluminium-Bronze	11A79464

CARPENTER			
	Size:	Alloy:	Item No.:
	7”	Copper-Beryllium	11A70112
		Aluminium-Bronze	11A70542
	8”	Copper-Beryllium	11A70113
		Aluminium-Bronze	11A70543

CRIMPING			
	Size:	Alloy:	Item No.:
	8”	Copper-Beryllium	11A73900
		Aluminium-Bronze	11A73901

NON-SPARKING ADJUSTABLE WRENCHES

NON-SPARKING TOOLS | ZONES 1, 2 (gas) & 21, 22 (dust)

Non-sparking adjustable wrenches, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking adjustable wrenches are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

ADJUSTABLE WRENCHES

Size:	Lenght:	Opening capacity:	Weight:	Alloy:	Item No.:
4”	100 mm	13 mm	55 gr	Copper-Beryllium	11A72685
				Aluminium-Bronze	11A73992
6”	150 mm	19 mm	160 gr	Copper-Beryllium	11A71448
				Aluminium-Bronze	11A71451
8”	200 mm	24 mm	330 gr	Copper-Beryllium	11A70117
				Aluminium-Bronze	11A71452
10”	250 mm	28 mm	550 gr	Copper-Beryllium	11A70118
				Aluminium-Bronze	11A71453
12”	300 mm	34 mm	850 gr	Copper-Beryllium	11A70119
				Aluminium-Bronze	11A71454
15”	375 mm	43 mm	1250 gr	Copper-Beryllium	11A70120
				Aluminium-Bronze	11A71455
18”	450 mm	52 mm	2200 gr	Copper-Beryllium	11A71449
				Aluminium-Bronze	11A71456
24”	600 mm	62 mm	3100 gr	Copper-Beryllium	11A71450
				Aluminium-Bronze	11A71457
30”	750 mm	70 mm	6800 gr	Copper-Beryllium	11A36804
				Aluminium-Bronze	11A36805
36”	900 mm	75 mm	7800 gr	Copper-Beryllium	11A75315
				Aluminium-Bronze	11A75316

COMFORT

Size:	Lenght:	Opening capacity:	Weight:	Alloy:	Item No.:
6”	150 mm	19 mm	180 gr	Copper-Beryllium	11A75099
				Aluminium-Bronze	11A75098
8”	200 mm	24 mm	350 gr	Copper-Beryllium	11A75112
				Aluminium-Bronze	11A75111
10”	250 mm	28 mm	570 gr	Copper-Beryllium	11A75114
				Aluminium-Bronze	11A75113

LIGHT

Size:	Lenght:	Opening capacity:	Weight:	Alloy:	Item No.:
6”	150 mm	20 mm	140 gr	Copper-Beryllium	11A35746
				Aluminium-Bronze	11A35747
8”	200 mm	25 mm	270 gr	Copper-Beryllium	11A35748
				Aluminium-Bronze	11A35749
10”	250 mm	30 mm	460 gr	Copper-Beryllium	11A35750
				Aluminium-Bronze	11A35751
12”	300 mm	35 mm	710 gr	Copper-Beryllium	11A35752
				Aluminium-Bronze	11A35753
15”	375 mm	48 mm	1500 gr	Copper-Beryllium	11A35754
				Aluminium-Bronze	11A35755

NON-SPARKING DOUBLE OPEN-END WRENCHES

NON-SPARKING TOOLS | **ZONES 1, 2 (gas) & 21, 22 (dust)**

Non-sparking double open-end wrenches, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking double open-end wrenches are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

MILIMETERS				
Size:	Lenght:	Weight:	Alloy:	Item No.:
4-5 mm	90 mm	30 gr	Copper-Beryllium	11A75240
			Aluminium-Bronze	11A75241
5-5,5 mm	90 mm	30 gr	Copper-Beryllium	11A75242
			Aluminium-Bronze	11A75243
6-7 mm	95 mm	40 gr	Copper-Beryllium	11A70135
			Aluminium-Bronze	11A70549
6-8 mm	95 mm	40 gr	Copper-Beryllium	11A70136
			Aluminium-Bronze	11A70550
7-8 mm	95 mm	50 gr	Copper-Beryllium	11A76871
			Aluminium-Bronze	11A76872
7-9 mm	95 mm	55 gr	Copper-Beryllium	11A70137
			Aluminium-Bronze	11A70551
8-9 mm	100 mm	60 gr	Copper-Beryllium	11A70138
			Aluminium-Bronze	11A70552
8-10 mm	100 mm	65 gr	Copper-Beryllium	11A70139
			Aluminium-Bronze	11A70553
9-10 mm	105 mm	70 gr	Copper-Beryllium	11A70140
			Aluminium-Bronze	11A70554
9-11 mm	110 mm	75 gr	Copper-Beryllium	11A70141
			Aluminium-Bronze	11A70555
10-11 mm	115 mm	85 gr	Copper-Beryllium	11A70142
			Aluminium-Bronze	11A70556
10-12 mm	120 mm	95 gr	Copper-Beryllium	11A70143
			Aluminium-Bronze	11A70557
10-13 mm	120 mm	95 gr	Copper-Beryllium	11A76873
			Aluminium-Bronze	11A76874
10-14 mm	125 mm	115 gr	Copper-Beryllium	11A70144
			Aluminium-Bronze	11A70558
11-13 mm	125 mm	120 gr	Copper-Beryllium	11A75244
			Aluminium-Bronze	11A75245
11-14 mm	125 mm	125 gr	Copper-Beryllium	11A70145
			Aluminium-Bronze	11A70559
12-13 mm	125 mm	135 gr	Copper-Beryllium	11A70146
			Aluminium-Bronze	11A70560
12-14 mm	130 mm	145 gr	Copper-Beryllium	11A70147
			Aluminium-Bronze	11A70561
13-14 mm	130 mm	145 gr	Copper-Beryllium	11A76875
			Aluminium-Bronze	11A76876
13-15 mm	135 mm	165 gr	Copper-Beryllium	11A73648
			Aluminium-Bronze	11A73649

NON-SPARKING DOUBLE OPEN-END WRENCHES

MILIMETERS					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	13-17 mm	135 mm	165 gr	Copper-Beryllium	11A36550
				Aluminium-Bronze	11A36551
	14-15 mm	145 mm	165 gr	Copper-Beryllium	11A70148
				Aluminium-Bronze	11A70562
	14-16 mm	150 mm	170 gr	Copper-Beryllium	11A76877
				Aluminium-Bronze	11A76878
	14-17 mm	150 mm	180 gr	Copper-Beryllium	11A70149
				Aluminium-Bronze	11A70563
	16-17 mm	155 mm	200 gr	Copper-Beryllium	11A70150
				Aluminium-Bronze	11A70564
	16-18 mm	165 mm	210 gr	Copper-Beryllium	11A70151
				Aluminium-Bronze	11A70565
	17-19 mm	170 mm	230 gr	Copper-Beryllium	11A70152
				Aluminium-Bronze	11A70566
	17-22 mm	175 mm	270 gr	Copper-Beryllium	11A70153
				Aluminium-Bronze	11A70567
	18-19 mm	180 mm	280 gr	Copper-Beryllium	11A70154
				Aluminium-Bronze	11A70568
	18-20 mm	180 mm	280 gr	Copper-Beryllium	11A76879
				Aluminium-Bronze	11A76880
	19-20 mm	180 mm	280 gr	Copper-Beryllium	11A74625
				Aluminium-Bronze	11A74626
	19-22 mm	185 mm	330 gr	Copper-Beryllium	11A70155
				Aluminium-Bronze	11A70569
	19-24 mm	185 mm	360 gr	Copper-Beryllium	11A70156
				Aluminium-Bronze	11A70570
	20-22 mm	195 mm	370 gr	Copper-Beryllium	11A70157
				Aluminium-Bronze	11A70571
	21-22 mm	195 mm	390 gr	Copper-Beryllium	11A74627
				Aluminium-Bronze	11A74628
	21-23 mm	200 mm	410 gr	Copper-Beryllium	11A70158
				Aluminium-Bronze	11A70572
	22-23 mm	200 mm	410 gr	Copper-Beryllium	11A75246
				Aluminium-Bronze	11A75247
	22-24 mm	210 mm	440 gr	Copper-Beryllium	11A70159
				Aluminium-Bronze	11A70573
	22-27 mm	210 mm	470 gr	Copper-Beryllium	11A70160
				Aluminium-Bronze	11A70574
	23-25 mm	220 mm	500 gr	Copper-Beryllium	11A76090
				Aluminium-Bronze	11A76091
	23-26 mm	220 mm	500 gr	Copper-Beryllium	11A76881
				Aluminium-Bronze	11A76882
	24-25 mm	220 mm	500 gr	Copper-Beryllium	11A75248
				Aluminium-Bronze	11A75249
	24-26 mm	220 mm	500 gr	Copper-Beryllium	11A70161
				Aluminium-Bronze	11A70575

NON-SPARKING DOUBLE OPEN-END WRENCHES

MILIMETERS				
Size:	Lenght:	Weight:	Alloy:	Item No.:
24-27 mm	230 mm	550 gr	Copper-Beryllium	11A70162
			Aluminium-Bronze	11A70576
24-30 mm	230 mm	550 gr	Copper-Beryllium	11A72923
			Aluminium-Bronze	11A72922
25-28 mm	240 mm	550 gr	Copper-Beryllium	11A70163
			Aluminium-Bronze	11A70577
26-27 mm	240 mm	550 gr	Copper-Beryllium	11A76092
			Aluminium-Bronze	11A76093
26-29 mm	240 mm	550 gr	Copper-Beryllium	11A74831
			Aluminium-Bronze	11A74832
27-28 mm	250 mm	650 gr	Copper-Beryllium	11A76094
			Aluminium-Bronze	11A76095
27-29 mm	250 mm	650 gr	Copper-Beryllium	11A70164
			Aluminium-Bronze	11A70578
27-30 mm	250 mm	650 gr	Copper-Beryllium	11A75250
			Aluminium-Bronze	11A71821
28-30 mm	250 mm	650 gr	Copper-Beryllium	11A75251
			Aluminium-Bronze	11A75252
27-32 mm	250 mm	700 gr	Copper-Beryllium	11A72925
			Aluminium-Bronze	11A72924
30-31 mm	260 mm	750 gr	Copper-Beryllium	11A75253
			Aluminium-Bronze	11A75254
30-32 mm	260 mm	750 gr	Copper-Beryllium	11A70165
			Aluminium-Bronze	11A70579
30-34 mm	260 mm	900 gr	Copper-Beryllium	11A73007
			Aluminium-Bronze	11A73006
30-36 mm	260 mm	900 gr	Copper-Beryllium	11A72927
			Aluminium-Bronze	11A72926
32-34 mm	260 mm	1000 gr	Copper-Beryllium	11A75255
			Aluminium-Bronze	11A75256
32-35 mm	260 mm	1100 gr	Copper-Beryllium	11A75257
			Aluminium-Bronze	11A75258
32-36 mm	260 mm	1150 gr	Copper-Beryllium	11A70166
			Aluminium-Bronze	11A70580
33-35 mm	300 mm	1300 gr	Copper-Beryllium	11A75259
			Aluminium-Bronze	11A75260
34-36 mm	300 mm	1500 gr	Copper-Beryllium	11A70167
			Aluminium-Bronze	11A70581
35-36 mm	300 mm	1500 gr	Copper-Beryllium	11A75261
			Aluminium-Bronze	11A75262
36-38 mm	320 mm	1500 gr	Copper-Beryllium	11A75263
			Aluminium-Bronze	11A75264
36-41 mm	330 mm	1500 gr	Copper-Beryllium	11A73337
			Aluminium-Bronze	11A73336
38-40 mm	340 mm	1600 gr	Copper-Beryllium	11A73297
			Aluminium-Bronze	11A36443

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NON-SPARKING DOUBLE OPEN-END WRENCHES

MILIMETERS					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	38-40 mm	340 mm	1600 gr	Copper-Beryllium	11A73297
				Aluminium-Bronze	11A36443
	38-42 mm	340 mm	1600 gr	Copper-Beryllium	11A75265
				Aluminium-Bronze	11A75266
	41-46 mm	350 mm	1800 gr	Copper-Beryllium	11A70168
				Aluminium-Bronze	11A70582
	46-50 mm	370 mm	2100 gr	Copper-Beryllium	11A72921
				Aluminium-Bronze	11A72919
	50-52 mm	380 mm	2500 gr	Copper-Beryllium	11A73390
				Aluminium-Bronze	11A73389
	50-55 mm	385 mm	2500 gr	Copper-Beryllium	11A76096
				Aluminium-Bronze	11A76097
	50-60 mm	400 mm	3000 gr	Copper-Beryllium	11A76885
				Aluminium-Bronze	11A76886
	50-62 mm	400 mm	3300 gr	Copper-Beryllium	11A70169
				Aluminium-Bronze	11A70583
	55-60 mm	410 mm	3300 gr	Copper-Beryllium	11A70588
				Aluminium-Bronze	11A70584
	60-65 mm	430 mm	4550 gr	Copper-Beryllium	11A70589
				Aluminium-Bronze	11A70585
	65-70 mm	460 mm	7600 gr	Copper-Beryllium	11A70590
				Aluminium-Bronze	11A70586
	70-80 mm	500 mm	9200 gr	Copper-Beryllium	11A70591
				Aluminium-Bronze	11A70587

INCHES					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	3/16-1/4 ”	90 mm	22 gr	Copper-Beryllium	11A36218
				Aluminium-Bronze	11A36219
	7/32-1/4 ”	90 mm	20 gr	Copper-Beryllium	11A70592
				Aluminium-Bronze	11A70637
	1/4-9/32 “	90 mm	35 gr	Copper-Beryllium	11A70593
				Aluminium-Bronze	11A70638
	1/4-5/16 “	90 mm	35 gr	Copper-Beryllium	11A70594
				Aluminium-Bronze	11A70639
	5/16-3/8 “	100 mm	45 gr	Copper-Beryllium	11A70595
				Aluminium-Bronze	11A70640
	3/8-7/16 “	110 mm	60 gr	Copper-Beryllium	11A70596
				Aluminium-Bronze	11A70641
	3/8-1/2 “	115 mm	65 gr	Copper-Beryllium	11A75275
				Aluminium-Bronze	11A75276
	7/16-1/2 “	120 mm	85 gr	Copper-Beryllium	11A70597
				Aluminium-Bronze	11A70642
	1/2-9/16 “	130 mm	90 gr	Copper-Beryllium	11A70598
				Aluminium-Bronze	11A70643

NON-SPARKING DOUBLE OPEN-END WRENCHES

INCHES				
Size:	Lenght:	Weight:	Alloy:	Item No.:
1/2-5/8 “	150 mm	100 gr	Copper-Beryllium	11A70599
			Aluminium-Bronze	11A70644
1/2-11/16 “	150 mm	110 gr	Copper-Beryllium	11A70600
			Aluminium-Bronze	11A70645
9/16-5/8 “	150 mm	120 gr	Copper-Beryllium	11A70601
			Aluminium-Bronze	11A70646
9/16-3/4 “	150 mm	130 gr	Copper-Beryllium	11A70602
			Aluminium-Bronze	11A70647
19/32-11/16 “	150 mm	140 gr	Copper-Beryllium	11A70603
			Aluminium-Bronze	11A70648
19/32-25/32 “	165 mm	150 gr	Copper-Beryllium	11A70604
			Aluminium-Bronze	11A70649
5/8-11/16 “	165 mm	150 gr	Copper-Beryllium	11A74835
			Aluminium-Bronze	11A74836
5/8-3/4 “	165 mm	160 gr	Copper-Beryllium	11A70605
			Aluminium-Bronze	11A70650
11/16-3/4 “	170 mm	165 gr	Copper-Beryllium	11A75277
			Aluminium-Bronze	11A75278
11/16-25/32 “	170 mm	180 gr	Copper-Beryllium	11A70606
			Aluminium-Bronze	11A70651
11/16-7/8 “	180 mm	200 gr	Copper-Beryllium	11A70607
			Aluminium-Bronze	11A70652
3/4-25/32 “	180 mm	220 gr	Copper-Beryllium	11A76887
			Aluminium-Bronze	11A76888
3/4-13/16 “	180 mm	220 gr	Copper-Beryllium	11A70608
			Aluminium-Bronze	11A70653
3/4-7/8 “	185 mm	230 gr	Copper-Beryllium	11A70609
			Aluminium-Bronze	11A70654
25/32-13/16 “	185 mm	230 gr	Copper-Beryllium	11A70610
			Aluminium-Bronze	11A70655
25/32-7/8 “	190 mm	230 gr	Copper-Beryllium	11A70611
			Aluminium-Bronze	11A70656
13/16-7/8 “	190 mm	240 gr	Copper-Beryllium	11A70612
			Aluminium-Bronze	11A70657
7/8-15/16 “	210 mm	300 gr	Copper-Beryllium	11A70613
			Aluminium-Bronze	11A70658
7/8-31/32 “	210 mm	320 gr	Copper-Beryllium	11A70614
			Aluminium-Bronze	11A70659
7/8-1 “	220 mm	340 gr	Copper-Beryllium	11A70615
			Aluminium-Bronze	11A70660
15/16-1 “	220 mm	360 gr	Copper-Beryllium	11A70616
			Aluminium-Bronze	11A70661
7/8-1.1/16 “	230 mm	380 gr	Copper-Beryllium	11A70617
			Aluminium-Bronze	11A70662
15/16-1.1/16 “	230 mm	410 gr	Copper-Beryllium	11A70618
			Aluminium-Bronze	11A70663

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NON-SPARKING DOUBLE OPEN-END WRENCHES

INCHES					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	1-1.1/16 “	230 mm	410 gr	Copper-Beryllium	11A74837
				Aluminium-Bronze	11A74838
	1-1.1/8 “	230 mm	430 gr	Copper-Beryllium	11A70619
				Aluminium-Bronze	11A70664
	1-1.5/16 “	230 mm	450 gr	Copper-Beryllium	11A76889
				Aluminium-Bronze	11A76890
	1.1/16-1.1/8 “	230 mm	450 gr	Copper-Beryllium	11A70620
				Aluminium-Bronze	11A70665
	1.1/16-1.1/4 “	250 mm	500 gr	Copper-Beryllium	11A70621
				Aluminium-Bronze	11A70666
	1.1/8-1.3/16 “	250 mm	500 gr	Copper-Beryllium	11A74839
				Aluminium-Bronze	11A74840
	1.1/8-1.5/16 “	260 mm	550 gr	Copper-Beryllium	11A70622
				Aluminium-Bronze	11A70667
	1.3/16-1.1/4 “	260 mm	550 gr	Copper-Beryllium	11A75281
				Aluminium-Bronze	11A75282
	1.1/16-1.7/16 “	270 mm	600 gr	Copper-Beryllium	11A70623
				Aluminium-Bronze	11A70668
	1.1/8-1.1/2 “	270 mm	700 gr	Copper-Beryllium	11A70624
				Aluminium-Bronze	11A70669
	1.1/4-1.5/16 “	270 mm	700 gr	Copper-Beryllium	11A75283
				Aluminium-Bronze	11A75284
	1.1/4-1.3/8 “	290 mm	700 gr	Copper-Beryllium	11A70625
				Aluminium-Bronze	11A70670
	1.1/4-1.7/16 “	290 mm	850 gr	Copper-Beryllium	11A70626
				Aluminium-Bronze	11A70671
	1.5/16-1.3/8 “	290 mm	900 gr	Copper-Beryllium	11A75285
				Aluminium-Bronze	11A75286
	1.5/16-1.1/2 “	320 mm	900 gr	Copper-Beryllium	11A70627
				Aluminium-Bronze	11A70672
	1.3/8-1.7/16 “	320 mm	1000 gr	Copper-Beryllium	11A75287
				Aluminium-Bronze	11A75288
	1.3/8-1.1/2 “	320 mm	1050 gr	Copper-Beryllium	11A70628
				Aluminium-Bronze	11A70673
	1.7/16-1.5/8 “	330 mm	1250 gr	Copper-Beryllium	11A70629
				Aluminium-Bronze	11A70674
	1.1/2-1.9/16 “	340 mm	1300 gr	Copper-Beryllium	11A75289
				Aluminium-Bronze	11A75290
	1.1/2-1.11/16 “	340 mm	1500 gr	Copper-Beryllium	11A70630
				Aluminium-Bronze	11A70675
	1.5/8-1.13/16 “	350 mm	1800 gr	Copper-Beryllium	11A70631
				Aluminium-Bronze	11A70676
	1.3/4-1.5/8 “	350 mm	2100 gr	Copper-Beryllium	11A70632
				Aluminium-Bronze	11A70677
	11.11/16-1.7/8 “	350 mm	2500 gr	Copper-Beryllium	11A70633
				Aluminium-Bronze	11A770678

NON-SPARKING DOUBLE OPEN-END WRENCHES

INCHES					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	1.13/16-2 “	370 mm	2800 gr	Copper-Beryllium	11A70634
				Aluminium-Bronze	11A70679
	2-2.3/16 “	380 mm	2800 gr	Copper-Beryllium	11A75291
				Aluminium-Bronze	11A75292
	2-2.3/8 “	400 mm	2800 gr	Copper-Beryllium	11A75293
				Aluminium-Bronze	11A75294
	2.1/16-2.5/16 “	410 mm	3100 gr	Copper-Beryllium	11A70635
				Aluminium-Bronze	11A70680
	2.3/16-2.3/8 “	410 mm	3100 gr	Copper-Beryllium	11A75295
				Aluminium-Bronze	11A75296
	2.1/4-2.3/8 “	410 mm	3300 gr	Copper-Beryllium	11A70636
				Aluminium-Bronze	11A70681
	2.3/8-2.9/16 “	430 mm	3700 gr	Copper-Beryllium	11A75297
				Aluminium-Bronze	11A75298

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NON-SPARKING DOUBLE OPEN-END WRENCHES SET

NON-SPARKING TOOLS | ZONES 1, 2 (gas) & 21, 22 (dust)

Non-sparking double open-end wrenches set, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking double open-end wrenches are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/ or 21 of all explosion groups (I, IIA, IIB and IIC).

MILIMETERS				
	Pieces:	Sizes:	Alloy:	Item No.:
	6	16-7, 8-9, 10-11, 12-13, 14-15, 16-17 mm	Copper-Beryllium	11A76400
			Aluminium-Bronze	11A76401
	8	6-7, 8-9, 10-11, 12-13, 14-15, 16-17, 18-19, 20-22 mm	Copper-Beryllium	11A76402
			Aluminium-Bronze	11A76403
	10	6-7, 8-9, 10-11, 12-13, 14-15, 16-17, 18-19, 20-22, 21-23, 24-26 mm	Copper-Beryllium	11A76404
			Aluminium-Bronze	11A76405
	12	6-7, 8-9, 10-11, 12-13, 14-15, 16-17, 18-19, 20-22, 21-23, 24-26, 25-28, 30-32 mm	Copper-Beryllium	11A76406
			Aluminium-Bronze	11A76407
	12	6-7, 8-9, 10-11, 12-13, 14-15, 16-17, 18-19, 20-22, 21-23, 24-27, 25-28, 30-32 mm	Copper-Beryllium	11A76408
			Aluminium-Bronze	11A76409

INCHES				
	Pieces:	Sizes:	Alloy:	Item No.:
	6	3/8-7/16, 1/2-9/16, 9/16-5/8, 19/32-11/16, 5/8-11/16, 13/16-7/8 ”	Copper-Beryllium	11A76410
			Aluminium-Bronze	11A76411
	8	3/8-7/16, 1/2-9/16, 9/16-5/8, 19/32-11/16, 5/8-11/16, 3/4-7/8, 13/16-7/8, 15/16-1 ”	Copper-Beryllium	11A76412
			Aluminium-Bronze	11A76413

NON-SPARKING DOUBLE OPEN-END WRENCHES SET

INCHES				
	Pieces:	Sizes:	Alloy:	Item No.:
	10	1/4-5/16, 5/16-3/8, 3/8-7/16, 1/2-9/16, 9/16-5/8, 5/8-11/16, 13/16-7/8, 15/16-1, 1-1.1/8, 1.1/16-1.1/4 ”	Copper-Beryllium	11A76414
			Aluminium-Bronze	11A76415
	12	1/4-5/16, 5/16-3/8, 3/8-7/16, 1/2-9/16, 9/16-5/8, 5/8-11/16, 3/4-7/8, 13/16-7/8, 15/16-1, 1-1.1/8, 1.1/16-1.1/8, 1.1/16-1.1/4 ”	Copper-Beryllium	11A76416
			Aluminium-Bronze	11A76417

NON-SPARKING COMBINATION WRENCHES

NON-SPARKING TOOLS | ZONES 1, 2 (gas) & 21, 22 (dust)

Non-sparking combination wrenches, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking combination wrenches are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

MILIMETERS					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	5,5 mm	90 mm	35 gr	Copper-Beryllium	11A36090
				Aluminium-Bronze	11A36091
	6 mm	115 mm	35 gr	Copper-Beryllium	11A70170
				Aluminium-Bronze	11A70682
	7 mm	120 mm	40 gr	Copper-Beryllium	11A70171
				Aluminium-Bronze	11A70683
	8 mm	125 mm	45 gr	Copper-Beryllium	11A70172
				Aluminium-Bronze	11A70684
	9 mm	130 mm	60 gr	Copper-Beryllium	11A70173
				Aluminium-Bronze	11A70685
	10 mm	135 mm	65 gr	Copper-Beryllium	11A70174
				Aluminium-Bronze	11A70686
	11 mm	140 mm	70 gr	Copper-Beryllium	11A70175
				Aluminium-Bronze	11A70687
	12 mm	145 mm	85 gr	Copper-Beryllium	11A70176
				Aluminium-Bronze	11A70688
	13 mm	155 mm	95 gr	Copper-Beryllium	11A70177
				Aluminium-Bronze	11A70689
	14 mm	165 mm	100 gr	Copper-Beryllium	11A70178
				Aluminium-Bronze	11A70690
	15 mm	175 mm	110 gr	Copper-Beryllium	11A70179
				Aluminium-Bronze	11A70691
	16 mm	185 mm	150 gr	Copper-Beryllium	11A70180
				Aluminium-Bronze	11A70692
	17 mm	195 mm	160 gr	Copper-Beryllium	11A70181
				Aluminium-Bronze	11A70693
	18 mm	200 mm	190 gr	Copper-Beryllium	11A70182
				Aluminium-Bronze	11A70694
	19 mm	210 mm	210 gr	Copper-Beryllium	11A70183
				Aluminium-Bronze	11A70695
	20 mm	220 mm	240 gr	Copper-Beryllium	11A70184
				Aluminium-Bronze	11A70696
	21 mm	230 mm	260 gr	Copper-Beryllium	11A70185
				Aluminium-Bronze	11A70697
	22 mm	240 mm	280 gr	Copper-Beryllium	11A70186
				Aluminium-Bronze	11A70698
	23 mm	250 mm	350 gr	Copper-Beryllium	11A70187
				Aluminium-Bronze	11A70699
	24 mm	260 mm	380 gr	Copper-Beryllium	11A70188
				Aluminium-Bronze	11A70700

NON-SPARKING COMBINATION WRENCHES

MILIMETERS				
Size:	Lenght:	Weight:	Alloy:	Item No.:
25 mm	270 mm	400 gr	Copper-Beryllium	11A70189
			Aluminium-Bronze	11A70701
26 mm	270 mm	420 gr	Copper-Beryllium	11A70190
			Aluminium-Bronze	11A70702
27 mm	280 mm	480 gr	Copper-Beryllium	11A70191
			Aluminium-Bronze	11A70703
28 mm	290 mm	500 gr	Copper-Beryllium	11A70192
			Aluminium-Bronze	11A70704
29 mm	300 mm	650 gr	Copper-Beryllium	11A70193
			Aluminium-Bronze	11A70705
30 mm	310 mm	700 gr	Copper-Beryllium	11A70194
			Aluminium-Bronze	11A70706
31 mm	320 mm	750 gr	Copper-Beryllium	11A70195
			Aluminium-Bronze	11A70707
32 mm	330 mm	750 gr	Copper-Beryllium	11A70196
			Aluminium-Bronze	11A70708
33 mm	330 mm	800 gr	Copper-Beryllium	11A72700
			Aluminium-Bronze	11A71786
34 mm	340 mm	850 gr	Copper-Beryllium	11A72701
			Aluminium-Bronze	11A71787
35 mm	340 mm	950 gr	Copper-Beryllium	11A70197
			Aluminium-Bronze	11A70709
36 mm	340 mm	950 gr	Copper-Beryllium	11A70198
			Aluminium-Bronze	11A70710
37 mm	350 mm	950 gr	Copper-Beryllium	11A79447
			Aluminium-Bronze	11A79449
38 mm	350 mm	1100 gr	Copper-Beryllium	11A70199
			Aluminium-Bronze	11A70711
39 mm	360 mm	1000 gr	Copper-Beryllium	11A79473
		950 gr	Aluminium-Bronze	11A79474
40 mm	350 mm	1100 gr	Copper-Beryllium	11A70200
			Aluminium-Bronze	11A70712
41 mm	370 mm	1100 gr	Copper-Beryllium	11A70201
			Aluminium-Bronze	11A70713
42 mm	370 mm	1200 gr	Copper-Beryllium	11A70202
			Aluminium-Bronze	11A70714
43 mm	405 mm	1400 gr	Copper-Beryllium	11A79481
		1100 gr	Aluminium-Bronze	11A79482
44 mm	405 mm	1300 gr	Copper-Beryllium	11A72654
			Aluminium-Bronze	11A72649
45 mm	405 mm	1400 gr	Copper-Beryllium	11A76461
			Aluminium-Bronze	11A76462
46 mm	400 mm	1550 gr	Copper-Beryllium	11A70203
			Aluminium-Bronze	11A70715
47 mm	420 mm	1580 gr	Copper-Beryllium	11A74999
		1550 gr	Aluminium-Bronze	11A75190

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NON-SPARKING COMBINATION WRENCHES

MILIMETERS					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	48 mm	420 mm	1700 gr	Copper-Beryllium	11A72678
				Aluminium-Bronze	11A74055
	49 mm	420 mm	1750 gr	Copper-Beryllium	11A75279
			1700 gr	Aluminium-Bronze	11A75364
	50 mm	420 mm	1750 gr	Copper-Beryllium	11A70204
				Aluminium-Bronze	11A70716
	52 mm	430 mm	2100 gr	Copper-Beryllium	11A73618
				Aluminium-Bronze	11A73619
	55 mm	430 mm	2200 gr	Copper-Beryllium	11A70205
				Aluminium-Bronze	11A70717
	58 mm	455 mm	2400 gr	Copper-Beryllium	11A73617
				Aluminium-Bronze	11A73620
	60 mm	460 mm	2600 gr	Copper-Beryllium	11A70206
				Aluminium-Bronze	11A70718
	65 mm	470 mm	3000 gr	Copper-Beryllium	11A70207
				Aluminium-Bronze	11A70719
	70 mm	480 mm	3550 gr	Copper-Beryllium	11A70208
				Aluminium-Bronze	11A70720
	75 mm	490 mm	4100 gr	Copper-Beryllium	11A70209
				Aluminium-Bronze	11A70721
	80 mm	500 mm	4550 gr	Copper-Beryllium	11A70210
				Aluminium-Bronze	11A70722
	85 mm	500 mm	5350 gr	Copper-Beryllium	11A70211
				Aluminium-Bronze	11A70723
	90 mm	500 mm	5800 gr	Copper-Beryllium	11A70212
				Aluminium-Bronze	11A70724

INCHES					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	7/32 ”	90 mm	25 gr	Copper-Beryllium	11A72632
				Aluminium-Bronze	11A72624
	1/4 ”	115 mm	25 gr	Copper-Beryllium	11A70725
				Aluminium-Bronze	11A70751
	9/32 ”	120 mm	30 gr	Copper-Beryllium	11A75305
				Aluminium-Bronze	11A75306
	5/16 ”	125 mm	30 gr	Copper-Beryllium	11A70726
				Aluminium-Bronze	11A70752
	11/32 ”	130 mm	35 gr	Copper-Beryllium	11A70727
				Aluminium-Bronze	11A70753
	3/8 ”	130 mm	40 gr	Copper-Beryllium	11A70728
				Aluminium-Bronze	11A70754
	13/32 ”	135 mm	55 gr	Copper-Beryllium	11A76855
				Aluminium-Bronze	11A76856
	7/16 ”	135 mm	55 gr	Copper-Beryllium	11A70729
				Aluminium-Bronze	11A70755

NON-SPARKING COMBINATION WRENCHES

INCHES					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	1/2 ”	140 mm	70 gr	Copper-Beryllium	11A70730
				Aluminium-Bronze	11A70756
	9/16 ”	165 mm	80 gr	Copper-Beryllium	11A70731
				Aluminium-Bronze	11A70757
	19/32 ”	165 mm	95 gr	Copper-Beryllium	11A75307
				Aluminium-Bronze	11A75308
	5/8 ”	175 mm	130 gr	Copper-Beryllium	11A70732
				Aluminium-Bronze	11A70758
	11/16 ”	195 mm	140 gr	Copper-Beryllium	11A70733
				Aluminium-Bronze	11A70759
	3/4 ”	210 mm	200 gr	Copper-Beryllium	11A70734
				Aluminium-Bronze	11A70760
	25/32 ”	230 mm	200 gr	Copper-Beryllium	11A76857
				Aluminium-Bronze	11A76858
	13/16 ”	230 mm	200 gr	Copper-Beryllium	11A70735
				Aluminium-Bronze	11A70761
	7/8 ”	230 mm	280 gr	Copper-Beryllium	11A70736
				Aluminium-Bronze	11A70762
	15/16 ”	260 mm	330 gr	Copper-Beryllium	11A70737
				Aluminium-Bronze	11A70763
	31/32 ”	260 mm	360 gr	Copper-Beryllium	11A76859
				Aluminium-Bronze	11A76860
	1 ”	260 mm	360 gr	Copper-Beryllium	11A70738
				Aluminium-Bronze	11A70764
	1.1/16 ”	280 mm	460 gr	Copper-Beryllium	11A70739
				Aluminium-Bronze	11A70765
	1.1/8 ”	300 mm	500 gr	Copper-Beryllium	11A70740
				Aluminium-Bronze	11A70766
	1.3/16 ”	320 mm	550 gr	Copper-Beryllium	11A72937
				Aluminium-Bronze	11A72936
	1.1/4 ”	320 mm	700 gr	Copper-Beryllium	11A70741
				Aluminium-Bronze	11A70767
	1.5/16 ”	350 mm	1000 gr	Copper-Beryllium	11A70742
				Aluminium-Bronze	11A70768
	1.3/8 ”	350 mm	1000 gr	Copper-Beryllium	11A70743
				Aluminium-Bronze	11A70769
	1.7/16 ”	360 mm	1150 gr	Copper-Beryllium	11A70744
				Aluminium-Bronze	11A70770
	1.1/2 ”	360 mm	1200 gr	Copper-Beryllium	11A70745
				Aluminium-Bronze	11A70771
	1.9/16 ”	360 mm	1200 gr	Copper-Beryllium	11A75309
				Aluminium-Bronze	11A75310
	1.5/8 ”	360 mm	1350 gr	Copper-Beryllium	11A70746
				Aluminium-Bronze	11A70772
	1.11/16 ”	370 mm	1500 gr	Copper-Beryllium	11A70747
				Aluminium-Bronze	11A70773

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NON-SPARKING COMBINATION WRENCHES

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INCHES					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	1.3/4 ”	370 mm	1500 gr	Copper-Beryllium	11A75311
				Aluminium-Bronze	11A75312
	1.13/16 ”	400 mm	1500 gr	Copper-Beryllium	11A70748
				Aluminium-Bronze	11A70774
	1.7/8 ”	400 mm	1600 gr	Copper-Beryllium	11A70749
				Aluminium-Bronze	11A70775
	1.15/16 ”	420 mm	1700 gr	Copper-Beryllium	11A78975
				Aluminium-Bronze	11A78976
	2 ”	420 mm	1700 gr	Copper-Beryllium	11A70750
				Aluminium-Bronze	11A70776
	2.1/16 ”	435 mm	1800 gr	Copper-Beryllium	11A77132
				Aluminium-Bronze	11A77133
	2.1/8 ”	435 mm	1800 gr	Copper-Beryllium	11A77156
				Aluminium-Bronze	11A77157
	2.3/16 ”	445 mm	2100 gr	Copper-Beryllium	11A76861
				Aluminium-Bronze	11A76862
	2.1/4 ”	455 mm	2100 gr	Copper-Beryllium	11A79028
				Aluminium-Bronze	11A79029
	2.3/8 ”	460 mm	2400 gr	Copper-Beryllium	11A76863
				Aluminium-Bronze	11A76864
	2.9/16 ”	470 mm	2800 gr	Copper-Beryllium	11A76865
				Aluminium-Bronze	11A76866
	2.5/8 ”	470 mm	2800 gr	Copper-Beryllium	11A76867
				Aluminium-Bronze	11A76868
	2.3/4 ”	480 mm	3300 gr	Copper-Beryllium	11A76869
				Aluminium-Bronze	11A76870
	2.15/16 ”	510 mm	4000 gr	Copper-Beryllium	11A76463
				Aluminium-Bronze	11A76464
	3 ”	510 mm	4100 gr	Copper-Beryllium	11A72707
				Aluminium-Bronze	11A36442
	3.1/8 ”	520 mm	5000 gr	Copper-Beryllium	11A36387
			4400 gr	Aluminium-Bronze	11A36389

NON-SPARKING COMBINATION WRENCHES SET

NON-SPARKING TOOLS

ZONES 1, 2 (gas) & 21, 22 (dust)

Non-sparking combination wrenches set, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking combination wrenches are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

MILIMETERS				
	Pieces:	Sizes:	Alloy:	Item No.:
	6	8, 10, 12, 14, 17, 19 mm	Copper-Beryllium	11A76418
			Aluminium-Bronze	11A76419
	8	8, 10, 12, 13, 14, 17, 19, 22 mm	Copper-Beryllium	11A76420
			Aluminium-Bronze	11A76421
	10	8, 9, 10, 11, 12, 13, 14, 17, 19, 22 mm	Copper-Beryllium	11A76422
			Aluminium-Bronze	11A76423
	12	6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17 mm	Copper-Beryllium	11A76424
			Aluminium-Bronze	11A76425
	14	10, 11, 12, 14, 16, 17, 19, 20, 22, 24, 25, 27, 28, 32 mm	Copper-Beryllium	11A76426
			Aluminium-Bronze	11A76427
	17	6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22 mm	Copper-Beryllium	11A76428
			Aluminium-Bronze	11A76429
	17	7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 24 mm	Copper-Beryllium	11A76430
			Aluminium-Bronze	11A76431
	26	6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 32mm	Copper-Beryllium	11A76432
			Aluminium-Bronze	11A76433

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NON-SPARKING COMBINATION WRENCHES SET

INCHES				
	Pieces:	Sizes:	Alloy:	Item No.:
	6	3/8, 7/16, 1/2, 9/16, 5/8, 3/4 ”	Copper-Beryllium	11A76434
			Aluminium-Bronze	11A76435
	8	5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4 ”	Copper-Beryllium	11A76436
			Aluminium-Bronze	11A76437
	10	3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 1 ”	Copper-Beryllium	11A76438
			Aluminium-Bronze	11A76439
	12	5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1 ”	Copper-Beryllium	11A76440
			Aluminium-Bronze	11A76441
	14	3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1.1/16, 1.1/8, 1.1/4 ”	Copper-Beryllium	11A76442
			Aluminium-Bronze	11A76443

NON-SPARKING COMBINATION RATCHET WRENCHES

NON-SPARKING TOOLS

ZONES 1, 2 (gas) & 21, 22 (dust)

Non-sparking combination ratchet wrenches, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking combination ratchet wrenches are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

MILIMETERS					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	8 mm	155 mm	150 gr	Copper-Beryllium	11A72683
				Aluminium-Bronze	11A74102
	10 mm		180 gr		11A74121
		165 mm		Copper-Beryllium	11A72641
	12 mm		200 gr	Aluminium-Bronze	11A74136
		175 mm		Copper-Beryllium	11A73761
	13 mm		240 gr	Aluminium-Bronze	11A74161
		190 mm		Copper-Beryllium	11A73764
	14 mm		245 gr	Aluminium-Bronze	11A36328
	15 mm				11A36329
	14 mm	190 mm		Copper-Beryllium	11A36304
	17 mm		250 gr	Aluminium-Bronze	11A74188
	15 mm	190 mm	245 gr	Copper-Beryllium	11A36315
	18 mm		250 gr	Aluminium-Bronze	11A36332
	17 mm	220 mm		Copper-Beryllium	11A73771
	19 mm		310 gr	Aluminium-Bronze	11A74191
	22 mm		420 gr		11A36333
	18 mm	220 mm	250 gr	Copper-Beryllium	11A36316
	24 mm		570 gr	Aluminium-Bronze	11A36334
	19 mm	240 mm	310 gr	Copper-Beryllium	11A73867
	27 mm		750 gr	Aluminium-Bronze	11A36335
	22 mm	270 mm	420 gr	Copper-Beryllium	11A36317
	24 mm	290 mm	570 gr		11A36318
	27 mm	315 mm	750 gr		11A36319

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NON-SPARKING DOUBLE OFFSET RING WRENCHES

NON-SPARKING TOOLS | ZONES 1, 2 (gas) & 21, 22 (dust)

Non-sparking double offset ring wrenches, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking double offset ring wrenches are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

MILIMETERS					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	5,5-7 mm	120 mm	20 gr	Copper-Beryllium	11A75320
				Aluminium-Bronze	11A75321
	6-7 mm	120 mm	25 gr	Copper-Beryllium	11A70213
				Aluminium-Bronze	11A70777
	6-8 mm	120 mm	35 gr	Copper-Beryllium	11A75322
				Aluminium-Bronze	11A75323
	7-9 mm	130 mm	50 gr	Copper-Beryllium	11A70214
				Aluminium-Bronze	11A70778
	8-9 mm	130 mm	50 gr	Copper-Beryllium	11A70215
				Aluminium-Bronze	11A70779
	8-10 mm	130 mm	55 gr	Copper-Beryllium	11A70216
				Aluminium-Bronze	11A70780
	9-10 mm	130 mm	60 gr	Copper-Beryllium	11A70217
				Aluminium-Bronze	11A70781
	9-11 mm	130 mm	70 gr	Copper-Beryllium	11A70218
				Aluminium-Bronze	11A70782
	10-11 mm	160 mm	80 gr	Copper-Beryllium	11A70219
				Aluminium-Bronze	11A70783
	10-12 mm	160 mm	80 gr	Copper-Beryllium	11A75324
				Aluminium-Bronze	11A75325
	10-13 mm	160 mm	85 gr	Copper-Beryllium	11A75326
				Aluminium-Bronze	11A75327
	10-14 mm	160 mm	100 gr	Copper-Beryllium	11A70220
				Aluminium-Bronze	11A70784
	11-12 mm	160 mm	100 gr	Copper-Beryllium	11A75318
				Aluminium-Bronze	11A75319
	11-13 mm	160 mm	110 gr	Copper-Beryllium	11A75328
				Aluminium-Bronze	11A75329
	11-14 mm	180 mm	120 gr	Copper-Beryllium	11A70221
				Aluminium-Bronze	11A70785
	12-13 mm	180 mm	120 gr	Copper-Beryllium	11A70222
				Aluminium-Bronze	11A70786
	12-14 mm	180 mm	150 gr	Copper-Beryllium	11A70223
				Aluminium-Bronze	11A70787
	13-14 mm	180 mm	150 gr	Copper-Beryllium	11A70224
				Aluminium-Bronze	11A70788
	13-15 mm	180 mm	200 gr	Copper-Beryllium	11A70225
				Aluminium-Bronze	11A70789
	13-17 mm	190 mm	200 gr	Copper-Beryllium	11A36552
				Aluminium-Bronze	11A36553

NON-SPARKING DOUBLE OFFSET RING WRENCHES

MILIMETERS					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	14-15 mm	220 mm	200 gr	Copper-Beryllium	11A70226
				Aluminium-Bronze	11A70790
	14-16 mm	220 mm	200 gr	Copper-Beryllium	11A72133
				Aluminium-Bronze	11A72137
	14-17 mm	220 mm	200 gr	Copper-Beryllium	11A72134
				Aluminium-Bronze	11A72138
	16-17 mm	220 mm	210 gr	Copper-Beryllium	11A70227
				Aluminium-Bronze	11A70791
	16-18 mm	220 mm	220 gr	Copper-Beryllium	11A70228
				Aluminium-Bronze	11A70792
	17-19 mm	220 mm	220 gr	Copper-Beryllium	11A70229
				Aluminium-Bronze	11A70793
	17-21 mm	250 mm	260 gr	Copper-Beryllium	11A75330
				Aluminium-Bronze	11A75331
	17-22 mm	250 mm	290 gr	Copper-Beryllium	11A70230
				Aluminium-Bronze	11A70794
	18-19 mm	250 mm	290 gr	Copper-Beryllium	11A70231
				Aluminium-Bronze	11A70795
	19-21 mm	280 mm	300 gr	Copper-Beryllium	11A75332
				Aluminium-Bronze	11A75333
	19-22 mm	280 mm	310 gr	Copper-Beryllium	11A70232
				Aluminium-Bronze	11A70796
	19-24 mm	280 mm	350 gr	Copper-Beryllium	11A70233
				Aluminium-Bronze	11A70797
	20-22 mm	280 mm	370 gr	Copper-Beryllium	11A70234
				Aluminium-Bronze	11A70798
	21-23 mm	310 mm	400 gr	Copper-Beryllium	11A70235
				Aluminium-Bronze	11A70799
	21-26 mm	310 mm	420 gr	Copper-Beryllium	11A75334
				Aluminium-Bronze	11A75335
	22-23 mm	310 mm	420 gr	Copper-Beryllium	11A75336
				Aluminium-Bronze	11A75337
	22-24 mm	310 mm	450 gr	Copper-Beryllium	11A70236
				Aluminium-Bronze	11A70800
	22-27 mm	340 mm	470 gr	Copper-Beryllium	11A70237
				Aluminium-Bronze	11A70801
	23-26 mm	340 mm	470 gr	Copper-Beryllium	11A75338
				Aluminium-Bronze	11A75339
	24-25 mm	340 mm	480 gr	Copper-Beryllium	11A75340
				Aluminium-Bronze	11A75341
	24-26 mm	340 mm	500 gr	Copper-Beryllium	11A72822
				Aluminium-Bronze	11A72823
	24-27 mm	340 mm	500 gr	Copper-Beryllium	11A73339
				Aluminium-Bronze	11A73338
	24-30 mm	340 mm	550 gr	Copper-Beryllium	11A70238
				Aluminium-Bronze	11A70802

MILIMETERS					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	25-28 mm	340 mm	600 gr	Copper-Beryllium	11A70239
				Aluminium-Bronze	11A70803
	26-28 mm	340 mm	600 gr	Copper-Beryllium	11A36490
				Aluminium-Bronze	11A36491
	26-29 mm	340 mm	600 gr	Copper-Beryllium	11A74833
				Aluminium-Bronze	11A74834
	26-32 mm	250 mm	500 gr	Copper-Beryllium	11A75469
			490 gr	Aluminium-Bronze	11A75470
	27-29 mm	340 mm	650 gr	Copper-Beryllium	11A70240
				Aluminium-Bronze	11A70804
	27-30 mm	340 mm	700 gr	Copper-Beryllium	11A70241
				Aluminium-Bronze	11A70805
	27-32 mm	360 mm	750 gr	Copper-Beryllium	11A70242
				Aluminium-Bronze	11A70806
	29-32 mm	360 mm	750 gr	Copper-Beryllium	11A75342
		380 mm		Aluminium-Bronze	11A75343
	30-32 mm	380 mm	800 gr	Copper-Beryllium	11A70243
				Aluminium-Bronze	11A70807
	30-34 mm	380 mm	850 gr	Copper-Beryllium	11A76891
				Aluminium-Bronze	11A76892
	31-33 mm	380 mm	850 gr	Copper-Beryllium	11A72956
				Aluminium-Bronze	11A72912
	30-36 mm	420 mm	1050 gr	Copper-Beryllium	11A70244
				Aluminium-Bronze	11A70808
	32-34 mm	420 mm	1050 gr	Copper-Beryllium	11A75344
				Aluminium-Bronze	11A75345
	32-35 mm	420 mm	1100 gr	Copper-Beryllium	11A72957
				Aluminium-Bronze	11A72913
	32-36 mm	420 mm	1150 gr	Copper-Beryllium	11A72135
				Aluminium-Bronze	11A72139
	34-36 mm	420 mm	1150 gr	Copper-Beryllium	11A72136
				Aluminium-Bronze	11A72140
	36-38 mm	455 mm	1550 gr	Copper-Beryllium	11A70245
				Aluminium-Bronze	11A70809
	35-41 mm	455 mm	1550 gr	Copper-Beryllium	11A75346
				Aluminium-Bronze	11A75347
	38-40 mm	455 mm	1600 gr	Copper-Beryllium	11A75348
				Aluminium-Bronze	11A75349
	36-41 mm	455 mm	1600 gr	Copper-Beryllium	11A70246
				Aluminium-Bronze	11A70810
	38-42 mm	455 mm	1700 gr	Copper-Beryllium	11A75350
				Aluminium-Bronze	11A75351
	41-46 mm	470 mm	2050 gr	Copper-Beryllium	11A70247
				Aluminium-Bronze	11A70811
	46-50 mm	490 mm	2200 gr	Copper-Beryllium	11A72251
				Aluminium-Bronze	11A72250

NON-SPARKING DOUBLE OFFSET RING WRENCHES

MILIMETERS				
Size:	Lenght:	Weight:	Alloy:	Item No.:
50-52 mm	510 mm	2400 gr	Copper-Beryllium	11A73392
			Aluminium-Bronze	11A73391
50-55 mm	510 mm	2400 gr	Copper-Beryllium	11A75352
			Aluminium-Bronze	11A75353
50-60 mm	535 mm	2450 gr	Copper-Beryllium	11A75354
			Aluminium-Bronze	11A75355
55-60 mm	535 mm	2500 gr	Copper-Beryllium	11A72253
			Aluminium-Bronze	11A72252
60-70 mm	540 mm	3900 gr	Copper-Beryllium	11A75356
			Aluminium-Bronze	11A75357
65-70 mm	540 mm	4000 gr	Copper-Beryllium	11A72255
			Aluminium-Bronze	11A72254
70-75 mm	550 mm	4500 gr	Copper-Beryllium	11A76893
			Aluminium-Bronze	11A76894
75-80 mm	700 mm	5000 gr	Copper-Beryllium	11A72257
			Aluminium-Bronze	11A72256

INCHES				
Size:	Lenght:	Weight:	Alloy:	Item No.:
7/32-1/4 ”	120 mm	30 gr	Copper-Beryllium	11A70812
			Aluminium-Bronze	11A70841
1/4-5/16 ”		30 gr	Copper-Beryllium	11A74841
			Aluminium-Bronze	11A74842
5/16-3/8 ”	130 mm	45 gr	Copper-Beryllium	11A70813
			Aluminium-Bronze	11A70842
3/8-7/16 ”		60 gr	Copper-Beryllium	11A70814
			Aluminium-Bronze	11A70843
7/16-1/2 ”	160 mm	90 gr	Copper-Beryllium	11A70815
			Aluminium-Bronze	11A70844
1/2-9/16 ”	180 mm	115 gr	Copper-Beryllium	11A70816
			Aluminium-Bronze	11A70845
9/16-5/8 ”	220 mm	190 gr	Copper-Beryllium	11A70817
	210 mm		Aluminium-Bronze	11A70846
5/8-11/16 ”	220 mm	200 gr	Copper-Beryllium	11A74843
			Aluminium-Bronze	11A74844
5/8-3/4 ”	220 mm	230 gr	Copper-Beryllium	11A70818
			Aluminium-Bronze	11A70847
11/16-3/4 ”	220 mm	230 gr	Copper-Beryllium	11A75365
			Aluminium-Bronze	11A75366
11/16-25/32 ”	220 mm	240 gr	Copper-Beryllium	11A70819
			Aluminium-Bronze	11A70848
3/4-13/16 ”	280 mm	290 gr	Copper-Beryllium	11A70820
	250 mm		Aluminium-Bronze	11A70849
13/16-7/8 ”	280 mm	350 gr	Copper-Beryllium	11A70821
			Aluminium-Bronze	11A70850

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NON-SPARKING DOUBLE OFFSET RING WRENCHES

INCHES					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	7/8-15/16 ”	310 mm	400 gr	Copper-Beryllium	11A70822
		280 mm		Aluminium-Bronze	11A70851
	7/8-31/32 ”	310 mm	420 gr	Copper-Beryllium	11A70823
				Aluminium-Bronze	11A70852
	7/8-1 ”	310 mm	440 gr	Copper-Beryllium	11A70824
				Aluminium-Bronze	11A70853
	7/8-1.1/16 ”	310 mm	480 gr	Copper-Beryllium	11A70825
				Aluminium-Bronze	11A70854
	15/16-1 ”	310 mm	490 gr	Copper-Beryllium	11A70826
				Aluminium-Bronze	11A70855
	15/16-1.1/16 ”	340 mm	500 gr	Copper-Beryllium	11A70827
				Aluminium-Bronze	11A70856
	1-1.1/16 ”	340 mm	550 gr	Copper-Beryllium	11A70828
		310 mm		Aluminium-Bronze	11A70857
	1-1.1/8 ”	340 mm	550 gr	Copper-Beryllium	11A70829
				Aluminium-Bronze	11A70858
	1.1/16-1.1/8 ”	340 mm	550 gr	Copper-Beryllium	11A70830
				Aluminium-Bronze	11A70859
	1.1/16-1.1/4 ”	360 mm	600 gr	Copper-Beryllium	11A70831
		340 mm		Aluminium-Bronze	11A70860
	1.1/8-1.3/16 ”	360 mm	700 gr	Copper-Beryllium	11A74845
		340 mm		Aluminium-Bronze	11A74846
	1.1/8-1.5/16 ”	380 mm	700 gr	Copper-Beryllium	11A70832
		360 mm		Aluminium-Bronze	11A70861
	1.1/8-1.1/2 ”	380 mm	800 gr	Copper-Beryllium	11A76895
				Aluminium-Bronze	11A76896
	1.3/16-1.1/4 ”	380 mm	800 gr	Copper-Beryllium	11A75367
				Aluminium-Bronze	11A75368
	1.1/4-1.5/16 ”	380 mm	1000 gr	Copper-Beryllium	11A70833
		420 mm		Aluminium-Bronze	11A70862
	1.1/4-1.7/16 ”	420 mm	1100 gr	Copper-Beryllium	11A70834
		380 mm		Aluminium-Bronze	11A70863
	1.5/16-1.3/8 ”	420 mm	1100 gr	Copper-Beryllium	11A75369
		380 mm		Aluminium-Bronze	11A75370
	1.3/8-1.7/16 ”	420 mm	1350 gr	Copper-Beryllium	11A75371
				Aluminium-Bronze	11A75372
	1.7/16-1.5/8 ”	455 mm	1600 gr	Copper-Beryllium	11A70835
		420 mm		Aluminium-Bronze	11A70864
	1.1/2-1.9/16 ”	455 mm	1700 gr	Copper-Beryllium	11A75373
		420 mm		Aluminium-Bronze	11A75374
	1.5/8-1.13/16 ”	470 mm	2050 gr	Copper-Beryllium	11A70836
		455 mm		Aluminium-Bronze	11A70865
	1.13/16-2 ”	490 mm	2550 gr	Copper-Beryllium	11A70837
		455 mm		Aluminium-Bronze	11A70866
	2-2.3/16 ”	510 mm	2800 gr	Copper-Beryllium	11A75375
		470 mm		Aluminium-Bronze	11A75376

NON-SPARKING DOUBLE OFFSET RING WRENCHES

INCHES					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	2.1/16-2.3/16 ”	510 mm	2800 gr	Copper-Beryllium	11A70838
		490 mm		Aluminium-Bronze	11A70867
	2-2.3/8 ”	535 mm	3000 gr	Copper-Beryllium	11A70839
		510 mm		Aluminium-Bronze	11A70868
	2.3/16-2.3/8 ”	535 mm	3100 gr	Copper-Beryllium	11A75377
		510 mm		Aluminium-Bronze	11A75378
	2.1/4-2.3/8 ”	535 mm	3500 gr	Copper-Beryllium	11A70840
				Aluminium-Bronze	11A70869
	2.3/8-2.3/4 ”	540 mm	3900 gr	Copper-Beryllium	11A75379
		535 mm		Aluminium-Bronze	11A75380
	2.3/8-2.7/16 ”	540 mm	4000 gr	Copper-Beryllium	11A76755
		535 mm		Aluminium-Bronze	11A76756
	2.9/16-2.3/4 ”	540 mm	4200 gr	Copper-Beryllium	11A75381
				Aluminium-Bronze	11A75382
	2.3/4-2.15/16 ”	550 mm	4300 gr	Copper-Beryllium	11A75383
		540 mm		Aluminium-Bronze	11A75384

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NON-SPARKING DOUBLE OFFSET RING WRENCHES SET

NON-SPARKING TOOLS | ZONES 1, 2 (gas) & 21, 22 (dust)

Non-sparking double offset ring wrenches set, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking double offset ring wrenches are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

MILIMETERS				
	Pieces:	Sizes:	Alloy:	Item No.:
	6	6-7, 8-9, 10-11, 12-13, 14-15, 16-17 mm	Copper-Beryllium	11A76444
			Aluminium-Bronze	11A76445
	8	6-7, 8-9, 10-11, 12-13, 14-15, 16-17, 18-19, 20-22 mm	Copper-Beryllium	11A76446
			Aluminium-Bronze	11A76447
	10	6-7, 8-9, 10-11, 12-13, 14-15, 16-17, 18-19, 20-22, 21-23, 24-26 mm	Copper-Beryllium	11A76448
			Aluminium-Bronze	11A76449
	12	6-7, 8-9, 10-11, 12-13, 14-15, 16-17, 18-19, 20-22, 21-23, 24-26, 25-28, 30-32 mm	Copper-Beryllium	11A76450
			Aluminium-Bronze	11A76451

INCHES				
	Pieces:	Sizes:	Alloy:	Item No.:
	6	3/8-7/16, 1/2-9/16, 9/16-5/8, 5/8-3/4, 5/8-11/16, 13/16-7/8 ”	Copper-Beryllium	11A76452
			Aluminium-Bronze	11A76453
	8	3/8-7/16, 1/2-9/16, 9/16-5/8, 5/8-3/4, 5/8-11/16, 3/4-13/16, 13/16-7/8, 15/16-1 ”	Copper-Beryllium	11A76454
			Aluminium-Bronze	11A76455
	10	1/4-5/16, 5/16-3/8, 3/8-7/16, 1/2-9/16, 9/16-5/8, 5/8-11/16, 13/16-7/8, 15/16-1, 1-1.1/8, 1.1/16-1.1/4 ”	Copper-Beryllium	11A76456
			Aluminium-Bronze	11A76457

NON-SPARKING DOUBLE OFFSET RING WRENCHES SET

INCHES				
	Pieces:	Sizes:	Alloy:	Item No.:
	12	1/4-5/16, 5/16-3/8, 3/8-7/16, 1/2-9/16, 9/16-5/8, 5/8-11/16, 3/4-13/16, 13/16-7/8, 15/16-1, 1-1.1/8, 1.1/16-1.1/8, 1.1/16-1.1/4 ”	Copper-Beryllium	11A76458
			Aluminium-Bronze	11A76459

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NON-SPARKING DOUBLE-ENDED FLAT RING SPANNERS

NON-SPARKING TOOLS | ZONES 1, 2 (gas) & 21, 22 (dust)

Non-sparking double-ended flat ring spanners, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking double-ended flat ring spanners are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

MILIMETERS				
Size:	Lenght:	Weight:	Alloy:	Item No.:
6-7 mm	95 mm	30 gr	Copper-Beryllium	11A76817
			Aluminium-Bronze	11A76818
7-9 mm	115 mm	32 gr	Copper-Beryllium	11A73960
			Aluminium-Bronze	11A73961
8-10 mm	115 mm	32 gr	Copper-Beryllium	11A76819
			Aluminium-Bronze	11A76820
9-11 mm	125 mm	37 gr	Copper-Beryllium	11A76821
			Aluminium-Bronze	11A76822
10-11 mm	140 mm	55 gr	Copper-Beryllium	11A73962
			Aluminium-Bronze	11A73963
10-12 mm	140 mm	55 gr	Copper-Beryllium	11A75418
			Aluminium-Bronze	11A75419
12-14 mm	145 mm	70 gr	Copper-Beryllium	11A73964
			Aluminium-Bronze	11A73965
13-15 mm	155 mm	85 gr	Copper-Beryllium	11A77130
			Aluminium-Bronze	11A77131
14-17 mm	165 mm	100 gr	Copper-Beryllium	11A73966
			Aluminium-Bronze	11A73967
16-18 mm	170 mm	115 gr	Copper-Beryllium	11A73968
			Aluminium-Bronze	11A73969
17-19 mm	185 mm	130 gr	Copper-Beryllium	11A76084
			Aluminium-Bronze	11A76085
18-19 mm	185 mm	130 gr	Copper-Beryllium	11A73970
			Aluminium-Bronze	11A73971
17-22 mm	200 mm	180 gr	Copper-Beryllium	11A73972
			Aluminium-Bronze	11A73973
19-21 mm	200 mm	180 gr	Copper-Beryllium	11A73974
			Aluminium-Bronze	11A73975
19-22 mm	200 mm	180 gr	Copper-Beryllium	11A75420
			Aluminium-Bronze	11A75421
20-22 mm	200 mm	180 gr	Copper-Beryllium	11A73976
			Aluminium-Bronze	11A73977
21-22 mm	220 mm	240 gr	Copper-Beryllium	11A36554
			Aluminium-Bronze	11A36555
21-23 mm	220 mm	240 gr	Copper-Beryllium	11A73978
			Aluminium-Bronze	11A73979
22-24 mm	220 mm	240 gr	Copper-Beryllium	11A73980
			Aluminium-Bronze	11A73981
24-27 mm	255 mm	320 gr	Copper-Beryllium	11A73982
			Aluminium-Bronze	11A73983

NON-SPARKING DOUBLE-ENDED FLAT RING SPANNERS

MILIMETERS				
Size:	Lenght:	Weight:	Alloy:	Item No.:
25-28 mm	265 mm	360 gr	Copper-Beryllium	11A73984
			Aluminium-Bronze	11A73985
26-28 mm	265 mm	360 gr	Copper-Beryllium	11A77134
			Aluminium-Bronze	11A77135
27-30 mm	280 mm	390 gr	Copper-Beryllium	11A73986
			Aluminium-Bronze	11A73987
27-32 mm	295 mm	470 gr	Copper-Beryllium	11A73988
			Aluminium-Bronze	11A73989
30-32 mm	295 mm	470 gr	Copper-Beryllium	11A73990
			Aluminium-Bronze	11A73991
30-36 mm	330 mm	600 gr	Copper-Beryllium	11A77136
			Aluminium-Bronze	11A77137
32-36 mm	330 mm	600 gr	Copper-Beryllium	11A74771
			Aluminium-Bronze	11A74772
36-41 mm	365 mm	900 gr	Copper-Beryllium	11A74773
			Aluminium-Bronze	11A74774

INCHES				
Size:	Lenght:	Weight:	Alloy:	Item No.:
7/32 - 1/4 ”	100 mm	20 gr	Copper-Beryllium	11A76781
			Aluminium-Bronze	11A76782
1/4 - 5/16 ”	100 mm	20 gr	Copper-Beryllium	11A76783
			Aluminium-Bronze	11A76784
5/16 - 3/8 ”	115 mm	40 gr	Copper-Beryllium	11A76785
			Aluminium-Bronze	11A76786
3/8 - 7/16 ”	140 mm	55 gr	Copper-Beryllium	11A76787
			Aluminium-Bronze	11A76788
7/16 - 9/16 ”	160 mm	95 gr	Copper-Beryllium	11A76789
			Aluminium-Bronze	11A76790
1/2 - 19/32 ”	180 mm	110 gr	Copper-Beryllium	11A77138
			Aluminium-Bronze	11A77139
1/2 - 5/8 ”	180 mm	110 gr	Copper-Beryllium	11A76791
			Aluminium-Bronze	11A76792
9/16 - 11/16 ”	180 mm	110 gr	Copper-Beryllium	11A76793
			Aluminium-Bronze	11A76794
5/8 - 25/32 ”	225 mm	250 gr	Copper-Beryllium	11A76795
			Aluminium-Bronze	11A76796
11/16 - 3/4 ”	225 mm	250 gr	Copper-Beryllium	11A76797
			Aluminium-Bronze	11A76798
11/16 - 13/16 ”	225 mm	250 gr	Copper-Beryllium	11A77140
			Aluminium-Bronze	11A77141
3/4 - 7/8 ”	250 mm	350 gr	Copper-Beryllium	11A76799
			Aluminium-Bronze	11A76800
13/16 - 15/16 ”	280 mm	430 gr	Copper-Beryllium	11A76801
			Aluminium-Bronze	11A76802

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NON-SPARKING DOUBLE-ENDED FLAT RING SPANNERS

Full catalogue available on our website: www.inpratex.com

INCHES					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	7/8 - 15/16 ”	280 mm	430 gr	Copper-Beryllium	11A76781
				Aluminium-Bronze	11A76782
	15/16 - 1.1/16 ”	300 mm	550 gr	Copper-Beryllium	11A76783
				Aluminium-Bronze	11A76784
	1 - 1.1/8 ”	310 mm	650 gr	Copper-Beryllium	11A76785
				Aluminium-Bronze	11A76786
	1.1/16 - 1.3/16 ”	310 mm	650 gr	Copper-Beryllium	11A76787
				Aluminium-Bronze	11A76788
	1.1/8 - 1.5/16 ”	340 mm	750 gr	Copper-Beryllium	11A76789
				Aluminium-Bronze	11A76790
	1.3/16 - 1.1/4 ”	340 mm	750 gr	Copper-Beryllium	11A77138
				Aluminium-Bronze	11A77139
	1.1/4 - 1.3/8 ”	360 mm	1000 gr	Copper-Beryllium	11A76791
				Aluminium-Bronze	11A76792
	1.1/4 - 1.7/16 ”	360 mm	1000 gr	Copper-Beryllium	11A76793
				Aluminium-Bronze	11A76794
	1.5/16 - 1.7/16 ”	360 mm	1000 gr	Copper-Beryllium	11A76795
				Aluminium-Bronze	11A76796
	1.7/16 - 1.5/8 ”	360 mm	1000 gr	Copper-Beryllium	11A76797
				Aluminium-Bronze	11A76798
	1.1/2 - 1.5/8 ”	380 mm	1350 gr	Copper-Beryllium	11A77140
				Aluminium-Bronze	11A77141

NON-SPARKING RATCHET SPANNERS

NON-SPARKING TOOLS | **ZONES 1, 2 (gas) & 21, 22 (dust)**

Non-sparking ratchet spanners, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking ratchet spanners are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

MILIMETERS					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	9 mm	150 mm	160 gr	Copper-Beryllium	11A70870
				Aluminium-Bronze	11A70887
	11 mm	150 mm	180 gr	Copper-Beryllium	11A70871
				Aluminium-Bronze	11A70888
	13 mm	155 mm	190 gr	Copper-Beryllium	11A70872
				Aluminium-Bronze	11A70889
	14 mm	155 mm	190 gr	Copper-Beryllium	11A70873
				Aluminium-Bronze	11A70890
	17 mm	200 mm	200 gr	Copper-Beryllium	11A70874
				Aluminium-Bronze	11A70891
	19 mm	200 mm	210 gr	Copper-Beryllium	11A70875
				Aluminium-Bronze	11A70892
	22 mm	220 mm	210 gr	Copper-Beryllium	11A70876
				Aluminium-Bronze	11A70893
	24 mm	220 mm	220 gr	Copper-Beryllium	11A70877
				Aluminium-Bronze	11A70894
	27 mm	240 mm	220 gr	Copper-Beryllium	11A70878
				Aluminium-Bronze	11A70895
	30 mm	280 mm	230 gr	Copper-Beryllium	11A70879
				Aluminium-Bronze	11A70896
	32 mm	280 mm	230 gr	Copper-Beryllium	11A70880
				Aluminium-Bronze	11A70897
	36 mm	290 mm	260 gr	Copper-Beryllium	11A70881
				Aluminium-Bronze	11A70898
	41 mm	295 mm	260 gr	Copper-Beryllium	11A70882
				Aluminium-Bronze	11A70899
	46 mm	360 mm	450 gr	Copper-Beryllium	11A70883
				Aluminium-Bronze	11A70900
	50 mm	360 mm	550 gr	Copper-Beryllium	11A70884
				Aluminium-Bronze	11A70901
	55 mm	440 mm	650 gr	Copper-Beryllium	11A70885
				Aluminium-Bronze	11A70902
	60 mm	440 mm	850 gr	Copper-Beryllium	11A70886
				Aluminium-Bronze	11A70903

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NON-SPARKING RATCHET SPANNERS

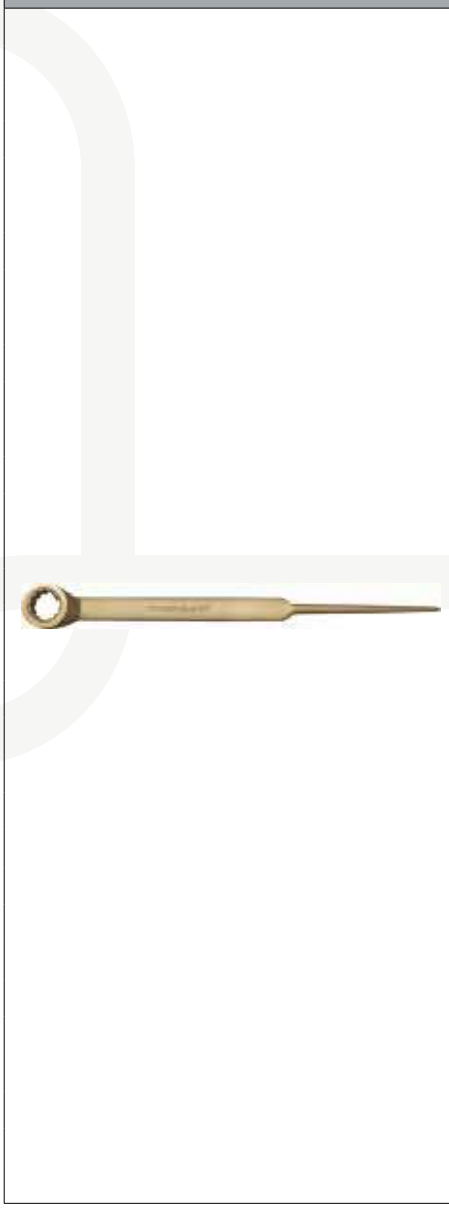
INCHES					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	5/16 ”	150 mm	100 gr	Copper-Beryllium	11A36296
				Aluminium-Bronze	11A36297
	3/8 ”	150 mm	160 gr	Copper-Beryllium	11A70904
				Aluminium-Bronze	11A70920
	7/16 ”	150 mm	100 gr	Copper-Beryllium	11A36298
				Aluminium-Bronze	11A36299
	1/2 ”	155 mm	190 gr	Copper-Beryllium	11A70905
				Aluminium-Bronze	11A70921
	9/16 ”	155 mm	190 gr	Copper-Beryllium	11A70906
				Aluminium-Bronze	11A70922
	11/16 ”	200 mm	200 gr	Copper-Beryllium	11A70907
				Aluminium-Bronze	11A70923
	3/4 ”	200 mm	210 gr	Copper-Beryllium	11A70908
				Aluminium-Bronze	11A70924
	7/8 ”	220 mm	210 gr	Copper-Beryllium	11A70909
				Aluminium-Bronze	11A70925
	1 ”	220 mm	220 gr	Copper-Beryllium	11A70910
				Aluminium-Bronze	11A70926
	1.1/16 ”	240 mm	220 gr	Copper-Beryllium	11A70911
				Aluminium-Bronze	11A70927
	1.3/16 ”	280 mm	230 gr	Copper-Beryllium	11A70912
				Aluminium-Bronze	11A70928
	1.1/4 ”	280 mm	230 gr	Copper-Beryllium	11A70913
				Aluminium-Bronze	11A70929
	1.7/16 ”	290 mm	260 gr	Copper-Beryllium	11A70914
				Aluminium-Bronze	11A70930
	1.5/8 ”	290 mm	260 gr	Copper-Beryllium	11A70915
				Aluminium-Bronze	11A70931
	1.13/16 ”	360 mm	450 gr	Copper-Beryllium	11A70916
				Aluminium-Bronze	11A70932
	2 ”	360 mm	550 gr	Copper-Beryllium	11A70917
				Aluminium-Bronze	11A70933
	2.3/16 ”	440 mm	650 gr	Copper-Beryllium	11A70918
				Aluminium-Bronze	11A70934
	2.3/8 ”	440 mm	850 gr	Copper-Beryllium	11A70919
				Aluminium-Bronze	11A70935

NON-SPARKING TOOLS

ZONES 1, 2 (gas) & 21, 22 (dust)

Non-sparking structural wrenches, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking structural wrenches are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

OFFSET RING STRUCTURAL WRENCHES - MILIMETERS					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	10 mm	200 mm	90 gr	Copper-Beryllium	10A75424
				Aluminium-Bronze	10A75425
	11 mm	210 mm	100 gr	Copper-Beryllium	10A75426
				Aluminium-Bronze	10A75427
	12 mm	220 mm	110 gr	Copper-Beryllium	10A75428
				Aluminium-Bronze	10A75429
	13 mm	230 mm	120 gr	Copper-Beryllium	10A75430
				Aluminium-Bronze	10A75431
	14 mm	240 mm	140 gr	Copper-Beryllium	10A75432
				Aluminium-Bronze	10A75433
	15 mm	250 mm	170 gr	Copper-Beryllium	10A75434
				Aluminium-Bronze	10A75435
	16 mm	260 mm	190 gr	Copper-Beryllium	10A75436
				Aluminium-Bronze	10A75437
	17 mm	270 mm	200 gr	Copper-Beryllium	10A75438
				Aluminium-Bronze	10A75439
	18 mm	270 mm	230 gr	Copper-Beryllium	10A77436
				Aluminium-Bronze	10A77437
	19 mm	270 mm	330 gr	Copper-Beryllium	10A75440
				Aluminium-Bronze	10A75441
	20 mm	270 mm	330 gr	Copper-Beryllium	10A77438
				Aluminium-Bronze	10A77439
	21 mm	270 mm	360 gr	Copper-Beryllium	10A75442
				Aluminium-Bronze	10A75443
	22 mm	270 mm	500 gr	Copper-Beryllium	10A70248
				Aluminium-Bronze	10A71732
	23 mm	290 mm	500 gr	Copper-Beryllium	10A76523
				Aluminium-Bronze	10A76524
	24 mm	290 mm	500 gr	Copper-Beryllium	10A70249
				Aluminium-Bronze	10A71733
	25 mm	320 mm	500 gr	Copper-Beryllium	10A77440
				Aluminium-Bronze	10A77441
	26 mm	320 mm	500 gr	Copper-Beryllium	10A77442
				Aluminium-Bronze	10A77443
	27 mm	320 mm	700 gr	Copper-Beryllium	10A70250
				Aluminium-Bronze	10A71734
	28 mm	350 mm	700 gr	Copper-Beryllium	10A77444
				Aluminium-Bronze	10A77445
	29 mm	350 mm	700 gr	Copper-Beryllium	10A77446
				Aluminium-Bronze	10A77447

OFFSET RING STRUCTURAL WRENCHES - MILIMETERS					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	30 mm	350 mm	800 gr	Copper-Beryllium	11A70251
				Aluminium-Bronze	11A71735
	32 mm	370 mm	800 gr	Copper-Beryllium	11A70252
				Aluminium-Bronze	11A71736
	33 mm	390 mm	800 gr	Copper-Beryllium	11A77448
				Aluminium-Bronze	11A77449
	34 mm	390 mm	900 gr	Copper-Beryllium	11A77450
				Aluminium-Bronze	11A77451
	35 mm	390 mm	900 gr	Copper-Beryllium	11A77452
				Aluminium-Bronze	11A77453
	36 mm	390 mm	1000 gr	Copper-Beryllium	11A70253
				Aluminium-Bronze	11A71737
	37 mm	400 mm	1000 gr	Copper-Beryllium	11A77454
				Aluminium-Bronze	11A77455
	38 mm	400 mm	1000 gr	Copper-Beryllium	11A70254
				Aluminium-Bronze	11A71738
	41 mm	410 mm	1000 gr	Copper-Beryllium	11A70255
				Aluminium-Bronze	11A71739
	42 mm	420 mm	1100 gr	Copper-Beryllium	11A77456
				Aluminium-Bronze	11A77457
	44 mm	420 mm	1100 gr	Copper-Beryllium	11A70256
				Aluminium-Bronze	11A71740
	46 mm	420 mm	1100 gr	Copper-Beryllium	11A70257
				Aluminium-Bronze	11A71741
	47 mm	430 mm	1300 gr	Copper-Beryllium	11A77458
				Aluminium-Bronze	11A77459
	50 mm	430 mm	1300 gr	Copper-Beryllium	11A70258
				Aluminium-Bronze	11A71742
	55 mm	550 mm	2100 gr	Copper-Beryllium	11A75444
				Aluminium-Bronze	11A75445
	60 mm	600 mm	2500 gr	Copper-Beryllium	11A75446
				Aluminium-Bronze	11A75447

OFFSET RING STRUCTURAL WRENCHES - INCHES					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	11/16 ”	310 mm	190 gr	Copper-Beryllium	11A77460
				Aluminium-Bronze	11A77461
	3/4 ”	330 mm	240 gr	Copper-Beryllium	11A77462
				Aluminium-Bronze	11A77463
	25/32 ”	330 mm	240 gr	Copper-Beryllium	11A77464
				Aluminium-Bronze	11A77465
	13/16 ”	350 mm	300 gr	Copper-Beryllium	11A77466
				Aluminium-Bronze	11A77467
	7/8 ”	350 mm	300 gr	Copper-Beryllium	11A76839
				Aluminium-Bronze	11A76840

NON-SPARKING STRUCTURAL WRENCHES

OFFSET RING STRUCTURAL WRENCHES - INCHES

Size:	Lenght:	Weight:	Alloy:	Item No.:
15/16 ”	370 mm	380 gr	Copper-Beryllium	11A76841
			Aluminium-Bronze	11A76842
31/32 ”	370 mm	380 gr	Copper-Beryllium	11A77468
			Aluminium-Bronze	11A77469
1 ”	400 mm	480 gr	Copper-Beryllium	11A77470
			Aluminium-Bronze	11A77471
1.1/16 ”	400 mm	480 gr	Copper-Beryllium	11A77472
			Aluminium-Bronze	11A77473
1.1/8 ”	430 mm	650 gr	Copper-Beryllium	11A77474
			Aluminium-Bronze	11A77475
1.3/16 ”	430 mm	650 gr	Copper-Beryllium	11A77476
			Aluminium-Bronze	11A77477
1.1/4 ”	430 mm	700 gr	Copper-Beryllium	11A74608
			Aluminium-Bronze	11A74609
1.5/16 ”	430 mm	700 gr	Copper-Beryllium	11A77478
			Aluminium-Bronze	11A77479
1.3/8 ”	460 mm	900 gr	Copper-Beryllium	11A77480
			Aluminium-Bronze	11A77481
1.7/16 ”	460 mm	900 gr	Copper-Beryllium	11A74612
			Aluminium-Bronze	11A74613
1.1/2 ”	490 mm	1150 gr	Copper-Beryllium	11A74610
			Aluminium-Bronze	11A74611
1.9/16 ”	490 mm	1150 gr	Copper-Beryllium	11A77482
			Aluminium-Bronze	11A77483
1.5/8 ”	490 mm	1200 gr	Copper-Beryllium	11A74614
			Aluminium-Bronze	11A74615
1.11/16 ”	490 mm	1200 gr	Copper-Beryllium	11A77484
			Aluminium-Bronze	11A77485
1.3/4 ”	500 mm	1500 gr	Copper-Beryllium	11A77486
			Aluminium-Bronze	11A77487
1.13/16 ”	500 mm	1500 gr	Copper-Beryllium	11A74616
			Aluminium-Bronze	11A74617
1.7/8 ”	520 mm	1500 gr	Copper-Beryllium	11A77488
			Aluminium-Bronze	11A77489
2 ”	550 mm	1900 gr	Copper-Beryllium	11A74618
			Aluminium-Bronze	11A74619

OFFSET OPEN END STRUCTURAL WRENCHES - MILIMETERS

Size:	Lenght:	Weight:	Alloy:	Item No.:
17 mm	320 mm	210 gr	Copper-Beryllium	10A75450
			Aluminium-Bronze	10A75451
18 mm	350 mm	300 gr	Copper-Beryllium	10A77490
			Aluminium-Bronze	10A77491
19 mm	350 mm	320 gr	Copper-Beryllium	10A75452
			Aluminium-Bronze	10A75453

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OFFSET OPEN END STRUCTURAL WRENCHES - MILIMETERS					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	20 mm	350 mm	320 gr	Copper-Beryllium	10A77492
				Aluminium-Bronze	10A77493
	21 mm	350 mm	410 gr	Copper-Beryllium	10A77494
				Aluminium-Bronze	10A77495
	22 mm	350 mm	430 gr	Copper-Beryllium	10A75454
				Aluminium-Bronze	10A75455
	23 mm	370 mm	450 gr	Copper-Beryllium	10A77496
				Aluminium-Bronze	10A77497
	24 mm	370 mm	480 gr	Copper-Beryllium	10A75456
				Aluminium-Bronze	10A75457
	25 mm	370 mm	480 gr	Copper-Beryllium	10A77498
				Aluminium-Bronze	10A77499
	26 mm	370 mm	600 gr	Copper-Beryllium	10A77500
				Aluminium-Bronze	10A77501
	27 mm	370 mm	650 gr	Copper-Beryllium	10A75458
				Aluminium-Bronze	10A75459
	28 mm	370 mm	650 gr	Copper-Beryllium	10A77502
				Aluminium-Bronze	10A77503
	29 mm	400 mm	750 gr	Copper-Beryllium	10A77504
				Aluminium-Bronze	10A77505
	30 mm	400 mm	800 gr	Copper-Beryllium	10A75460
				Aluminium-Bronze	10A75461
	32 mm	400 mm	850 gr	Copper-Beryllium	10A73940
				Aluminium-Bronze	10A73941
	33 mm	400 mm	850 gr	Copper-Beryllium	10A77506
				Aluminium-Bronze	10A77507
	34 mm	430 mm	900 gr	Copper-Beryllium	10A77508
				Aluminium-Bronze	10A77509
	35 mm	430 mm	900 gr	Copper-Beryllium	10A77510
				Aluminium-Bronze	10A77511
	36 mm	430 mm	1200 gr	Copper-Beryllium	10A73942
				Aluminium-Bronze	10A73943
	37 mm	430 mm	1200 gr	Copper-Beryllium	10A77512
				Aluminium-Bronze	10A77513
	38 mm	470 mm	1200 gr	Copper-Beryllium	10A77514
				Aluminium-Bronze	10A77515
	41 mm	470 mm	1900 gr	Copper-Beryllium	10A73944
				Aluminium-Bronze	10A73945
	42 mm	470 mm	1900 gr	Copper-Beryllium	10A77516
				Aluminium-Bronze	10A77517
	46 mm	500 mm	2800 gr	Copper-Beryllium	10A73946
				Aluminium-Bronze	10A73947
	47 mm	500 mm	2800 gr	Copper-Beryllium	10A77518
				Aluminium-Bronze	10A77519
	50 mm	550 mm	3700 gr	Copper-Beryllium	10A73948
				Aluminium-Bronze	10A73949

OFFSET OPEN END STRUCTURAL WRENCHES - INCHES					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	11/16 ”	320 mm	200 gr	Copper-Beryllium	10A77520
				Aluminium-Bronze	10A77521
	3/4 ”	350 mm	300 gr	Copper-Beryllium	10A77522
				Aluminium-Bronze	10A77523
	25/32 ”	350 mm	300 gr	Copper-Beryllium	10A77524
				Aluminium-Bronze	10A77525
	13/16 ”	350 mm	410 gr	Copper-Beryllium	10A77526
				Aluminium-Bronze	10A77527
	7/8 ”	350 mm	410 gr	Copper-Beryllium	10A77528
				Aluminium-Bronze	10A77529
	15/16 ”	370 mm	450 gr	Copper-Beryllium	10A77530
				Aluminium-Bronze	10A77531
	1.1/16 ”	370 mm	600 gr	Copper-Beryllium	10A77532
				Aluminium-Bronze	10A77533
	1.1/8 ”	400 mm	750 gr	Copper-Beryllium	10A77534
				Aluminium-Bronze	10A77535
	1.3/16 ”	400 mm	750 gr	Copper-Beryllium	10A77536
				Aluminium-Bronze	10A77537
	1.1/4 ”	400 mm	750 gr	Copper-Beryllium	10A77538
				Aluminium-Bronze	10A77539
	1.5/16 ”	400 mm	750 gr	Copper-Beryllium	10A77540
				Aluminium-Bronze	10A77541
	1.3/8 ”	430 mm	900 gr	Copper-Beryllium	10A77542
				Aluminium-Bronze	10A77543
	1.7/16 ”	430 mm	900 gr	Copper-Beryllium	10A77544
				Aluminium-Bronze	10A77545
	1.1/2 ”	470 mm	1200 gr	Copper-Beryllium	10A77546
				Aluminium-Bronze	10A77547
	1.9/16 ”	470 mm	1200 gr	Copper-Beryllium	10A77548
				Aluminium-Bronze	10A77549
	1.5/8 ”	470 mm	1200 gr	Copper-Beryllium	10A77550
				Aluminium-Bronze	10A77551
	1.11/16 ”	470 mm	1200 gr	Copper-Beryllium	10A77552
				Aluminium-Bronze	10A77553
	1.3/4 ”	500 mm	1500 gr	Copper-Beryllium	10A77554
				Aluminium-Bronze	10A77555
	1.13/16 ”	500 mm	1500 gr	Copper-Beryllium	10A77556
				Aluminium-Bronze	10A77557
	1.7/8 ”	500 mm	1500 gr	Copper-Beryllium	10A77558
				Aluminium-Bronze	10A77559
	2 ”	530 mm	1700 gr	Copper-Beryllium	10A77560
				Aluminium-Bronze	10A77561

NON-SPARKING STRUCTURAL WRENCHES

RATCHET STRUCTURAL WRENCH

	Size:	Lenght:	Weight:	Alloy:	Item No.:
	32 mm	320 mm	1000 gr	Copper-Beryllium	10A79035
				Aluminium-Bronze	10A79034

PODGING WRENCH

	Size:	Lenght:	Weight:	Alloy:	Item No.:
	10-13 mm	210 mm	350 gr	Copper-Beryllium	11A36736
				Aluminium-Bronze	11A36747
	12-14 mm	210 mm	350 gr	Copper-Beryllium	11A36737
				Aluminium-Bronze	11A36748
	13-17 mm	250 mm	410 gr	Copper-Beryllium	11A36738
				Aluminium-Bronze	11A36749
	17-19 mm	290 mm	450 gr	Copper-Beryllium	11A36739
				Aluminium-Bronze	11A36750
	19-21 mm	310 mm	580 gr	Copper-Beryllium	11A36740
				Aluminium-Bronze	11A36751
	19-22 mm	310 mm	580 gr	Copper-Beryllium	11A36072
				Aluminium-Bronze	11A36073
	19-24 mm	330 mm	620 gr	Copper-Beryllium	11A36741
				Aluminium-Bronze	11A36752
	22-24 mm	330 mm	620 gr	Copper-Beryllium	11A36742
				Aluminium-Bronze	11A36753
	24-27 mm	350 mm	730 gr	Copper-Beryllium	11A35792
				Aluminium-Bronze	11A35793
	24-30 mm	370 mm	800 gr	Copper-Beryllium	11A36743
				Aluminium-Bronze	11A36754
	27-32 mm	370 mm	900 gr	Copper-Beryllium	11A36744
				Aluminium-Bronze	11A36755
	30-32 mm	370 mm	900 gr	Copper-Beryllium	11A35794
				Aluminium-Bronze	11A35795
	32-36 mm	390 mm	1150 gr	Copper-Beryllium	11A36745
				Aluminium-Bronze	11A36756
	36-41 mm	390 mm	1500 gr	Copper-Beryllium	11A36746
				Aluminium-Bronze	11A36757

NON-SPARKING SLOGGING OPEN WRENCHES

NON-SPARKING TOOLS

ZONES 1, 2 (gas) & 21, 22 (dust)

Non-sparking slogging open wrenches, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking slogging open wrenches are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

MILIMETERS				
Size:	Lenght:	Weight:	Alloy:	Item No.:
14 mm	130 mm	0,1 kg	Copper-Beryllium	11A70280
			Aluminium-Bronze	11A71013
17 mm	130 mm	0,1 kg	Copper-Beryllium	11A70281
			Aluminium-Bronze	11A71014
19 mm	130 mm	0,1 kg	Copper-Beryllium	11A70282
			Aluminium-Bronze	11A71015
20 mm	130 mm	0,2 kg	Copper-Beryllium	11A36466
		0,1 kg	Aluminium-Bronze	11A36467
22 mm	150 mm	0,2 kg	Copper-Beryllium	11A70283
			Aluminium-Bronze	11A71016
24 mm	150 mm	0,2 kg	Copper-Beryllium	11A70284
			Aluminium-Bronze	11A71017
25 mm	150 mm	0,3 kg	Copper-Beryllium	11A74875
			Aluminium-Bronze	11A74876
26 mm	170 mm	0,4 kg	Copper-Beryllium	11A36468
		0,3 kg	Aluminium-Bronze	11A36469
27 mm	170 mm	0,3 kg	Copper-Beryllium	11A70285
			Aluminium-Bronze	11A71018
28 mm	170 mm	0,3 kg	Copper-Beryllium	11A74877
			Aluminium-Bronze	11A74878
29 mm	190 mm	0,4 kg	Copper-Beryllium	11A77278
			Aluminium-Bronze	11A77279
30 mm	190 mm	0,4 kg	Copper-Beryllium	11A70286
			Aluminium-Bronze	11A71019
32 mm	190 mm	0,4 kg	Copper-Beryllium	11A70287
			Aluminium-Bronze	11A71020
33 mm	190 mm	0,5 kg	Copper-Beryllium	11A77280
			Aluminium-Bronze	11A77281
34 mm	210 mm	0,6 kg	Copper-Beryllium	11A74847
			Aluminium-Bronze	11A74848
35 mm	210 mm	0,7 kg	Copper-Beryllium	11A77282
			Aluminium-Bronze	11A77283
36 mm	210 mm	0,7 kg	Copper-Beryllium	11A70288
			Aluminium-Bronze	11A71021
37 mm	210 mm	0,7 kg	Copper-Beryllium	11A77284
			Aluminium-Bronze	11A77285
38 mm	210 mm	0,8 kg	Copper-Beryllium	11A74341
			Aluminium-Bronze	11A74342
41 mm	225 mm	0,9 kg	Copper-Beryllium	11A70289
			Aluminium-Bronze	11A71022

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NON-SPARKING SLOGGING OPEN WRENCHES

MILIMETERS					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	42 mm	225 mm	0,9 kg	Copper-Beryllium	11A77286
				Aluminium-Bronze	11A77287
	45 mm	245 mm	0,9 kg	Copper-Beryllium	11A79089
				Aluminium-Bronze	11A77778
	46 mm	245 mm	1,1 kg	Copper-Beryllium	11A70290
				Aluminium-Bronze	11A71023
	47 mm	245 mm	1,2 kg	Copper-Beryllium	11A77288
				Aluminium-Bronze	11A77289
	50 mm	270 mm	1,2 kg	Copper-Beryllium	11A70291
				Aluminium-Bronze	11A71024
	52 mm	270 mm	1,4 kg	Copper-Beryllium	11A77290
				Aluminium-Bronze	11A77291
	54 mm	300 mm	1,5 kg	Copper-Beryllium	11A77292
				Aluminium-Bronze	11A77293
	55 mm	300 mm	1,5 kg	Copper-Beryllium	11A70292
				Aluminium-Bronze	11A71025
	56 mm	300 mm	1,8 kg	Copper-Beryllium	11A77294
				Aluminium-Bronze	11A77295
	58 mm	310 mm	2 kg	Copper-Beryllium	11A77296
				Aluminium-Bronze	11A77297
	60 mm	310 mm	2 kg	Copper-Beryllium	11A70293
				Aluminium-Bronze	11A71026
	63 mm	310 mm	2,4 kg	Copper-Beryllium	11A77298
				Aluminium-Bronze	11A77299
	65 mm	340 mm	2,4 kg	Copper-Beryllium	11A70294
				Aluminium-Bronze	11A71027
	67 mm	340 mm	2,5 kg	Copper-Beryllium	11A77300
				Aluminium-Bronze	11A77301
	70 mm	365 mm	3 kg	Copper-Beryllium	11A70295
				Aluminium-Bronze	11A71028
	71 mm	365 mm	3 kg	Copper-Beryllium	11A77302
				Aluminium-Bronze	11A77303
	75 mm	375 mm	3,5 kg	Copper-Beryllium	11A70296
				Aluminium-Bronze	11A71029
	77 mm	375 mm	3,5 kg	Copper-Beryllium	11A77304
				Aluminium-Bronze	11A77305
	80 mm	395 mm	4 kg	Copper-Beryllium	11A71007
				Aluminium-Bronze	11A71030
	82 mm	395 mm	4 kg	Copper-Beryllium	11A77306
				Aluminium-Bronze	11A77307
	85 mm	405 mm	5 kg	Copper-Beryllium	11A71008
				Aluminium-Bronze	11A71031
	88 mm	438 mm	5 kg	Copper-Beryllium	11A77308
				Aluminium-Bronze	11A77309
	90 mm	438 mm	6,5 kg	Copper-Beryllium	11A71009
				Aluminium-Bronze	11A71032

NON-SPARKING SLOGGING OPEN WRENCHES

MILIMETERS				
Size:	Lenght:	Weight:	Alloy:	Item No.:
94 mm	445 mm	6,5 kg	Copper-Beryllium	11A77310
			Aluminium-Bronze	11A77311
95 mm	445 mm	6,5 kg	Copper-Beryllium	11A71010
			Aluminium-Bronze	11A71033
100 mm	480 mm	8,5 kg	Copper-Beryllium	11A71011
			Aluminium-Bronze	11A71034
105 mm	500 mm	10 kg	Copper-Beryllium	11A71012
			Aluminium-Bronze	11A71035
110 mm	510 mm	10 kg	Copper-Beryllium	11A74849
			Aluminium-Bronze	11A74850
115 mm	520 mm	12 kg	Copper-Beryllium	11A74880
			Aluminium-Bronze	11A74881
120 mm	530 mm	12 kg	Copper-Beryllium	11A77312
			Aluminium-Bronze	11A77313
125 mm	545 mm	12 kg	Copper-Beryllium	11A74761
			Aluminium-Bronze	11A74762
130 mm	560 mm	18 kg	Copper-Beryllium	11A77314
			Aluminium-Bronze	11A77315
135 mm	575 mm	18 kg	Copper-Beryllium	11A77316
			Aluminium-Bronze	11A77317
140 mm	585 mm	18 kg	Copper-Beryllium	11A77318
			Aluminium-Bronze	11A77319
145 mm	630 mm	24 kg	Copper-Beryllium	11A77320
			Aluminium-Bronze	11A77321
150 mm	640 mm	24 kg	Copper-Beryllium	11A77322
			Aluminium-Bronze	11A77323
155 mm	650 mm	24 kg	Copper-Beryllium	11A77324
			Aluminium-Bronze	11A77325
160 mm	650 mm	37 kg	Copper-Beryllium	11A36470
		34 kg	Aluminium-Bronze	11A36471
165 mm	700 mm	43 kg	Copper-Beryllium	11A36472
		39 kg	Aluminium-Bronze	11A36473
170 mm	700 mm	43 kg	Copper-Beryllium	11A36474
		39 kg	Aluminium-Bronze	11A36475
175 mm	700 mm	44 kg	Copper-Beryllium	11A36476
		40 kg	Aluminium-Bronze	11A36477
180 mm	700 mm	44 kg	Copper-Beryllium	11A36478
		40 kg	Aluminium-Bronze	11A36479

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NON-SPARKING SLOGGING OPEN WRENCHES

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INCHES					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	9/16 ”	130 mm	0,2 kg	Copper-Beryllium	11A71036
				Aluminium-Bronze	11A71055
	5/8 ”	130 mm	0,3 kg	Copper-Beryllium	11A72105
				Aluminium-Bronze	11A72113
	11/16 ”	130 mm	0,3 kg	Copper-Beryllium	11A71037
				Aluminium-Bronze	11A71056
	3/4 ”	130 mm	0,3 kg	Copper-Beryllium	11A71038
				Aluminium-Bronze	11A71057
	7/8 ”	150 mm	0,4 kg	Copper-Beryllium	11A71039
				Aluminium-Bronze	11A71058
	15/16 ”	150 mm	0,4 kg	Copper-Beryllium	11A71040
				Aluminium-Bronze	11A71059
	1 ”	150 mm	0,6 kg	Copper-Beryllium	11A72106
				Aluminium-Bronze	11A72114
	1.1/16 ”	170 mm	0,7 kg	Copper-Beryllium	11A71041
				Aluminium-Bronze	11A71060
	1.1/8 ”	170 mm	0,7 kg	Copper-Beryllium	11A72107
				Aluminium-Bronze	11A72115
	1.3/16 ”	190 mm	0,7 kg	Copper-Beryllium	11A74851
				Aluminium-Bronze	11A74852
	1.1/4 ”	190 mm	0,7 kg	Copper-Beryllium	11A71042
				Aluminium-Bronze	11A71061
	1.5/16 ”	190 mm	0,7 kg	Copper-Beryllium	11A77326
				Aluminium-Bronze	11A77327
	1.3/8 ”	210 mm	0,7 kg	Copper-Beryllium	11A72108
				Aluminium-Bronze	11A72116
	1.7/16 ”	210 mm	0,7 kg	Copper-Beryllium	11A71043
				Aluminium-Bronze	11A71062
	1.1/2 ”	210 mm	1,6 kg	Copper-Beryllium	11A72109
				Aluminium-Bronze	11A72117
	1.9/16 ”	225 mm	1,6 kg	Copper-Beryllium	11A77328
				Aluminium-Bronze	11A77329
	1.5/8 ”	225 mm	1,6 kg	Copper-Beryllium	11A71044
				Aluminium-Bronze	11A71063
	1.11/16 ”	225 mm	1,6 kg	Copper-Beryllium	11A77330
				Aluminium-Bronze	11A77331
	1.3/4 ”	245 mm	1,6 kg	Copper-Beryllium	11A77332
				Aluminium-Bronze	11A77333
	1.13/16 ”	245 mm	1,6 kg	Copper-Beryllium	11A71045
				Aluminium-Bronze	11A71064
	1.7/8 ”	245 mm	1,8 kg	Copper-Beryllium	11A72110
				Aluminium-Bronze	11A72118
	2 ”	270 mm	2,1 kg	Copper-Beryllium	11A71046
				Aluminium-Bronze	11A71065
	2.1/16 ”	270 mm	2,1 kg	Copper-Beryllium	11A77334
				Aluminium-Bronze	11A77335

NON-SPARKING SLOGGING OPEN WRENCHES

INCHES					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	2.1/8 ”	300 mm	2,1 kg	Copper-Beryllium	11A77336
				Aluminium-Bronze	11A77337
	2.3/16 ”	300 mm	2,6 kg	Copper-Beryllium	11A71047
				Aluminium-Bronze	11A71066
	2.1/4 ”	300 mm	3 kg	Copper-Beryllium	11A72111
				Aluminium-Bronze	11A72119
	2.5/16 ”	310 mm	3 kg	Copper-Beryllium	11A77338
				Aluminium-Bronze	11A77339
	2.3/8 ”	310 mm	4 kg	Copper-Beryllium	11A71048
				Aluminium-Bronze	11A71067
	2.7/16 ”	310 mm	4 kg	Copper-Beryllium	11A77340
				Aluminium-Bronze	11A77341
	2.1/2 ”	310 mm	4,5 kg	Copper-Beryllium	11A72112
				Aluminium-Bronze	11A72120
	2.9/16 ”	340 mm	4,5 kg	Copper-Beryllium	11A71049
				Aluminium-Bronze	11A71068
	2.5/8 ”	340 mm	4,5 kg	Copper-Beryllium	11A77342
				Aluminium-Bronze	11A77343
	2.3/4 ”	365 mm	4,5 kg	Copper-Beryllium	11A74853
				Aluminium-Bronze	11A74854
	2.13/16 ”	365 mm	4,5 kg	Copper-Beryllium	11A77344
				Aluminium-Bronze	11A77345
	2.15/16 ”	375 mm	4,5 kg	Copper-Beryllium	11A77346
				Aluminium-Bronze	11A77347
	3 ”	375 mm	7 kg	Copper-Beryllium	11A71050
				Aluminium-Bronze	11A71069
	3.1/8 ”	395 mm	8,5 kg	Copper-Beryllium	11A71051
				Aluminium-Bronze	11A71070
	3.3/16 ”	395 mm	8,5 kg	Copper-Beryllium	11A74855
				Aluminium-Bronze	11A74856
	3.1/4 ”	395 mm	8,5 kg	Copper-Beryllium	11A77348
				Aluminium-Bronze	11A77349
	3.3/8 ”	405 mm	8,5 kg	Copper-Beryllium	11A74857
				Aluminium-Bronze	11A74858
	3.1/2 ”	438 mm	8,5 kg	Copper-Beryllium	11A77350
				Aluminium-Bronze	11A77351
	3.9/16 ”	438 mm	10 kg	Copper-Beryllium	11A71052
				Aluminium-Bronze	11A71071
	3.5/8 ”	438 mm	10 kg	Copper-Beryllium	11A77352
				Aluminium-Bronze	11A77353
	3.3/4 ”	445 mm	10 kg	Copper-Beryllium	11A74859
				Aluminium-Bronze	11A74860
	3.7/8 ”	480 mm	11 kg	Copper-Beryllium	11A77354
				Aluminium-Bronze	11A77355
	4 ”	480 mm	12 kg	Copper-Beryllium	11A71053
				Aluminium-Bronze	11A71072

NON-SPARKING SLOGGING OPEN WRENCHES

INCHES					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	4.1/8 ”	500 mm	12 kg	Copper-Beryllium	11A77356
				Aluminium-Bronze	11A77357
	4.5/16 ”	510 mm	13 kg	Copper-Beryllium	11A71054
				Aluminium-Bronze	11A71073
	4.9/16 ”	520 mm	13 kg	Copper-Beryllium	11A77358
				Aluminium-Bronze	11A77359
	4.11/16 ”	530 mm	16 kg	Copper-Beryllium	11A77360
				Aluminium-Bronze	11A77361
	4.15/16 ”	560 mm	16 kg	Copper-Beryllium	11A77362
				Aluminium-Bronze	11A77363
	5.3/8 ”	575 mm	16 kg	Copper-Beryllium	11A77364
				Aluminium-Bronze	11A77365
	6 ”	640 mm	23 kg	Copper-Beryllium	11A77366
				Aluminium-Bronze	11A77367

NON-SPARKING SLOGGING RING WRENCHES

NON-SPARKING TOOLS | **ZONES 1, 2 (gas) & 21, 22 (dust)**

Non-sparking slogging ring wrenches, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking slogging ring wrenches are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

6-POINT - MILIMETERS					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	17 mm	150 mm	0,2 kg	Aluminium-Bronze	11A37101
				Copper-Beryllium	11A37100
	19 mm	150 mm	0,2 kg	Aluminium-Bronze	11A37103
				Copper-Beryllium	11A37102
	22 mm	170 mm	0,3 kg	Aluminium-Bronze	11A37105
				Copper-Beryllium	11A37104
	24 mm	170 mm	0,3 kg	Aluminium-Bronze	11A37107
				Copper-Beryllium	11A37106
	27 mm	180 mm	0,3 kg	Aluminium-Bronze	11A37109
				Copper-Beryllium	11A37108
	30 mm	190 mm	0,4 kg	Aluminium-Bronze	11A37111
				Copper-Beryllium	11A37110
	32 mm	190 mm	0,4 kg	Aluminium-Bronze	11A37113
				Copper-Beryllium	11A37112
	36 mm	200 mm	0,6 kg	Aluminium-Bronze	11A37115
				Copper-Beryllium	11A37114
	41 mm	230 mm	0,7 kg	Aluminium-Bronze	11A37117
				Copper-Beryllium	11A37116
	46 mm	240 mm	1,2 kg	Aluminium-Bronze	11A37119
				Copper-Beryllium	11A37118
	50 mm	250 mm	1,2 kg	Aluminium-Bronze	11A37121
				Copper-Beryllium	11A37120
	55 mm	270 mm	1,4 kg	Aluminium-Bronze	11A37123
				Copper-Beryllium	11A37122
	60 mm	280 mm	1,6 kg	Aluminium-Bronze	11A37125
				Copper-Beryllium	11A37124
	65 mm	290 mm	2 kg	Aluminium-Bronze	11A37127
				Copper-Beryllium	11A37126
	70 mm	320 mm	2,7 kg	Aluminium-Bronze	11A37129
				Copper-Beryllium	11A37128
	75 mm	330 mm	2,8 kg	Aluminium-Bronze	11A37131
				Copper-Beryllium	11A37130
	80 mm	350 mm	3,5 kg	Aluminium-Bronze	11A37133
				Copper-Beryllium	11A37132
	85 mm	350 mm	3,5 kg	Aluminium-Bronze	11A37135
				Copper-Beryllium	11A37134
	90 mm	380 mm	4,3 kg	Aluminium-Bronze	11A37137
				Copper-Beryllium	11A37136
	100 mm	410 mm	6,4 kg	Aluminium-Bronze	11A37139
				Copper-Beryllium	11A37138

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NON-SPARKING SLOGGING RING WRENCHES

6-POINT - MILIMETERS					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	110 mm	440 mm	8,5 kg	Aluminium-Bronze	37141
				Copper-Beryllium	37140
	120 mm	480 mm	12 kg	Aluminium-Bronze	37143
				Copper-Beryllium	37142
	130 mm	500 mm	14 kg	Aluminium-Bronze	37145
				Copper-Beryllium	37144
	140 mm	550 mm	18 kg	Aluminium-Bronze	37147
				Copper-Beryllium	37146
	150 mm	550 mm	20 kg	Aluminium-Bronze	37149
				Copper-Beryllium	37148
	160 mm	600 mm	26 kg	Aluminium-Bronze	37151
				Copper-Beryllium	37150

12-POINT - MILIMETERS					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	16 mm	147 mm	0,1 kg	Aluminium-Bronze	11A35589
				Copper-Beryllium	11A35588
	17 mm	150 mm	0,1 kg	Aluminium-Bronze	11A71080
				Copper-Beryllium	11A70297
	18 mm	150 mm	0,1 kg	Aluminium-Bronze	11A35653
				Copper-Beryllium	11A35652
	19 mm	150 mm	0,1 kg	Aluminium-Bronze	11A71081
				Copper-Beryllium	11A70298
	20 mm	150 mm	0,2 kg	Aluminium-Bronze	11A72230
				Copper-Beryllium	11A72231
	21 mm	170 mm	0,2 kg	Aluminium-Bronze	11A77151
				Copper-Beryllium	11A77150
	22 mm	170 mm	0,2 kg	Aluminium-Bronze	11A71082
				Copper-Beryllium	11A70299
	23 mm	170 mm	0,2 kg	Aluminium-Bronze	11A77565
				Copper-Beryllium	11A77564
	24 mm	170 mm	0,2 kg	Aluminium-Bronze	11A71083
				Copper-Beryllium	11A70300
	25 mm	180 mm	0,2 kg	Aluminium-Bronze	11A72677
				Copper-Beryllium	11A72631
	26 mm	180 mm	0,3 kg	Aluminium-Bronze	11A72951
				Copper-Beryllium	11A71906
	27 mm	180 mm	0,3 kg	Aluminium-Bronze	11A71084
				Copper-Beryllium	11A70301
	28 mm	180 mm	0,3 kg	Aluminium-Bronze	11A72679
				Copper-Beryllium	11A72633
	29 mm	190 mm	0,4 kg	Aluminium-Bronze	11A72680
				Copper-Beryllium	11A72634
	30 mm	190 mm	0,4 kg	Aluminium-Bronze	11A71085
				Copper-Beryllium	11A70302

12-POINT - MILIMETERS					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	31 mm	190 mm	0,4 kg	Aluminium-Bronze	11A72681
				Copper-Beryllium	11A72635
	32 mm	190 mm	0,4 kg	Aluminium-Bronze	11A71086
				Copper-Beryllium	11A70303
	33 mm	190 mm	0,4 kg	Aluminium-Bronze	11A72619
				Copper-Beryllium	11A72609
	34 mm	200 mm	0,5 kg	Aluminium-Bronze	11A73331
				Copper-Beryllium	11A73326
	35 mm	200 mm	0,5 kg	Aluminium-Bronze	11A72620
				Copper-Beryllium	11A72610
	36 mm	200 mm	0,5 kg	Aluminium-Bronze	11A71087
				Copper-Beryllium	11A70304
	37 mm	200 mm	0,5 kg	Aluminium-Bronze	11A72621
				Copper-Beryllium	11A72611
	38 mm	225 mm	0,8 kg	Aluminium-Bronze	11A71835
				Copper-Beryllium	11A71834
	39 mm	225 mm	0,8 kg	Aluminium-Bronze	11A72682
				Copper-Beryllium	11A72636
	40 mm	225 mm	0,8 kg	Aluminium-Bronze	11A73332
				Copper-Beryllium	11A73327
	41 mm	225 mm	0,8 kg	Aluminium-Bronze	11A71088
				Copper-Beryllium	11A70305
	42 mm	225 mm	0,8 kg	Aluminium-Bronze	11A73333
				Copper-Beryllium	11A73328
	43 mm	225 mm	0,9 kg	Aluminium-Bronze	11A72684
				Copper-Beryllium	11A72638
	44 mm	235 mm	0,9 kg	Aluminium-Bronze	11A73334
				Copper-Beryllium	11A73329
	45 mm	235 mm	0,9 kg	Aluminium-Bronze	11A72686
				Copper-Beryllium	11A72640
	46 mm	235 mm	0,9 kg	Aluminium-Bronze	11A71089
				Copper-Beryllium	11A70306
	47 mm	235 mm	0,9 kg	Aluminium-Bronze	11A72228
				Copper-Beryllium	11A72229
	48 mm	245 mm	1,1 kg	Aluminium-Bronze	11A73335
				Copper-Beryllium	11A73330
	49 mm	245 mm	1,1 kg	Aluminium-Bronze	11A72688
				Copper-Beryllium	11A72642
	50 mm	245 mm	1,1 kg	Aluminium-Bronze	11A71090
				Copper-Beryllium	11A70307
	51 mm	245 mm	1,1 kg	Aluminium-Bronze	11A72689
				Copper-Beryllium	11A72643
	52 mm	265 mm	1,4 kg	Aluminium-Bronze	11A71091
				Copper-Beryllium	11A70308
	53 mm	265 mm	1,4 kg	Aluminium-Bronze	11A72690
				Copper-Beryllium	11A72644

NON-SPARKING SLOGGING RING WRENCHES

12-POINT - MILIMETERS					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	54 mm	265 mm	1,4 kg	Aluminium-Bronze	11A72623
				Copper-Beryllium	11A72613
	55 mm	265 mm	1,4 kg	Aluminium-Bronze	11A71092
				Copper-Beryllium	11A70309
	56 mm	265 mm	1,4 kg	Aluminium-Bronze	11A73394
				Copper-Beryllium	11A73470
	57 mm	265 mm	1,7 kg	Aluminium-Bronze	11A72693
				Copper-Beryllium	11A72647
	58 mm	275 mm	1,7 kg	Aluminium-Bronze	11A73395
				Copper-Beryllium	11A73471
	59 mm	275 mm	1,7 kg	Aluminium-Bronze	11A72694
	60 mm	275 mm	1,7 kg	Copper-Beryllium	11A70310
				Aluminium-Bronze	11A71093
	61 mm	275 mm	1,7 kg	Copper-Beryllium	11A72650
				Aluminium-Bronze	11A72696
	62 mm	275 mm	2 kg	Copper-Beryllium	11A72651
				Aluminium-Bronze	11A72697
	63 mm	290 mm	2 kg	Copper-Beryllium	11A72652
				Aluminium-Bronze	11A72698
	64 mm	290 mm	2 kg	Copper-Beryllium	11A72653
				Aluminium-Bronze	11A72699
	65 mm	290 mm	2 kg	Copper-Beryllium	11A70311
				Aluminium-Bronze	11A71094
	66 mm	290 mm	2 kg	Copper-Beryllium	11A72655
				Aluminium-Bronze	11A73340
	67 mm	290 mm	2,5 kg	Copper-Beryllium	11A72615
				Aluminium-Bronze	11A72625
	68 mm	320 mm	2,5 kg	Copper-Beryllium	11A72656
				Aluminium-Bronze	11A72702
	69 mm	320 mm	2,5 kg	Copper-Beryllium	11A72657
				Aluminium-Bronze	11A72703
	70 mm	320 mm	2,5 kg	Copper-Beryllium	11A70312
				Aluminium-Bronze	11A71095
	71 mm	320 mm	2,5 kg	Copper-Beryllium	11A72616
				Aluminium-Bronze	11A72626
	72 mm	320 mm	2,7 kg	Copper-Beryllium	11A72658
				Aluminium-Bronze	11A72704
	73 mm	325 mm	2,7 kg	Copper-Beryllium	11A72659
				Aluminium-Bronze	11A72705
	74 mm	325 mm	2,7 kg	Copper-Beryllium	11A72660
				Aluminium-Bronze	11A72706
	75 mm	325 mm	2,7 kg	Copper-Beryllium	11A70313
				Aluminium-Bronze	11A71096
	76 mm	325 mm	2,7 kg	Copper-Beryllium	11A72662
				Aluminium-Bronze	11A72708

NON-SPARKING SLOGGING RING WRENCHES

12-POINT - MILIMETERS					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	77 mm	325 mm	3 kg	Copper-Beryllium	11A72617
				Aluminium-Bronze	11A72627
	78 mm	345 mm	3 kg	Copper-Beryllium	11A72663
				Aluminium-Bronze	11A72709
	79 mm	345 mm	3 kg	Copper-Beryllium	11A72664
				Aluminium-Bronze	11A72710
	80 mm	345 mm	3 kg	Copper-Beryllium	11A70314
				Aluminium-Bronze	11A71097
	81 mm	345 mm	3 kg	Copper-Beryllium	11A72665
				Aluminium-Bronze	11A72711
	82 mm	345 mm	3,3 kg	Copper-Beryllium	11A72666
				Aluminium-Bronze	11A72712
	83 mm	350 mm	3,3 kg	Copper-Beryllium	11A72667
				Aluminium-Bronze	11A72713
	84 mm	350 mm	3,3 kg	Copper-Beryllium	11A72668
				Aluminium-Bronze	11A72714
	85 mm	350 mm	3,3 kg	Copper-Beryllium	11A70315
				Aluminium-Bronze	11A71098
	86 mm	350 mm	3,3 kg	Copper-Beryllium	11A72670
				Aluminium-Bronze	11A72716
	87 mm	350 mm	3,8 kg	Copper-Beryllium	11A72671
				Aluminium-Bronze	11A72717
	88 mm	375 mm	3,8 kg	Copper-Beryllium	11A72672
				Aluminium-Bronze	11A73342
	89 mm	375 mm	3,8 kg	Copper-Beryllium	11A72673
				Aluminium-Bronze	11A72719
	90 mm	375 mm	3,8 kg	Copper-Beryllium	11A70316
				Aluminium-Bronze	11A71099
	92 mm	375 mm	4,5 kg	Copper-Beryllium	11A72675
				Aluminium-Bronze	11A72721
	94 mm	395 mm	4,5 kg	Copper-Beryllium	11A72618
				Aluminium-Bronze	11A72628
	95 mm	395 mm	4,5 kg	Copper-Beryllium	11A70317
				Aluminium-Bronze	11A71100
	97 mm	445 mm	5,5 kg	Copper-Beryllium	11A72661
				Aluminium-Bronze	11A72669
	98 mm	405 mm	5,5 kg	Copper-Beryllium	11A73345
				Aluminium-Bronze	11A73344
	100 mm	405 mm	5,5 kg	Copper-Beryllium	11A70318
				Aluminium-Bronze	11A71101
	105 mm	410 mm	6,5 kg	Copper-Beryllium	11A71074
				Aluminium-Bronze	11A71102
	108 mm	440 mm	7 kg	Copper-Beryllium	11A72645
				Aluminium-Bronze	11A72646
	110 mm	440 mm	7,5 kg	Copper-Beryllium	11A71075
				Aluminium-Bronze	11A71103

NON-SPARKING SLOGGING RING WRENCHES

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12-POINT - MILIMETERS					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	115 mm	440 mm	9 kg	Copper-Beryllium	11A71076
				Aluminium-Bronze	11A71104
	120 mm	480 mm	10 kg	Copper-Beryllium	11A71077
		475 mm	10 kg	Aluminium-Bronze	11A71105
	125 mm	490 mm	10,8 kg	Copper-Beryllium	11A71078
				Aluminium-Bronze	11A71106
	130 mm	505 mm	11,3 kg	Copper-Beryllium	11A71079
				Aluminium-Bronze	11A71107
	135 mm	530 mm	12,3 kg	Copper-Beryllium	11A72084
				Aluminium-Bronze	11A72089
	140 mm	550 mm	13,2 kg	Copper-Beryllium	11A72085
				Aluminium-Bronze	11A72090
	145 mm	565 mm	13,6 kg	Copper-Beryllium	11A72086
				Aluminium-Bronze	11A72091
	150 mm	565 mm	14,1 kg	Copper-Beryllium	11A72087
				Aluminium-Bronze	11A72092
	155 mm	565 mm	14,1 kg	Copper-Beryllium	11A72088
				Aluminium-Bronze	11A72093
	160 mm	595 mm	16 kg	Copper-Beryllium	11A72212
				Aluminium-Bronze	11A72210
	165 mm	650 mm	26 kg	Copper-Beryllium	11A36482
			23 kg	Aluminium-Bronze	11A36483
	170 mm	650 mm	25 kg	Copper-Beryllium	11A36484
			23 kg	Aluminium-Bronze	11A36485
	175 mm	650 mm	28 kg	Copper-Beryllium	11A36486
			25 kg	Aluminium-Bronze	11A36487
	180 mm	650 mm	27 kg	Copper-Beryllium	11A36488
			25 kg	Aluminium-Bronze	11A36489

6-POINT - INCHES					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	5/8 ”	150 mm	0,2 kg	Aluminium-Bronze	76007
				Copper-Beryllium	76006
	7/8 ”	170 mm	0,3 kg	Aluminium-Bronze	37161
				Copper-Beryllium	37160
	1 ”	180 mm	0,3 kg	Aluminium-Bronze	76009
				Copper-Beryllium	76008
	1.1/16 ”	180 mm	0,3 kg	Aluminium-Bronze	37163
				Copper-Beryllium	37162
	1.1/8 ”	190 mm	0,4 kg	Aluminium-Bronze	76013
				Copper-Beryllium	76012
	1.1/4 ”	190 mm	0,4 kg	Aluminium-Bronze	76015
				Copper-Beryllium	76014
	1.3/8 ”	200 mm	0,6 kg	Aluminium-Bronze	76017
				Copper-Beryllium	76016

NON-SPARKING SLOGGING RING WRENCHES

6-POINT - INCHES					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	1.7/16 ”	200 mm	0,6 kg	Aluminium-Bronze	11A37165
				Copper-Beryllium	11A37164
	1.1/2 ”	200 mm	0,6 kg	Aluminium-Bronze	11A37167
				Copper-Beryllium	11A37166
	1.5/8 ”	230 mm	0,7 kg	Aluminium-Bronze	11A76019
				Copper-Beryllium	11A76018
	1.3/4 ”	240 mm	1,2 kg	Aluminium-Bronze	11A37169
				Copper-Beryllium	11A37168
	1.7/8 ”	240 mm	1,2 kg	Aluminium-Bronze	11A76025
				Copper-Beryllium	11A76024
	2 ”	250 mm	1,2 kg	Aluminium-Bronze	11A37053
				Copper-Beryllium	11A37051
	2.3/16 ”	270 mm	1,4 kg	Aluminium-Bronze	11A76027
				Copper-Beryllium	11A76026
	2.1/4 ”	280 mm	1,6 kg	Aluminium-Bronze	11A76029
				Copper-Beryllium	11A76028
	2.3/8 ”	280 mm	1,6 kg	Aluminium-Bronze	11A76031
				Copper-Beryllium	11A76030
	2.1/2 ”	290 mm	2 kg	Aluminium-Bronze	11A76034
				Copper-Beryllium	11A76033
	2.9/16 ”	290 mm	2 kg	Aluminium-Bronze	11A76036
				Copper-Beryllium	11A76035
	2.3/4 ”	320 mm	2,7 kg	Aluminium-Bronze	11A76038
				Copper-Beryllium	11A76037
	2.7/8 ”	320 mm	2,7 kg	Aluminium-Bronze	11A37171
				Copper-Beryllium	11A37170
	2.15/16 ”	320 mm	2,7 kg	Aluminium-Bronze	11A37054
				Copper-Beryllium	11A37052
	3.1/2 ”	380 mm	4,3 kg	Aluminium-Bronze	11A37172
				Copper-Beryllium	11A72718
	3.7/8 ”	410 mm	6,4 kg	Aluminium-Bronze	11A37173
				Copper-Beryllium	11A72722

12-POINT - INCHES					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	1/2 ”	125 mm	0,1 kg	Aluminium-Bronze	11A74764
				Copper-Beryllium	11A74763
	5/8 ”	145 mm	0,1 kg	Aluminium-Bronze	11A72127
				Copper-Beryllium	11A72121
	11/16 ”	145 mm	0,1 kg	Aluminium-Bronze	11A71133
				Copper-Beryllium	11A71108
	3/4 ”	145 mm	0,1 kg	Aluminium-Bronze	11A71134
				Copper-Beryllium	11A71109
	13/16 ”	170 mm	0,2 kg	Aluminium-Bronze	11A72676
				Copper-Beryllium	11A72674

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NON-SPARKING SLOGGING RING WRENCHES

12-POINT - INCHES					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	7/8 ”	170 mm	0,2 kg	Aluminium-Bronze	11A71135
				Copper-Beryllium	11A71110
	15/16 ”	170 mm	0,2 kg	Aluminium-Bronze	11A72303
				Copper-Beryllium	11A75400
	1 ”	180 mm	0,3 kg	Aluminium-Bronze	11A71136
				Copper-Beryllium	11A71111
	1.1/16 ”	180 mm	0,3 kg	Aluminium-Bronze	11A71137
				Copper-Beryllium	11A71112
	1.1/8 ”	190 mm	0,4 kg	Aluminium-Bronze	11A72128
				Copper-Beryllium	11A72122
	1.3/16 ”	190 mm	0,4 kg	Aluminium-Bronze	11A71138
				Copper-Beryllium	11A71113
	1.1/4 ”	190 mm	0,5 kg	Aluminium-Bronze	11A71139
				Copper-Beryllium	11A71114
	1.5/16 ”	190 mm	0,5 kg	Aluminium-Bronze	11A71789
				Copper-Beryllium	11A75397
	1.3/8 ”	200 mm	0,5 kg	Aluminium-Bronze	11A72129
				Copper-Beryllium	11A72123
	1.13/32 ”	200 mm	0,5 kg	Aluminium-Bronze	11A71140
				Copper-Beryllium	11A71115
	1.7/16 ”	200 mm	0,5 kg	Aluminium-Bronze	11A71791
				Copper-Beryllium	11A72301
	1.1/2 ”	225 mm	0,8 kg	Aluminium-Bronze	11A72130
				Copper-Beryllium	11A72124
	1.9/16 ”	225 mm	0,8 kg	Aluminium-Bronze	11A71793
				Copper-Beryllium	11A75398
	1.5/8 ”	225 mm	0,8 kg	Aluminium-Bronze	11A71141
				Copper-Beryllium	11A71116
	1.11/16 ”	225 mm	0,8 kg	Aluminium-Bronze	11A71794
				Copper-Beryllium	11A75406
	1.3/4 ”	235 mm	0,9 kg	Aluminium-Bronze	11A72131
				Copper-Beryllium	11A72125
	1.13/16 ”	235 mm	0,9 kg	Aluminium-Bronze	11A71142
				Copper-Beryllium	11A71117
	1.7/8 ”	245 mm	1,2 kg	Aluminium-Bronze	11A72132
				Copper-Beryllium	11A72126
	1.15/16 ”	245 mm	1,2 kg	Aluminium-Bronze	11A71797
				Copper-Beryllium	11A75399
	2 ”	245 mm	1,2 kg	Aluminium-Bronze	11A71143
				Copper-Beryllium	11A71118
	2.1/16 ”	265 mm	1,4 kg	Aluminium-Bronze	11A71798
				Copper-Beryllium	11A75401
	2.1/8 ”	265 mm	1,4 kg	Aluminium-Bronze	11A71799
				Copper-Beryllium	11A75402
	2.3/16 ”	265 mm	1,4 kg	Aluminium-Bronze	11A71800
				Copper-Beryllium	11A72954

NON-SPARKING SLOGGING RING WRENCHES

12-POINT - INCHES					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	2.13/64 ”	265 mm	1,4 kg	Aluminium-Bronze	11A75404
				Copper-Beryllium	11A75403
	2.1/4 ”	265 mm	1,7 kg	Aluminium-Bronze	11A71144
				Copper-Beryllium	11A71119
	2.5/16 ”	275 mm	1,7 kg	Aluminium-Bronze	11A71145
				Copper-Beryllium	11A71120
	2.3/8 ”	275 mm	1,7 kg	Aluminium-Bronze	11A71146
				Copper-Beryllium	11A71121
	2.7/16 ”	275 mm	2 kg	Aluminium-Bronze	11A71801
				Copper-Beryllium	11A75405
	2.1/2 ”	290 mm	2 kg	Aluminium-Bronze	11A71147
				Copper-Beryllium	11A71122
	2.9/16 ”	290 mm	2 kg	Aluminium-Bronze	11A71148
				Copper-Beryllium	11A71123
	2.5/8 ”	320 mm	2,5 kg	Aluminium-Bronze	11A71149
				Copper-Beryllium	11A71124
	2.3/4 ”	320 mm	2,5 kg	Aluminium-Bronze	11A71150
				Copper-Beryllium	11A71125
	2.13/16 ”	320 mm	2,5 kg	Aluminium-Bronze	11A77259
				Copper-Beryllium	11A77258
	2.7/8 ”	325 mm	2,5 kg	Aluminium-Bronze	11A36481
				Copper-Beryllium	11A36480
	2.15/16 ”	325 mm	2,7 kg	Aluminium-Bronze	11A71151
				Copper-Beryllium	11A71126
	3 ”	325 mm	2,7 kg	Aluminium-Bronze	11A71152
				Copper-Beryllium	11A71127
	3.1/16 ”	325 mm	3 kg	Aluminium-Bronze	11A71153
				Copper-Beryllium	11A71128
	3.1/8 ”	345 mm	3 kg	Aluminium-Bronze	11A71154
				Copper-Beryllium	11A71129
	3.1/4 ”	345 mm	3,3 kg	Aluminium-Bronze	11A77261
				Copper-Beryllium	11A77260
	3.3/8 ”	350 mm	3,3 kg	Aluminium-Bronze	11A71155
				Copper-Beryllium	11A71130
	3.1/2 ”	375 mm	3,8 kg	Aluminium-Bronze	11A76851
				Copper-Beryllium	11A76850
	3.9/16 ”	375 mm	3,8 kg	Aluminium-Bronze	11A71156
				Copper-Beryllium	11A71131
	3.5/8 ”	375 mm	4 kg	Aluminium-Bronze	11A76852
				Copper-Beryllium	11A76849
	3.3/4 ”	395 mm	4 kg	Aluminium-Bronze	11A71157
				Copper-Beryllium	11A71132
	3.7/8 ”	405 mm	5,5 kg	Aluminium-Bronze	11A75407
				Copper-Beryllium	11A74335
	3.15/16 ”	405 mm	5,5 kg	Aluminium-Bronze	11A75409
				Copper-Beryllium	11A75408

NON-SPARKING SLOGGING RING WRENCHES

12-POINT - INCHES					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	4 ”	405 mm	5,5 kg	Aluminium-Bronze	11A77263
				Copper-Beryllium	11A77262
	4.1/8 ”	410 mm	6,5 kg	Aluminium-Bronze	11A75411
				Copper-Beryllium	11A75410
	4.1/4 ”	410 mm	8,5 kg	Aluminium-Bronze	11A74332
				Copper-Beryllium	11A74331
	4.5/16 ”	435 mm	8,5 kg	Aluminium-Bronze	11A77265
				Copper-Beryllium	11A77264
	4.1/2 ”	435 mm	9 kg	Aluminium-Bronze	11A75413
				Copper-Beryllium	11A75412
	4.9/16 ”	435 mm	9 kg	Aluminium-Bronze	11A77267
				Copper-Beryllium	11A77266
	4.5/8 ”	435 mm	9 kg	Aluminium-Bronze	11A75415
				Copper-Beryllium	11A75414
	4.11/16 ”	475 mm	10 kg	Aluminium-Bronze	11A75417
				Copper-Beryllium	11A75416
	4.7/8 ”	490 mm	10,8 kg	Aluminium-Bronze	11A74334
				Copper-Beryllium	11A74333
	4.15/16 ”	490 mm	10,8 kg	Aluminium-Bronze	11A77269
				Copper-Beryllium	11A77268
	5.1/8 ”	505 mm	11,3 kg	Aluminium-Bronze	11A77271
				Copper-Beryllium	11A77270
	5.3/8 ”	530 mm	12,2 kg	Aluminium-Bronze	11A77273
				Copper-Beryllium	11A77272
	5.11/16 ”	565 mm	13,6 kg	Aluminium-Bronze	11A77275
				Copper-Beryllium	11A77274
	6 ”	565 mm	14,1 kg	Aluminium-Bronze	11A77277
				Copper-Beryllium	11A77276

NON-SPARKING OFFSET SLOGGING RING WRENCHES

NON-SPARKING TOOLS | **ZONES 1, 2 (gas) & 21, 22 (dust)**

Non-sparking offset slogging ring wrenches, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking offset slogging ring wrenches are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

MILIMETERS				
Size:	Lenght:	Weight:	Alloy:	Item No.:
22 mm	220 mm	500 gr	Copper-Beryllium	11A75465
			Aluminium-Bronze	11A75466
24 mm	220 mm	500 gr	Copper-Beryllium	11A75467
			Aluminium-Bronze	11A75468
27 mm	240 mm	650 gr	Copper-Beryllium	11A74122
			Aluminium-Bronze	11A74123
30 mm	270 mm	900 gr	Copper-Beryllium	11A74124
			Aluminium-Bronze	11A74125
32 mm	270 mm	900 gr	Copper-Beryllium	11A74126
			Aluminium-Bronze	11A74127
34 mm	280 mm	1050 gr	Copper-Beryllium	11A36395
		950 gr	Aluminium-Bronze	11A36411
36 mm	280 mm	1000 gr	Copper-Beryllium	11A74128
			Aluminium-Bronze	11A74129
38 mm	305 mm	1300 gr	Copper-Beryllium	11A72992
			Aluminium-Bronze	11A72993
40 mm	300 mm	1300 gr	Copper-Beryllium	11A36396
			Aluminium-Bronze	11A36412
41 mm	300 mm	1300 gr	Copper-Beryllium	11A74130
			Aluminium-Bronze	11A74131
42 mm	300 mm	1850 gr	Copper-Beryllium	11A36397
		1650 gr	Aluminium-Bronze	11A36413
43 mm	310 mm	1850 gr	Copper-Beryllium	11A36398
		1700 gr	Aluminium-Bronze	11A36414
44 mm	310 mm	1850 gr	Copper-Beryllium	11A36399
		1700 gr	Aluminium-Bronze	11A36415
45 mm	310 mm	1900 gr	Copper-Beryllium	11A36400
		1700 gr	Aluminium-Bronze	11A36416
46 mm	310 mm	1900 gr	Copper-Beryllium	11A74132
		1700 gr	Aluminium-Bronze	11A74133
47 mm	310 mm	1900 gr	Copper-Beryllium	11A36401
		1700 gr	Aluminium-Bronze	11A36417
48 mm	320 mm	2000 gr	Copper-Beryllium	11A36402
		1900 gr	Aluminium-Bronze	11A36418
50 mm	320 mm	2000 gr	Copper-Beryllium	11A74134
			Aluminium-Bronze	11A74135
54 mm	320 mm	2200 gr	Copper-Beryllium	11A36403
		2100 gr	Aluminium-Bronze	11A36419
55 mm	320 mm	2200 gr	Copper-Beryllium	11A73593
			Aluminium-Bronze	11A73594

NON-SPARKING OFFSET SLOGGING RING WRENCHES

MILIMETERS					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	56 mm	320 mm	2400 gr	Copper-Beryllium	11A36404
			2200 gr	Aluminium-Bronze	11A36420
	57 mm	350 mm	2900 gr	Copper-Beryllium	11A36405
			2600 gr	Aluminium-Bronze	11A36421
	58 mm	350 mm	2900 gr	Copper-Beryllium	11A36406
			2600 gr	Aluminium-Bronze	11A36422
	59 mm	350 mm	2900 gr	Copper-Beryllium	11A36407
			2600 gr	Aluminium-Bronze	11A36423
	60 mm	350 mm	2900 gr	Copper-Beryllium	11A73595
			2700 gr	Aluminium-Bronze	11A73596
	65 mm	380 mm	3200 gr	Copper-Beryllium	11A73597
				Aluminium-Bronze	11A73598
	67 mm	400 mm	2400 gr	Copper-Beryllium	11A36408
			2200 gr	Aluminium-Bronze	11A36424
	70 mm	400 mm	2900 gr	Copper-Beryllium	11A73599
			2600 gr	Aluminium-Bronze	11A73600
	75 mm	420 mm	4200 gr	Copper-Beryllium	11A73601
				Aluminium-Bronze	11A73602
	76 mm	430 mm	5500 gr	Copper-Beryllium	11A36409
			4950 gr	Aluminium-Bronze	11A36425
	78 mm	430 mm	5500 gr	Copper-Beryllium	11A36410
			4950 gr	Aluminium-Bronze	11A36426
	80 mm	430 mm	5500 gr	Copper-Beryllium	11A73603
			5200 gr	Aluminium-Bronze	11A73604
	85 mm	440 mm	6200 gr	Copper-Beryllium	11A73605
				Aluminium-Bronze	11A73606
	90 mm	440 mm	6200 gr	Copper-Beryllium	11A73607
				Aluminium-Bronze	11A73608
	95 mm	440 mm	7000 gr	Copper-Beryllium	11A73609
				Aluminium-Bronze	11A73610
	100 mm	440 mm	7000 gr	Copper-Beryllium	11A73611
				Aluminium-Bronze	11A73612
	105 mm	460 mm	8400 gr	Copper-Beryllium	11A36492
			7500 gr	Aluminium-Bronze	11A36493
	110 mm	440 mm	8400 gr	Copper-Beryllium	11A73613
			7500 gr	Aluminium-Bronze	11A73614
	115 mm	470 mm	8900 gr	Copper-Beryllium	11A36494
			8000 gr	Aluminium-Bronze	11A36495
	120 mm	440 mm	8900 gr	Copper-Beryllium	11A73615
			8000 gr	Aluminium-Bronze	11A73616
	125 mm	490 mm	11550 gr	Copper-Beryllium	11A36496
			10500 gr	Aluminium-Bronze	11A36497
	130 mm	520 mm	13200 gr	Copper-Beryllium	11A36498
			12000 gr	Aluminium-Bronze	11A36499
	135 mm	520 mm	13200 gr	Copper-Beryllium	11A36500
			12000 gr	Aluminium-Bronze	11A36501

NON-SPARKING OFFSET SLOGGING RING WRENCHES

MILIMETERS					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	140 mm	520 mm	13200 gr	Copper-Beryllium	11A36502
			12000 gr	Aluminium-Bronze	11A36503
	145 mm	570 mm	15400 gr	Copper-Beryllium	11A36504
			14000 gr	Aluminium-Bronze	11A36505
	150 mm	570 mm	15400 gr	Copper-Beryllium	11A36506
			14000 gr	Aluminium-Bronze	11A36507
	155 mm	600 mm	17600 gr	Copper-Beryllium	11A36508
			16000 gr	Aluminium-Bronze	11A36509

INCHES					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	1.1/16 ”	240 mm	650 gr	Copper-Beryllium	11A73653
				Aluminium-Bronze	11A73654
	1.3/16 ”	240 mm	650 gr	Copper-Beryllium	11A76823
				Aluminium-Bronze	11A76824
	1.1/4 ”	270 mm	900 gr	Copper-Beryllium	11A73655
				Aluminium-Bronze	11A73656
	1.7/16 ”	270 mm	900 gr	Copper-Beryllium	11A73657
				Aluminium-Bronze	11A73658
	1.1/2 ”	280 mm	1000 gr	Copper-Beryllium	11A73659
				Aluminium-Bronze	11A73660
	1.5/8 ”	300 mm	1300 gr	Copper-Beryllium	11A73661
				Aluminium-Bronze	11A73662
	1.3/4 ”	310 mm	1700 gr	Copper-Beryllium	11A73663
				Aluminium-Bronze	11A73664
	1.13/16 ”	310 mm	1700 gr	Copper-Beryllium	11A76825
				Aluminium-Bronze	11A76826
	1.7/8 ”	310 mm	1700 gr	Copper-Beryllium	11A73665
				Aluminium-Bronze	11A73666
	2 ”	320 mm	2000 gr	Copper-Beryllium	11A73667
				Aluminium-Bronze	11A73668
	2.3/16 ”	320 mm	2000 gr	Copper-Beryllium	11A76827
				Aluminium-Bronze	11A76828
	2.1/4 ”	320 mm	2000 gr	Copper-Beryllium	11A73669
				Aluminium-Bronze	11A73670
	2.3/8 ”	380 mm	2700 gr	Copper-Beryllium	11A73671
				Aluminium-Bronze	11A73672
	2.1/2 ”	380 mm	2700 gr	Copper-Beryllium	11A73673
				Aluminium-Bronze	11A73674
	2.9/16 ”	380 mm	2700 gr	Copper-Beryllium	11A76829
				Aluminium-Bronze	11A76830
	2.5/8 ”	400 mm	3200 gr	Copper-Beryllium	11A73675
				Aluminium-Bronze	11A73676
	2.3/4 ”	400 mm	3200 gr	Copper-Beryllium	11A73677
				Aluminium-Bronze	11A73678

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NON-SPARKING OFFSET SLOGGING RING WRENCHES

INCHES					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	2.7/8 ”	420 mm	4200 gr	Copper-Beryllium	11A73679
				Aluminium-Bronze	11A73680
	3 ”	420 mm	4200 gr	Copper-Beryllium	11A73681
				Aluminium-Bronze	11A73682

NON-SPARKING CURVED SLOGGING RING WRENCHES

NON-SPARKING TOOLS | **ZONES 1, 2 (gas) & 21, 22 (dust)**

Non-sparking curved slogging ring wrenches, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking curved slogging ring wrenches are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

MILIMETERS					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	24 mm	160 mm	300 gr	Copper-Beryllium	11A74137
				Aluminium-Bronze	11A74138
	27 mm	170 mm	420 gr	Copper-Beryllium	11A74139
				Aluminium-Bronze	11A74140
	30 mm	180 mm	500 gr	Copper-Beryllium	11A74141
				Aluminium-Bronze	11A74142
	32 mm	190 mm	520 gr	Copper-Beryllium	11A74143
				Aluminium-Bronze	11A74144
	36 mm	210 mm	800 gr	Copper-Beryllium	11A74145
				Aluminium-Bronze	11A74146
	41 mm	220 mm	1000 gr	Copper-Beryllium	11A74147
				Aluminium-Bronze	11A74148
	46 mm	240 mm	1200 gr	Copper-Beryllium	11A74149
				Aluminium-Bronze	11A74150
	50 mm	250 mm	1500 gr	Copper-Beryllium	11A74151
				Aluminium-Bronze	11A74152
	55 mm	270 mm	1800 gr	Copper-Beryllium	11A74153
				Aluminium-Bronze	11A74154
	60 mm	280 mm	2200 gr	Copper-Beryllium	11A74155
				Aluminium-Bronze	11A74156
	65 mm	300 mm	2400 gr	Copper-Beryllium	11A74157
				Aluminium-Bronze	11A74158
	70 mm	310 mm	2800 gr	Copper-Beryllium	11A74159
				Aluminium-Bronze	11A74160

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NON-SPARKING WRENCHES FOR EXTENSION

NON-SPARKING TOOLS | ZONES 1, 2 (gas) & 21, 22 (dust)

Non-sparking wrenches for extension, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking wrenches for extension are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

RING SPANNER - MILIMETERS					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	22 mm	180 mm	460 gr	Copper-Beryllium	11A36330
			400 gr	Aluminium-Bronze	11A36331
	24 mm	180 mm	480 gr	Copper-Beryllium	11A73688
			430 gr	Aluminium-Bronze	11A73689
	27 mm	190 mm	500 gr	Copper-Beryllium	11A73472
			480 gr	Aluminium-Bronze	11A73396
	30 mm	200 mm	600 gr	Copper-Beryllium	11A70957
			530 gr	Aluminium-Bronze	11A70982
	32 mm	235 mm	800 gr	Copper-Beryllium	11A70958
			720 gr	Aluminium-Bronze	11A70983
	33 mm	240 mm	900 gr	Copper-Beryllium	11A77368
			730 gr	Aluminium-Bronze	11A77369
	34 mm	240 mm	850 gr	Copper-Beryllium	11A70959
			750 gr	Aluminium-Bronze	11A70984
	35 mm	240 mm	900 gr	Copper-Beryllium	11A70960
			780 gr	Aluminium-Bronze	11A70985
	36 mm	245 mm	900 gr	Copper-Beryllium	11A70961
			820 gr	Aluminium-Bronze	11A70986
	37 mm	245 mm	1000 gr	Copper-Beryllium	11A70962
			840 gr	Aluminium-Bronze	11A70987
	38 mm	255 mm	1000 gr	Copper-Beryllium	11A70963
			880 gr	Aluminium-Bronze	11A70988
	41 mm	265 mm	1100 gr	Copper-Beryllium	11A70964
			960 gr	Aluminium-Bronze	11A70989
	42 mm	265 mm	1100 gr	Copper-Beryllium	11A70965
			990 gr	Aluminium-Bronze	11A70990
	46 mm	280 mm	1500 gr	Copper-Beryllium	11A70966
			1340 gr	Aluminium-Bronze	11A70991
	47 mm	280 mm	1550 gr	Copper-Beryllium	11A70967
			1380 gr	Aluminium-Bronze	11A70992
	50 mm	290 mm	1700 gr	Copper-Beryllium	11A70968
			1530 gr	Aluminium-Bronze	11A70993
	52 mm	290 mm	1750 gr	Copper-Beryllium	11A70969
			1580 gr	Aluminium-Bronze	11A70994
	54 mm	300 mm	1800 gr	Copper-Beryllium	11A70970
			1630 gr	Aluminium-Bronze	11A70995
	55 mm	300 mm	1850 gr	Copper-Beryllium	11A70971
			1670 gr	Aluminium-Bronze	11A70996
	56 mm	310 mm	2100 gr	Copper-Beryllium	11A70972
			1750 gr	Aluminium-Bronze	11A70997

RING SPANNER - MILIMETERS					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	58 mm	340 mm	2450 gr	Copper-Beryllium	11A70973
			2000 gr	Aluminium-Bronze	11A70998
	60 mm	350 mm	2950 gr	Copper-Beryllium	11A70974
			2670 gr	Aluminium-Bronze	11A70999
	63 mm	350 mm	3200 gr	Copper-Beryllium	11A70975
			2850 gr	Aluminium-Bronze	11A71000
	65 mm	360 mm	3400 gr	Copper-Beryllium	11A70976
			3060 gr	Aluminium-Bronze	11A71001
	67 mm	360 mm	3550 gr	Copper-Beryllium	11A70977
			3250 gr	Aluminium-Bronze	11A71002
	70 mm	370 mm	3900 gr	Copper-Beryllium	11A70978
			3530 gr	Aluminium-Bronze	11A71003
	71 mm	370 mm	4100 gr	Copper-Beryllium	11A70979
			3630 gr	Aluminium-Bronze	11A71004
	75 mm	380 mm	4350 gr	Copper-Beryllium	11A70980
			3920 gr	Aluminium-Bronze	11A71005
	77 mm	380 mm	4600 gr	Copper-Beryllium	11A70981
			4250 gr	Aluminium-Bronze	11A71006
	80 mm	390 mm	5200 gr	Copper-Beryllium	11A77370
			4680 gr	Aluminium-Bronze	11A77371
	82 mm	400 mm	5400 gr	Copper-Beryllium	11A77372
			4800 gr	Aluminium-Bronze	11A77373
	85 mm	420 mm	6000 gr	Copper-Beryllium	11A77374
			5000 gr	Aluminium-Bronze	11A77375

RING SPANNER - INCHES					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	1.3/16 ”	200 mm	900 gr	Copper-Beryllium	11A77376
				Aluminium-Bronze	11A77377
	1.1/4 ”	230 mm	900 gr	Copper-Beryllium	11A77378
				Aluminium-Bronze	11A77379
	1.5/16 ”	230 mm	900 gr	Copper-Beryllium	11A77380
				Aluminium-Bronze	11A77381
	1.3/8 ”	240 mm	900 gr	Copper-Beryllium	11A77382
				Aluminium-Bronze	11A77383
	1.7/16 ”	240 mm	900 gr	Copper-Beryllium	11A77384
				Aluminium-Bronze	11A77385
	1.1/2 ”	260 mm	1000 gr	Copper-Beryllium	11A77386
				Aluminium-Bronze	11A77387
	1.9/16 ”	260 mm	1000 gr	Copper-Beryllium	11A77388
				Aluminium-Bronze	11A77389
	1.5/8 ”	260 mm	1000 gr	Copper-Beryllium	11A77390
				Aluminium-Bronze	11A77391
	1.11/16 ”	260 mm	1000 gr	Copper-Beryllium	11A77392
				Aluminium-Bronze	11A77393

RING SPANNER - INCHES					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	1.3/4 ”	280 mm	1500 gr	Copper-Beryllium	11A77394
				Aluminium-Bronze	11A77395
	1.13/16 ”	280 mm	1500 gr	Copper-Beryllium	11A77396
				Aluminium-Bronze	11A77397
	1.7/8 ”	280 mm	1500 gr	Copper-Beryllium	11A77398
				Aluminium-Bronze	11A77399
	2 ”	290 mm	1600 gr	Copper-Beryllium	11A77400
				Aluminium-Bronze	11A77401
	2.1/16 ”	300 mm	1700 gr	Copper-Beryllium	11A77402
				Aluminium-Bronze	11A77403
	2.1/8 ”	300 mm	1700 gr	Copper-Beryllium	11A77404
				Aluminium-Bronze	11A77405
	2.3/16 ”	300 mm	1800 gr	Copper-Beryllium	11A77406
				Aluminium-Bronze	11A77407
	2.1/4 ”	300 mm	1800 gr	Copper-Beryllium	11A77408
				Aluminium-Bronze	11A77409
	2.5/16 ”	345 mm	2800 gr	Copper-Beryllium	11A77410
				Aluminium-Bronze	11A77411
	2.3/8 ”	345 mm	2800 gr	Copper-Beryllium	11A77412
				Aluminium-Bronze	11A77413
	2.7/16 ”	345 mm	2800 gr	Copper-Beryllium	11A77414
				Aluminium-Bronze	11A77415
	2.1/2 ”	355 mm	3200 gr	Copper-Beryllium	11A77416
				Aluminium-Bronze	11A77417
	2.9/16 ”	355 mm	3200 gr	Copper-Beryllium	11A77418
				Aluminium-Bronze	11A77419
	2.5/8 ”	355 mm	3200 gr	Copper-Beryllium	11A77420
				Aluminium-Bronze	11A77421
	2.3/4 ”	365 mm	3700 gr	Copper-Beryllium	11A77422
				Aluminium-Bronze	11A77423
	2.13/16 ”	365 mm	3700 gr	Copper-Beryllium	11A77424
				Aluminium-Bronze	11A77425
	2.15/16 ”	375 mm	4100 gr	Copper-Beryllium	11A77426
				Aluminium-Bronze	11A77427
	3 ”	375 mm	4100 gr	Copper-Beryllium	11A77428
				Aluminium-Bronze	11A77429
	3.1/8 ”	385 mm	4900 gr	Copper-Beryllium	11A77430
				Aluminium-Bronze	11A77431
	3.1/4 ”	385 mm	4900 gr	Copper-Beryllium	11A77432
				Aluminium-Bronze	11A77433
	3.3/8 ”	385 mm	4900 gr	Copper-Beryllium	11A77434
				Aluminium-Bronze	11A77435

NON-SPARKING WRENCHES FOR EXTENSION

OPEN-END WRENCH - MILIMETERS

Size:	Lenght:	Weight:	Alloy:	Item No.:
22 mm	200 mm	410 gr	Copper-Beryllium	11A36368
			Aluminium-Bronze	11A36350
24 mm	230 mm	460 gr	Copper-Beryllium	11A36369
			Aluminium-Bronze	11A36351
27 mm	260 mm	540 gr	Copper-Beryllium	11A36370
			Aluminium-Bronze	11A36352
30 mm	280 mm	660 gr	Copper-Beryllium	11A36371
			Aluminium-Bronze	11A36353
32 mm	300 mm	810 gr	Copper-Beryllium	11A36372
			Aluminium-Bronze	11A36354
36 mm	330 mm	950 gr	Copper-Beryllium	11A36373
			Aluminium-Bronze	11A36355
41 mm	350 mm	1120 gr	Copper-Beryllium	11A36374
			Aluminium-Bronze	11A36356
46 mm	380 mm	1550 gr	Copper-Beryllium	11A36375
			Aluminium-Bronze	11A36357
50 mm	400 mm	1810 gr	Copper-Beryllium	11A36376
			Aluminium-Bronze	11A36358

OPEN-END WRENCH - INCHES

Size:	Lenght:	Weight:	Alloy:	Item No.:
7/8 ”	200 mm	410 gr	Copper-Beryllium	11A36377
			Aluminium-Bronze	11A36359
15/16 ”	230 mm	460 gr	Copper-Beryllium	11A36378
			Aluminium-Bronze	11A36360
1.1/16 ”	260 mm	540 gr	Copper-Beryllium	11A36379
			Aluminium-Bronze	11A36361
1.3/16 ”	280 mm	660 gr	Copper-Beryllium	11A36380
			Aluminium-Bronze	11A36362
1.1/4 ”	300 mm	810 gr	Copper-Beryllium	11A36381
			Aluminium-Bronze	11A36363
1.7/16 ”	330 mm	950 gr	Copper-Beryllium	11A36382
			Aluminium-Bronze	11A36364
1.5/8 ”	350 mm	1120 gr	Copper-Beryllium	11A36383
			Aluminium-Bronze	11A36365
1.13/16 ”	380 mm	1550 gr	Copper-Beryllium	11A36384
			Aluminium-Bronze	11A36366
2 ”	400 mm	1810 gr	Copper-Beryllium	11A36385
			Aluminium-Bronze	11A36367

EXTENSION FOR OFFSET RING SPANNER

Lenght:	Dimension between sides 12 edges (mm):	Dimension between sides 12 edges (inches):	Ext. Diam. (mm)	Weight:	Material:	Item No.:
460 mm	22-30 mm	1.3/16 ”	19 mm	800 gr	Brass	11A72612
610 mm	32-42 mm	1.1/4-1.11/16 ”	22 mm	900 gr		11A72605
760 mm	46-58 mm	1.3/4-2.5/16 ”	25 mm	1600 gr		11A72606
860 mm	60-85 mm	2.3/8-3.3/8 ”	30 mm	2500 gr		11A72607

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NON-SPARKING HEXAGONAL KEYS

NON-SPARKING TOOLS | ZONES 1, 2 (gas) & 21, 22 (dust)

Non-sparking hexagonal keys, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking hexagonal keys are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

BALLPOINT (MILIMETERS)						
	Size:	Lenght:	Width:	Weight:	Alloy:	Item No.:
	1,5 mm	47 mm	14 mm	3 gr	Copper-Beryllium	11A36605
					Aluminium-Bronze	11A36607
	2 mm	50 mm	16 mm	7 gr	Copper-Beryllium	11A75553
					Aluminium-Bronze	11A75554
	2,5 mm	60 mm	18 mm	7 gr	Copper-Beryllium	11A36606
					Aluminium-Bronze	11A36608
	3 mm	65 mm	20 mm	11 gr	Copper-Beryllium	11A72177
					Aluminium-Bronze	11A72184
	4 mm	70 mm	25 mm	14 gr	Copper-Beryllium	11A72178
					Aluminium-Bronze	11A72185
	5 mm	80 mm	28 mm	43 gr	Copper-Beryllium	11A72179
					Aluminium-Bronze	11A72186
	6 mm	90 mm	32 mm	45 gr	Copper-Beryllium	11A72180
					Aluminium-Bronze	11A72187
	7 mm	95 mm	34 mm	45 gr	Copper-Beryllium	11A75555
					Aluminium-Bronze	11A75556
	8 mm	100 mm	36 mm	45 gr	Copper-Beryllium	11A72181
					Aluminium-Bronze	11A72188
	9 mm	105 mm	38 mm	60 gr	Copper-Beryllium	11A75557
					Aluminium-Bronze	11A75558
	10 mm	110 mm	40 mm	80 gr	Copper-Beryllium	11A72182
					Aluminium-Bronze	11A72189
	11 mm	120 mm	42 mm	100 gr	Copper-Beryllium	11A75559
					Aluminium-Bronze	11A75560
	12 mm	125 mm	45 mm	130 gr	Copper-Beryllium	11A72183
					Aluminium-Bronze	11A72190

BALLPOINT (INCHES)						
	Size:	Lenght:	Width:	Weight:	Alloy:	Item No.:
	1/8 ”	65 mm	20 mm	11 gr	Copper-Beryllium	11A36605
					Aluminium-Bronze	11A36607
	5/32 ”	75 mm	25 mm	14 gr	Copper-Beryllium	11A75553
					Aluminium-Bronze	11A75554
	3/16 ”	85 mm	28 mm	41 gr	Copper-Beryllium	11A36606
					Aluminium-Bronze	11A36608
	7/32 ”	95 mm	32 mm	43 gr	Copper-Beryllium	11A72177
					Aluminium-Bronze	11A72184
	1/4 ”	100 mm	34 mm	43 gr	Copper-Beryllium	11A72178
					Aluminium-Bronze	11A72185

NON-SPARKING HEXAGONAL KEYS

BALLPOINT (INCHES)

Size:	Lenght:	Width:	Weight:	Alloy:	Item No.:
5/16 ”	110 mm	36 mm	43 gr	Copper-Beryllium	11A36260
				Aluminium-Bronze	11A36261
3/8 ”	120 mm	40 mm	75 gr	Copper-Beryllium	11A36262
				Aluminium-Bronze	11A36263

BALLPOINT, LONG PATTERN (MILIMETERS)

Size:	Lenght:	Width:	Weight:	Alloy:	Item No.:
2 mm	100 mm	16 mm	15 gr	Copper-Beryllium	11A77562
				Aluminium-Bronze	11A77563
3 mm	130 mm	20 mm			11A71354
			21 gr	Copper-Beryllium	11A70410
4 mm	145 mm	25 mm		Aluminium-Bronze	11A71355
			25 gr	Copper-Beryllium	11A70411
5 mm	160 mm	28 mm		Aluminium-Bronze	11A71356
			43 gr	Copper-Beryllium	11A70412
6 mm	180 mm	32 mm		Aluminium-Bronze	11A71357
			60 gr	Copper-Beryllium	11A70413
7 mm	195 mm	34 mm		Aluminium-Bronze	11A77567
8 mm	210 mm	36 mm			11A71358
7 mm	195 mm	34 mm	90 gr	Copper-Beryllium	11A77566
9 mm	220 mm	38 mm		Aluminium-Bronze	11A77569
8 mm	210 mm	36 mm	150 gr	Copper-Beryllium	11A70414
10 mm	240 mm	40 mm		Aluminium-Bronze	11A71359
9 mm	220 mm	38 mm	200 gr	Copper-Beryllium	11A77568
12 mm	270 mm	45 mm		Aluminium-Bronze	11A71360
10 mm	240 mm	40 mm	250 gr	Copper-Beryllium	11A70415
12 mm	270 mm	45 mm	440 gr		11A70416

BALLPOINT, LONG PATTERN (INCHES)

Size:	Lenght:	Width:	Weight:	Alloy:	Item No.:
1/8 ”	130 mm	20 mm	21 gr	Copper-Beryllium	11A36264
				Aluminium-Bronze	11A36265
5/32 ”	145 mm	25 mm	25 gr	Copper-Beryllium	11A36266
				Aluminium-Bronze	11A36267
3/16 ”	160 mm	28 mm	43 gr	Copper-Beryllium	11A36268
				Aluminium-Bronze	11A36269
7/32 ”	180 mm	32 mm	60 gr	Copper-Beryllium	11A36270
				Aluminium-Bronze	11A36271
1/4 ”	195 mm	34 mm	90 gr	Copper-Beryllium	11A36272
				Aluminium-Bronze	11A36273
5/16 ”	210 mm	36 mm	150 gr	Copper-Beryllium	11A36274
				Aluminium-Bronze	11A36275
3/8 ”	240 mm	40 mm	250 gr	Copper-Beryllium	11A36276
				Aluminium-Bronze	11A36277

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NON-SPARKING HEXAGONAL KEYS

HEXAGONAL KEYS (MILIMETERS)						
	Size:	Lenght:	Width:	Weight:	Alloy:	Item No.:
	1,5 mm	47 mm	14 mm	6,5 gr	Copper-Beryllium	11A72239
					Aluminium-Bronze	11A72238
	2 mm	52 mm	16 mm	6,5 gr	Copper-Beryllium	11A70391
					Aluminium-Bronze	11A71287
	2,5 mm	60 mm	18 mm	8,5 gr	Copper-Beryllium	11A72929
					Aluminium-Bronze	11A72928
	3 mm	65 mm	20 mm	11 gr	Copper-Beryllium	11A70392
					Aluminium-Bronze	11A71288
	4 mm	75 mm	25 mm	14 gr	Copper-Beryllium	11A70393
					Aluminium-Bronze	11A71289
	5 mm	85 mm	28 mm	41 gr	Copper-Beryllium	11A70394
					Aluminium-Bronze	11A71290
	5,5 mm	85 mm	26 mm	41 gr	Copper-Beryllium	11A74357
					Aluminium-Bronze	11A74358
	6 mm	95 mm	32 mm	43 gr	Copper-Beryllium	11A70395
					Aluminium-Bronze	11A71291
	7 mm	100 mm	34 mm	43 gr	Copper-Beryllium	11A70396
					Aluminium-Bronze	11A71292
	8 mm	110 mm	36 mm	43 gr	Copper-Beryllium	11A70397
					Aluminium-Bronze	11A71293
	9 mm	115 mm	38 mm	55 gr	Copper-Beryllium	11A70398
					Aluminium-Bronze	11A71294
	10 mm	120 mm	40 mm	75 gr	Copper-Beryllium	11A70399
					Aluminium-Bronze	11A71295
	11 mm	130 mm	42 mm	95 gr	Copper-Beryllium	11A72241
					Aluminium-Bronze	11A72240
	12 mm	140 mm	45 mm	120 gr	Copper-Beryllium	11A70400
					Aluminium-Bronze	11A71296
	13 mm	145 mm	50 mm	152 gr	Copper-Beryllium	11A72243
					Aluminium-Bronze	11A72242
	14 mm	155 mm	55 mm	190 gr	Copper-Beryllium	11A70401
					Aluminium-Bronze	11A71297
	15 mm	160 mm	60 mm	230 gr	Copper-Beryllium	11A74629
					Aluminium-Bronze	11A74634
	16 mm	170 mm	60 mm	270 gr	Copper-Beryllium	11A72931
					Aluminium-Bronze	11A72930
	17 mm	175 mm	65 mm	320 gr	Copper-Beryllium	11A70402
					Aluminium-Bronze	11A71298
	18 mm	190 mm	65 mm	380 gr	Copper-Beryllium	11A72245
					Aluminium-Bronze	11A72244
	19 mm	200 mm	70 mm	450 gr	Copper-Beryllium	11A70403
					Aluminium-Bronze	11A71299
	20 mm	205 mm	75 mm	540 gr	Copper-Beryllium	11A74630
					Aluminium-Bronze	11A74631
	21 mm	215 mm	75 mm	600 gr	Copper-Beryllium	11A74632
					Aluminium-Bronze	11A74633

NON-SPARKING HEXAGONAL KEYS

HEXAGONAL KEYS (MILIMETERS)						
	Size:	Lenght:	Width:	Weight:	Alloy:	Item No.:
	22 mm	220 mm	80 mm	690 gr	Copper-Beryllium	11A70404
					Aluminium-Bronze	11A71300
	23 mm	240 mm	85 mm	790 gr	Copper-Beryllium	11A75228
					Aluminium-Bronze	11A75229
	24 mm	250 mm	90 mm	910 gr	Copper-Beryllium	11A70405
					Aluminium-Bronze	11A71301
	25 mm	255 mm	95 mm	1020 gr	Copper-Beryllium	11A75230
					Aluminium-Bronze	11A75231
	26 mm	265 mm	95 mm	1150 gr	Copper-Beryllium	11A75232
					Aluminium-Bronze	11A75233
	27 mm	275 mm	100 mm	1300 gr	Copper-Beryllium	11A70406
					Aluminium-Bronze	11A71302
	28 mm	290 mm	110 mm	1500 gr	Copper-Beryllium	11A75234
					Aluminium-Bronze	11A75235
	29 mm	300 mm	115 mm	1600 gr	Copper-Beryllium	11A75236
					Aluminium-Bronze	11A75237
	30 mm	310 mm	120 mm	1800 gr	Copper-Beryllium	11A75238
					Aluminium-Bronze	11A75239
	32 mm	350 mm	125 mm	2300 gr	Copper-Beryllium	11A70407
					Aluminium-Bronze	11A71303
	36 mm	400 mm	140 mm	3200 gr	Copper-Beryllium	11A70408
					Aluminium-Bronze	11A71304
	41 mm	430 mm	150 mm	4600 gr	Copper-Beryllium	11A70409
					Aluminium-Bronze	11A71305

HEXAGONAL KEYS (INCHES)						
	Size:	Lenght:	Width:	Weight:	Alloy:	Item No.:
	1/16 ”	47 mm	14 mm	6,5 gr	Copper-Beryllium	11A75537
					Aluminium-Bronze	11A75538
	5/64 ”	52 mm	16 mm	6,5 gr	Copper-Beryllium	11A72933
					Aluminium-Bronze	11A72932
	3/32 ”	58 mm	18 mm	8,5 gr	Copper-Beryllium	11A72935
					Aluminium-Bronze	11A72934
	7/64 ”	66 mm	20 mm	11 gr	Copper-Beryllium	11A75539
					Aluminium-Bronze	11A75540
	1/8 ”	66 mm	20 mm	11 gr	Copper-Beryllium	11A71306
					Aluminium-Bronze	11A71330
	9/64 ”	75 mm	25 mm	14 gr	Copper-Beryllium	11A71307
					Aluminium-Bronze	11A71331
	5/32 ”	75 mm	25 mm	14 gr	Copper-Beryllium	11A71308
					Aluminium-Bronze	11A71332
	3/16 ”	85 mm	28 mm	41 gr	Copper-Beryllium	11A71309
					Aluminium-Bronze	11A71333
	7/32 ”	95 mm	32 mm	43 gr	Copper-Beryllium	11A71310
					Aluminium-Bronze	11A71334

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NON-SPARKING HEXAGONAL KEYS

HEXAGONAL KEYS (INCHES)						
	Size:	Lenght:	Width:	Weight:	Alloy:	Item No.:
	1/4 ”	100 mm	34 mm	43 gr	Copper-Beryllium	11A71311
					Aluminium-Bronze	11A71335
	9/32 ”	100 mm	34 mm	43 gr	Copper-Beryllium	11A75541
					Aluminium-Bronze	11A75542
	5/16”	100 mm	34 mm	43 gr	Copper-Beryllium	11A71312
					Aluminium-Bronze	11A71336
	11/32 ”	110 mm	36 mm	43 gr	Copper-Beryllium	11A75543
					Aluminium-Bronze	11A75544
	3/8 ”	115 mm	38 mm	55 gr	Copper-Beryllium	11A71313
					Aluminium-Bronze	11A71337
	7/16 ”	130 mm	42 mm	95 gr	Copper-Beryllium	11A71314
					Aluminium-Bronze	11A71338
	1/2 ”	140 mm	45 mm	120 gr	Copper-Beryllium	11A71315
					Aluminium-Bronze	11A71339
	9/16 ”	155 mm	55 mm	190 gr	Copper-Beryllium	11A71316
					Aluminium-Bronze	11A71340
	5/8 ”	160 mm	60 mm	230 gr	Copper-Beryllium	11A71317
					Aluminium-Bronze	11A71341
	11/16 ”	175 mm	65 mm	320 gr	Copper-Beryllium	11A71318
					Aluminium-Bronze	11A71342
	3/4 ”	200 mm	70 mm	450 gr	Copper-Beryllium	11A71319
					Aluminium-Bronze	11A71343
	13/16 ”	210 mm	75 mm	540 gr	Copper-Beryllium	11A75545
					Aluminium-Bronze	11A75546
	7/8 ”	220 mm	80 mm	690 gr	Copper-Beryllium	11A71320
					Aluminium-Bronze	11A71344
	15/16 ”	240 mm	85 mm	790 gr	Copper-Beryllium	11A75547
					Aluminium-Bronze	11A75548
	1 ”	255 mm	95 mm	1020 gr	Copper-Beryllium	11A71321
					Aluminium-Bronze	11A71345
	1.1/16 ”	265 mm	95 mm	1200 gr	Copper-Beryllium	11A71322
					Aluminium-Bronze	11A71346
	1.1/8 ”	290 mm	110 mm	1500 gr	Copper-Beryllium	11A71323
					Aluminium-Bronze	11A71347
	1.3/16 ”	310 mm	120 mm	1800 gr	Copper-Beryllium	11A75549
					Aluminium-Bronze	11A75550
	1.1/4 ”	350 mm	125 mm	2300 gr	Copper-Beryllium	11A71324
					Aluminium-Bronze	11A71348
	1.5/16 ”	400 mm	140 mm	3200 gr	Copper-Beryllium	11A71325
					Aluminium-Bronze	11A71349
	1.3/8 ”	400 mm	140 mm	3200 gr	Copper-Beryllium	11A71326
					Aluminium-Bronze	11A71350
	1.7/16 ”	400 mm	140 mm	3200 gr	Copper-Beryllium	11A71327
					Aluminium-Bronze	11A71351

NON-SPARKING HEXAGONAL KEYS

HEXAGONAL KEYS (INCHES)						
	Size:	Lenght:	Width:	Weight:	Alloy:	Item No.:
	1.1/2 ”	430 mm	150 mm	4600 gr	Copper-Beryllium	11A71328
					Aluminium-Bronze	11A71352
	1.5/8 ”	430 mm	150 mm	4600 gr	Copper-Beryllium	11A71329
					Aluminium-Bronze	11A71353

HEXAGONAL KEYS SET (MILIMETERS)					
	Pieces:	Sizes:	Weight:	Alloy:	Item No.:
	10	1,5 - 2 - 2,5 - 3 - 4 - 5 - 5,5 6 - 8 - 10 mm	370 gr	Copper-Beryllium	11A74352
				Aluminium-Bronze	11A74353

HEXAGONAL KEYS SET (INCHES)					
	Pieces:	Sizes:	Weight:	Alloy:	Item No.:
	10	1/16 - 5/64 - 3/32 - 7/64 - 1/8 9/64 - 5/32 - 3/16 - 1/4 - 5/16 ”	370 gr	Copper-Beryllium	11A36800
				Aluminium-Bronze	11A36799

TORX					
	Size:	Lenght:	Width:	Weight:	Alloy:	Item No.:
	T6	42 mm	16 mm	5 gr	Copper-Beryllium	11A35831
				8 gr	Aluminium-Bronze	11A35830
	T7	48 mm	16 mm	5 gr	Copper-Beryllium	11A35833
				8 gr	Aluminium-Bronze	11A35832
	T8	48 mm	16 mm	5 gr	Copper-Beryllium	11A35835
				8 gr	Aluminium-Bronze	11A35834
	T9	48 mm	16 mm	5 gr	Copper-Beryllium	11A35837
				8 gr	Aluminium-Bronze	11A35836
	T10	51 mm	17 mm	5 gr	Copper-Beryllium	11A76135
				8 gr	Aluminium-Bronze	11A76134
	T15	54 mm	18 mm	10 gr	Copper-Beryllium	11A76137
				10 gr	Aluminium-Bronze	11A76136
	T20	57 mm	20 mm	13 gr	Copper-Beryllium	11A76139
				13 gr	Aluminium-Bronze	11A76138
	T25	60 mm	20 mm	15 gr	Copper-Beryllium	11A76141
				17 gr	Aluminium-Bronze	11A76140
	T27	64 mm	21 mm	25 gr	Copper-Beryllium	11A76144
				20 gr	Aluminium-Bronze	11A76133
	T30	70 mm	24 mm	35 gr	Copper-Beryllium	11A76143
				30 gr	Aluminium-Bronze	11A76142
	T40	76 mm	26 mm	45 gr	Copper-Beryllium	11A36429
				40 gr	Aluminium-Bronze	11A36428

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TAMPER TORX						
	Size:	Lenght:	Width:	Weight:	Alloy:	Item No.:
	TT8	42 mm	16 mm	6,5 gr	Copper-Beryllium	11A36431
					Aluminium-Bronze	11A36430
	TT9	42 mm	16 mm	6,5 gr	Copper-Beryllium	11A36433
					Aluminium-Bronze	11A36432
	TT10	51 mm	17 mm	6,5 gr	Copper-Beryllium	11A35775
					Aluminium-Bronze	11A35774
	TT15	54 mm	18 mm	9 gr	Copper-Beryllium	11A35777
					Aluminium-Bronze	11A35776
	TT20	57 mm	20 mm	12 gr	Copper-Beryllium	11A35779
					Aluminium-Bronze	11A35778
	TT25	60 mm	20 mm	15 gr	Copper-Beryllium	11A35781
					Aluminium-Bronze	11A35780
	TT27	64 mm	21 mm	18 gr	Copper-Beryllium	11A35783
					Aluminium-Bronze	11A35782
	TT30	70 mm	24 mm	28 gr	Copper-Beryllium	11A35785
					Aluminium-Bronze	11A35784
	TT40	76 mm	26 mm	38 gr	Copper-Beryllium	11A35787
					Aluminium-Bronze	11A35786

NON-SPARKING TOOLS

ZONES 1, 2 (gas) & 21, 22 (dust)

Non-sparking torque wrenches, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking torque wrenches are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

TORQUE WRENCH

	Size:	Nm:	Lenght:	Width:	Weight:	Alloy:	Item No.:
	3/8 ”	100 Nm	310 mm	14 mm	600 gr	Copper-Beryllium	11A72171
						Aluminium-Bronze	11A72174
	1/2 ”	260 Nm	50 mm	490 mm	125 gr	Copper-Beryllium	11A72172
						Aluminium-Bronze	11A72175
	3/4 ”	450 Nm	60 mm	560 mm	1700 gr	Copper-Beryllium	11A72173
						Aluminium-Bronze	11A72176

1/4” TORQUE WRENCH

	Size:	Nm:	Lenght:	Width:	Weight:	Alloy:	Item No.:
	1/4 ”	2-12 Nm	360 mm	14 mm	850 gr	Copper-Beryllium	11A36803

TORQUE WRENCH

	Size:	Nm:	Lenght:	Width:	Weight:	Alloy:	Item No.:
	3/8 ”	5-50 Nm	420 mm	14 mm	1550 gr	Copper-Beryllium	11A74810
						Aluminium-Bronze	11A74806
	1/2 ”	40-200 Nm	530 mm	490 mm	1650 gr	Copper-Beryllium	11A74821
			480 mm			Aluminium-Bronze	11A74871
	1/2 ”	50-260 Nm	600 mm	560 mm	1450 gr	Copper-Beryllium	11A74823
						Aluminium-Bronze	11A74874
	3/4 ”	150-700 Nm	650 mm	490 mm	1900 gr	Copper-Beryllium	11A75267
		150-670 Nm	1050 mm	490 mm	5700 gr	Aluminium-Bronze	11A75274
	1”	200-1000 Nm	1300 mm	560 mm	10000 gr	Copper-Beryllium	11A74879
		300-900 Nm	1250 mm	490 mm		Aluminium-Bronze	11A74884

NON-SPARKING SOCKET WRENCHES 1/4” 6 PT

NON-SPARKING TOOLS | ZONES 1, 2 (gas) & 21, 22 (dust)

Non-sparking socket wrenches, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking socket wrenches are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

MILIMETERS					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	3 mm	25 mm	10 gr	Copper-Beryllium	11A78981
				Aluminium-Bronze	11A78982
	4 mm	25 mm	10 gr	Copper-Beryllium	11A71909
				Aluminium-Bronze	11A71930
	4,5 mm	25 mm	10 gr	Copper-Beryllium	11A75562
				Aluminium-Bronze	11A75563
	5 mm	25 mm	10 gr	Copper-Beryllium	11A71910
				Aluminium-Bronze	11A71931
	5,5 mm	25 mm	10 gr	Copper-Beryllium	11A75551
				Aluminium-Bronze	11A75552
	6 mm	25 mm	10 gr	Copper-Beryllium	11A71911
				Aluminium-Bronze	11A71932
	7 mm	25 mm	12 gr	Copper-Beryllium	11A71912
				Aluminium-Bronze	11A71933
	8 mm	25 mm	12 gr	Copper-Beryllium	11A71913
				Aluminium-Bronze	11A71934
	9 mm	25 mm	15 gr	Copper-Beryllium	11A71914
				Aluminium-Bronze	11A71935
	10 mm	25 mm	15 gr	Copper-Beryllium	11A71915
				Aluminium-Bronze	11A71936
	11 mm	25 mm	20 gr	Copper-Beryllium	11A71916
				Aluminium-Bronze	11A71937
	12 mm	26 mm	20 gr	Copper-Beryllium	11A71917
				Aluminium-Bronze	11A71938
	13 mm	26 mm	25 gr	Copper-Beryllium	11A71918
				Aluminium-Bronze	11A71939
	14 mm	26 mm	25 gr	Copper-Beryllium	11A71919
				Aluminium-Bronze	11A71940
	15 mm	27 mm	30 gr	Copper-Beryllium	11A75564
				Aluminium-Bronze	11A75565
	16 mm	27 mm	30 gr	Copper-Beryllium	11A75566
				Aluminium-Bronze	11A75567
	17 mm	27 mm	30 gr	Copper-Beryllium	11A75568
				Aluminium-Bronze	11A75569
	18 mm	27 mm	35 gr	Copper-Beryllium	11A75570
				Aluminium-Bronze	11A75571
	19 mm	27 mm	35 gr	Copper-Beryllium	11A75572
				Aluminium-Bronze	11A75573

NON-SPARKING SOCKET WRENCHES 1/4” 6 PT

INCHES					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	5/32 ”	25 mm	10 gr	Copper-Beryllium	11A75574
				Aluminium-Bronze	11A75575
	3/16 ”	25 mm	10 gr	Copper-Beryllium	11A71920
				Aluminium-Bronze	11A71941
	7/32 ”	25 mm	10 gr	Copper-Beryllium	11A71921
				Aluminium-Bronze	11A71942
	1/4 ”	25 mm	10 gr	Copper-Beryllium	11A71922
				Aluminium-Bronze	11A71943
	9/32 ”	25 mm	10 gr	Copper-Beryllium	11A71923
				Aluminium-Bronze	11A71944
	5/16 ”	25 mm	15 gr	Copper-Beryllium	11A71924
				Aluminium-Bronze	11A71945
	11/32 ”	28 mm	15 gr	Copper-Beryllium	11A71925
				Aluminium-Bronze	11A71946
	3/8 ”	28 mm	20 gr	Copper-Beryllium	11A71926
				Aluminium-Bronze	11A71947
	7/16 ”	28 mm	20 gr	Copper-Beryllium	11A71927
				Aluminium-Bronze	11A71948
	1/2 ”	28 mm	25 gr	Copper-Beryllium	11A71928
				Aluminium-Bronze	11A71949
	9/16 ”	28 mm	25 gr	Copper-Beryllium	11A71929
				Aluminium-Bronze	11A71950

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NON-SPARKING SOCKET WRENCHES 3/8” 6 PT

NON-SPARKING TOOLS | ZONES 1, 2 (gas) & 21, 22 (dust)

Non-sparking socket wrenches, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking socket wrenches are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

MILIMETERS					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	5 mm	28 mm	20 gr	Copper-Beryllium	11A75592
				Aluminium-Bronze	11A75593
	5,5 mm	28 mm	20 gr	Copper-Beryllium	11A75594
				Aluminium-Bronze	11A75595
	6 mm	28 mm	20 gr	Copper-Beryllium	11A75596
				Aluminium-Bronze	11A75597
	7 mm	28 mm	20 gr	Copper-Beryllium	11A75598
				Aluminium-Bronze	11A75599
	8 mm	28 mm	20 gr	Copper-Beryllium	11A75600
				Aluminium-Bronze	11A75601
	9 mm	28 mm	20 gr	Copper-Beryllium	11A75602
				Aluminium-Bronze	11A75603
	10 mm	32 mm	35 gr	Copper-Beryllium	11A75604
				Aluminium-Bronze	11A75605
	11 mm	32 mm	35 gr	Copper-Beryllium	11A75606
				Aluminium-Bronze	11A75607
	12 mm	32 mm	40 gr	Copper-Beryllium	11A75608
				Aluminium-Bronze	11A75609
	13 mm	32 mm	40 gr	Copper-Beryllium	11A75610
				Aluminium-Bronze	11A75611
	14 mm	32 mm	40 gr	Copper-Beryllium	11A75612
				Aluminium-Bronze	11A75613
	15 mm	32 mm	45 gr	Copper-Beryllium	11A75614
				Aluminium-Bronze	11A75615
	16 mm	32 mm	45 gr	Copper-Beryllium	11A75616
				Aluminium-Bronze	11A75617
	17 mm	32 mm	55 gr	Copper-Beryllium	11A75618
				Aluminium-Bronze	11A75619
	19 mm	32 mm	60 gr	Copper-Beryllium	11A75620
				Aluminium-Bronze	11A75621
	20 mm	32 mm	60 gr	Copper-Beryllium	11A75622
				Aluminium-Bronze	11A75623

NON-SPARKING SOCKET WRENCHES 3/8” 6 PT

INCHES					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	5/16 ”	25 mm	32 gr	Copper-Beryllium	11A75624
				Aluminium-Bronze	11A75625
	3/8 ”	25 mm	32 gr	Copper-Beryllium	11A75626
				Aluminium-Bronze	11A75627
	7/16 ”	25 mm	32 gr	Copper-Beryllium	11A75628
				Aluminium-Bronze	11A75629
	1/2 ”	25 mm	32 gr	Copper-Beryllium	11A75630
				Aluminium-Bronze	11A75631
	9/16 ”	25 mm	32 gr	Copper-Beryllium	11A75632
				Aluminium-Bronze	11A75633
	5/8 ”	25 mm	35 gr	Copper-Beryllium	11A75634
				Aluminium-Bronze	11A75635
	11/16 ”	28 mm	35 gr	Copper-Beryllium	11A75636
				Aluminium-Bronze	11A75637
	3/4 ”	28 mm	35 gr	Copper-Beryllium	11A75638
				Aluminium-Bronze	11A75639
	13/16 ”	28 mm	35 gr	Copper-Beryllium	11A75640
				Aluminium-Bronze	11A75641
	7/8 ”	28 mm	35 gr	Copper-Beryllium	11A75642
				Aluminium-Bronze	11A75643
	15/16 ”	28 mm	35 gr	Copper-Beryllium	11A75644
				Aluminium-Bronze	11A75645

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NON-SPARKING SOCKET WRENCHES 1/2” 6 PT

NON-SPARKING TOOLS | ZONES 1, 2 (gas) & 21, 22 (dust)

Non-sparking socket wrenches, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking socket wrenches are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

MILIMETERS					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	6 mm	40 mm	60 gr	Copper-Beryllium	11A70319
				Aluminium-Bronze	11A71158
	7 mm	40 mm	60 gr	Copper-Beryllium	11A70320
				Aluminium-Bronze	11A71159
	8 mm	40 mm	60 gr	Copper-Beryllium	11A70321
				Aluminium-Bronze	11A71160
	9 mm	40 mm	70 gr	Copper-Beryllium	11A70322
				Aluminium-Bronze	11A71161
	10 mm	40 mm	70 gr	Copper-Beryllium	11A70323
				Aluminium-Bronze	11A71162
	11 mm	40 mm	70 gr	Copper-Beryllium	11A70324
				Aluminium-Bronze	11A71163
	12 mm	40 mm	80 gr	Copper-Beryllium	11A70325
				Aluminium-Bronze	11A71164
	13 mm	40 mm	80 gr	Copper-Beryllium	11A70326
				Aluminium-Bronze	11A71165
	14 mm	40 mm	80 gr	Copper-Beryllium	11A70327
				Aluminium-Bronze	11A71166
	15 mm	40 mm	80 gr	Copper-Beryllium	11A70328
				Aluminium-Bronze	11A71167
	16 mm	40 mm	90 gr	Copper-Beryllium	11A70329
				Aluminium-Bronze	11A71168
	17 mm	40 mm	90 gr	Copper-Beryllium	11A70330
				Aluminium-Bronze	11A71169
	18 mm	42 mm	100 gr	Copper-Beryllium	11A70331
				Aluminium-Bronze	11A71170
	19 mm	42 mm	100 gr	Copper-Beryllium	11A70332
				Aluminium-Bronze	11A71171
	20 mm	42 mm	100 gr	Copper-Beryllium	11A70333
				Aluminium-Bronze	11A71172
	21 mm	43 mm	120 gr	Copper-Beryllium	11A70334
				Aluminium-Bronze	11A71173
	22 mm	43 mm	130 gr	Copper-Beryllium	11A70335
				Aluminium-Bronze	11A71174
	23 mm	43 mm	140 gr	Copper-Beryllium	11A70336
				Aluminium-Bronze	11A71175
	24 mm	43 mm	170 gr	Copper-Beryllium	11A70337
				Aluminium-Bronze	11A71176
	25 mm	43 mm	180 gr	Copper-Beryllium	11A70338
				Aluminium-Bronze	11A71177

NON-SPARKING SOCKET WRENCHES 1/2” 6 PT

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MILIMETERS				
Size:	Lenght:	Weight:	Alloy:	Item No.:
26 mm	43 mm	190 gr	Copper-Beryllium	11A70339
			Aluminium-Bronze	11A71178
27 mm	46 mm	200 gr	Copper-Beryllium	11A70340
			Aluminium-Bronze	11A71179
28 mm	46 mm	200 gr	Copper-Beryllium	11A70341
			Aluminium-Bronze	11A71180
29 mm	46 mm	200 gr	Copper-Beryllium	11A70342
			Aluminium-Bronze	11A71181
30 mm	46 mm	200 gr	Copper-Beryllium	11A70343
			Aluminium-Bronze	11A71182
32 mm	46 mm	200 gr	Copper-Beryllium	11A70344
			Aluminium-Bronze	11A71183
34 mm	50 mm	350 gr	Copper-Beryllium	11A74693
			Aluminium-Bronze	11A74692
36 mm	50 mm	400 gr	Copper-Beryllium	11A74325
			Aluminium-Bronze	11A74326
41 mm	55 mm	590 gr	Copper-Beryllium	11A79211
			Aluminium-Bronze	11A79212

INCHES				
Size:	Lenght:	Weight:	Alloy:	Item No.:
1/4 ”	40 mm	60 gr	Copper-Beryllium	11A71184
			Aluminium-Bronze	11A71202
5/16 ”	40 mm	60 gr	Copper-Beryllium	11A71185
			Aluminium-Bronze	11A71203
11/32 ”	40 mm	60 gr	Copper-Beryllium	11A35840
			Aluminium-Bronze	11A35841
3/8 ”	40 mm	70 gr	Copper-Beryllium	11A71186
			Aluminium-Bronze	11A71204
7/16 ”	40 mm	70 gr	Copper-Beryllium	11A71187
			Aluminium-Bronze	11A71205
1/2 ”	40 mm	80 gr	Copper-Beryllium	11A71188
			Aluminium-Bronze	11A71206
9/16 ”	40 mm	80 gr	Copper-Beryllium	11A71189
			Aluminium-Bronze	11A71207
19/32 ”	40 mm	80 gr	Copper-Beryllium	11A71190
			Aluminium-Bronze	11A71208
5/8 ”	40 mm	80 gr	Copper-Beryllium	11A71191
			Aluminium-Bronze	11A71209
11/16 ”	40 mm	90 gr	Copper-Beryllium	11A71192
			Aluminium-Bronze	11A71210
23/32 ”	42 mm	90 gr	Copper-Beryllium	11A35842
			Aluminium-Bronze	11A35843
3/4 ”	42 mm	90 gr	Copper-Beryllium	11A71193
			Aluminium-Bronze	11A71211

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NON-SPARKING SOCKET WRENCHES 1/2” 6 PT

INCHES					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	25/32 ”	43 mm	100 gr	Copper-Beryllium	11A71194
				Aluminium-Bronze	11A71212
	13/16 ”	43 mm	100 gr	Copper-Beryllium	11A71195
				Aluminium-Bronze	11A71213
	7/8 ”	43 mm	120 gr	Copper-Beryllium	11A71196
				Aluminium-Bronze	11A71214
	29/32 ”	43 mm	140 gr	Copper-Beryllium	11A35844
				Aluminium-Bronze	11A35845
	15/16 ”	43 mm	140 gr	Copper-Beryllium	11A71197
				Aluminium-Bronze	11A71215
	1 ”	43 mm	150 gr	Copper-Beryllium	11A71198
				Aluminium-Bronze	11A71216
	1.1/16 ”	46 mm	200 gr	Copper-Beryllium	11A71199
				Aluminium-Bronze	11A71217
	1.1/8 ”	46 mm	200 gr	Copper-Beryllium	11A71200
				Aluminium-Bronze	11A71218
	1.3/16 ”	46 mm	250 gr	Copper-Beryllium	11A77788
				Aluminium-Bronze	11A77789
	1.1/4 ”	47 mm	250 gr	Copper-Beryllium	11A71201
				Aluminium-Bronze	11A71219
	1.7/16 ”	47 mm	300 gr	Copper-Beryllium	11A74882
				Aluminium-Bronze	11A74883
	1.1/2 ”	55 mm	300 gr	Copper-Beryllium	11A78983
				Aluminium-Bronze	11A78984

NON-SPARKING SOCKET WRENCHES 3/4” 6 PT

NON-SPARKING TOOLS | **ZONES 1, 2 (gas) & 21, 22 (dust)**

Non-sparking socket wrenches, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking socket wrenches are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

MILIMETERS				
Size:	Lenght:	Weight:	Alloy:	Item No.:
17 mm	50 mm	200 gr	Copper-Beryllium	11A74649
			Aluminium-Bronze	11A74653
18 mm	50 mm	200 gr	Copper-Beryllium	11A75724
			Aluminium-Bronze	11A75725
19 mm	50 mm	200 gr	Copper-Beryllium	11A74650
			Aluminium-Bronze	11A74654
21 mm	55 mm	250 gr	Copper-Beryllium	11A74651
			Aluminium-Bronze	11A74655
22 mm	55 mm	250 gr	Copper-Beryllium	11A74652
			Aluminium-Bronze	11A74656
23 mm	55 mm	280 gr	Copper-Beryllium	11A37080
			Aluminium-Bronze	11A37081
24 mm	55 mm	280 gr	Copper-Beryllium	11A70345
			Aluminium-Bronze	11A71220
26 mm	55 mm	280 gr	Copper-Beryllium	11A71908
			Aluminium-Bronze	11A72953
27 mm	55 mm	280 gr	Copper-Beryllium	11A70346
			Aluminium-Bronze	11A71221
28 mm	55 mm	310 gr	Copper-Beryllium	11A75726
			Aluminium-Bronze	11A75727
29 mm	55 mm	320 gr	Copper-Beryllium	11A75728
			Aluminium-Bronze	11A75729
30 mm	60 mm	370 gr	Copper-Beryllium	11A70347
			Aluminium-Bronze	11A71222
31 mm	60 mm	380 gr	Copper-Beryllium	11A75730
			Aluminium-Bronze	11A75731
32 mm	60 mm	410 gr	Copper-Beryllium	11A70348
			Aluminium-Bronze	11A71223
33 mm	60 mm	410 gr	Copper-Beryllium	11A77792
			Aluminium-Bronze	11A77793
34 mm	60 mm	440 gr	Copper-Beryllium	11A74863
			Aluminium-Bronze	11A74864
35 mm	60 mm	440 gr	Copper-Beryllium	11A77794
			Aluminium-Bronze	11A77795
36 mm	60 mm	460 gr	Copper-Beryllium	11A70349
			Aluminium-Bronze	11A71224
37 mm	60 mm	470 gr	Copper-Beryllium	11A77796
			Aluminium-Bronze	11A77797
38 mm	60 mm	500 gr	Copper-Beryllium	11A74865
			Aluminium-Bronze	11A74866

NON-SPARKING SOCKET WRENCHES 3/4” 6 PT

MILIMETERS					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	39 mm	60 mm	555 gr	Copper-Beryllium	11A79408
			500 gr	Aluminium-Bronze	11A79409
	40 mm	60 mm	555 gr	Copper-Beryllium	11A79410
			500 gr	Aluminium-Bronze	11A79411
	41 mm	65 mm	650 gr	Copper-Beryllium	11A70350
				Aluminium-Bronze	11A71225
	42 mm	65 mm	700 gr	Copper-Beryllium	11A77798
				Aluminium-Bronze	11A77799
	43 mm	65 mm	700 gr	Copper-Beryllium	11A79412
				Aluminium-Bronze	11A79413
	44 mm	65 mm	700 gr	Copper-Beryllium	11A79414
				Aluminium-Bronze	11A79415
	45 mm	65 mm	700 gr	Copper-Beryllium	11A79416
				Aluminium-Bronze	11A79417
	46 mm	65 mm	700 gr	Copper-Beryllium	11A70351
				Aluminium-Bronze	11A71226
	47 mm	70 mm	700 gr	Copper-Beryllium	11A77800
				Aluminium-Bronze	11A77801
	48 mm	70 mm	850 gr	Copper-Beryllium	11A79418
			800 gr	Aluminium-Bronze	11A79419
	49 mm	70 mm	850 gr	Copper-Beryllium	11A79420
				Aluminium-Bronze	11A79421
	50 mm	70 mm	850 gr	Copper-Beryllium	11A70352
				Aluminium-Bronze	11A71227
	52 mm	70 mm	900 gr	Copper-Beryllium	11A77802
				Aluminium-Bronze	11A77803
	55 mm	70 mm	950 gr	Copper-Beryllium	11A77804
				Aluminium-Bronze	11A77805
	60 mm	70 mm	1100 gr	Copper-Beryllium	11A77806
				Aluminium-Bronze	11A77807

INCHES					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	3/4 ”	50 mm	220 gr	Copper-Beryllium	11A74786
				Aluminium-Bronze	11A74787
	13/16 ”	50 mm	220 gr	Copper-Beryllium	11A75732
				Aluminium-Bronze	11A75733
	7/8 ”	55 mm	240 gr	Copper-Beryllium	11A74788
				Aluminium-Bronze	11A74789
	15/16 ”	55 mm	240 gr	Copper-Beryllium	11A74790
				Aluminium-Bronze	11A74791
	1 ”	55 mm	240 gr	Copper-Beryllium	11A74792
				Aluminium-Bronze	11A74793
	1.1/16 ”	55 mm	280 gr	Copper-Beryllium	11A74802
				Aluminium-Bronze	11A74803

NON-SPARKING SOCKET WRENCHES 3/4” 6 PT

INCHES					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	1.1/8 ”	55 mm	310 gr	Copper-Beryllium	11A74804
				Aluminium-Bronze	11A74805
	1.5/32 ”	55 mm	360 gr	Copper-Beryllium	11A35846
				Aluminium-Bronze	11A35847
	1.3/16 ”	60 mm	360 gr	Copper-Beryllium	11A74867
				Aluminium-Bronze	11A74868
	1.7/32 ”	60 mm	400 gr	Copper-Beryllium	11A35848
				Aluminium-Bronze	11A35849
	1.1/4 ”	60 mm	400 gr	Copper-Beryllium	11A74869
				Aluminium-Bronze	11A74870
	1.5/16 ”	60 mm	430 gr	Copper-Beryllium	11A71228
				Aluminium-Bronze	11A71239
	1.3/8 ”	60 mm	470 gr	Copper-Beryllium	11A71229
				Aluminium-Bronze	11A71240
	1.7/16 ”	60 mm	480 gr	Copper-Beryllium	11A71230
				Aluminium-Bronze	11A71241
	1.1/2 ”	60 mm	550 gr	Copper-Beryllium	11A71231
				Aluminium-Bronze	11A71242
	1.9/16 ”	60 mm	650 gr	Copper-Beryllium	11A71232
				Aluminium-Bronze	11A71243
	1.5/8 ”	65 mm	700 gr	Copper-Beryllium	11A71233
				Aluminium-Bronze	11A71244
	1.11/16 ”	65 mm	700 gr	Copper-Beryllium	11A71234
				Aluminium-Bronze	11A71245
	1.3/4 ”	65 mm	700 gr	Copper-Beryllium	11A71235
				Aluminium-Bronze	11A71246
	1.13/16 ”	65 mm	700 gr	Copper-Beryllium	11A71236
				Aluminium-Bronze	11A71247
	1.7/8 ”	65 mm	700 gr	Copper-Beryllium	11A71237
				Aluminium-Bronze	11A71248
	1.15/16 ”	65 mm	800 gr	Copper-Beryllium	11A77808
				Aluminium-Bronze	11A77809
	2 ”	70 mm	850 gr	Copper-Beryllium	11A71238
				Aluminium-Bronze	11A71249

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NON-SPARKING SOCKET WRENCHES 1” 6 PT

NON-SPARKING TOOLS | ZONES 1, 2 (gas) & 21, 22 (dust)

Non-sparking socket wrenches, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking socket wrenches are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

MILIMETERS				
Size:	Lenght:	Weight:	Alloy:	Item No.:
22 mm	55 mm	330 gr	Copper-Beryllium	11A75772
			Aluminium-Bronze	11A75773
24 mm	55 mm	340 gr	Copper-Beryllium	11A75774
			Aluminium-Bronze	11A75775
25 mm	55 mm	340 gr	Copper-Beryllium	11A75776
			Aluminium-Bronze	11A75777
26 mm	55 mm	350 gr	Copper-Beryllium	11A75778
			Aluminium-Bronze	11A75779
27 mm	55 mm	360 gr	Copper-Beryllium	11A75780
			Aluminium-Bronze	11A75781
28 mm	55 mm	370 gr	Copper-Beryllium	11A75782
			Aluminium-Bronze	11A75783
29 mm	55 mm	370 gr	Copper-Beryllium	11A75784
			Aluminium-Bronze	11A75785
30 mm	60 mm	400 gr	Copper-Beryllium	11A75786
			Aluminium-Bronze	11A75787
31 mm	60 mm	410 gr	Copper-Beryllium	11A75788
			Aluminium-Bronze	11A75789
32 mm	60 mm	440 gr	Copper-Beryllium	11A75790
			Aluminium-Bronze	11A75791
34 mm	60 mm	450 gr	Copper-Beryllium	11A75792
			Aluminium-Bronze	11A75793
36 mm	60 mm	460 gr	Copper-Beryllium	11A75794
			Aluminium-Bronze	11A75795
38 mm	60 mm	500 gr	Copper-Beryllium	11A75796
			Aluminium-Bronze	11A75797
41 mm	65 mm	600 gr	Copper-Beryllium	11A70353
			Aluminium-Bronze	11A71250
42 mm	65 mm	700 gr	Copper-Beryllium	11A70354
			Aluminium-Bronze	11A71251
46 mm	65 mm	800 gr	Copper-Beryllium	11A70355
			Aluminium-Bronze	11A71252
50 mm	70 mm	1000 gr	Copper-Beryllium	11A70356
			Aluminium-Bronze	11A71253
55 mm	75 mm	1100 gr	Copper-Beryllium	11A70357
			Aluminium-Bronze	11A71254
60 mm	75 mm	1400 gr	Copper-Beryllium	11A70358
			Aluminium-Bronze	11A71255
65 mm	80 mm	1500 gr	Copper-Beryllium	11A70359
			Aluminium-Bronze	11A71256

NON-SPARKING SOCKET WRENCHES 1” 6 PT

MILIMETERS				
Size:	Lenght:	Weight:	Alloy:	Item No.:
70 mm	80 mm	1500 gr	Copper-Beryllium	11A70360
			Aluminium-Bronze	11A71257
75 mm	85 mm	2000 gr	Copper-Beryllium	11A70361
			Aluminium-Bronze	11A71258
80 mm	85 mm	2200 gr	Copper-Beryllium	11A70362
			Aluminium-Bronze	11A71259
85 mm	85 mm	4600 gr	Copper-Beryllium	11A70363
			Aluminium-Bronze	11A71260
90 mm	90 mm	4800 gr	Copper-Beryllium	11A70364
			Aluminium-Bronze	11A71261
95 mm	90 mm	4900 gr	Copper-Beryllium	11A70365
			Aluminium-Bronze	11A71262
100 mm	90 mm	5000 gr	Copper-Beryllium	11A70366
			Aluminium-Bronze	11A71263
105 mm	95 mm	5200 gr	Copper-Beryllium	11A70367
			Aluminium-Bronze	11A71264

INCHES				
Size:	Lenght:	Weight:	Alloy:	Item No.:
1.1/16 ”	55 mm	360 gr	Copper-Beryllium	11A75798
			Aluminium-Bronze	11A75799
1.1/8 ”	55 mm	360 gr	Copper-Beryllium	11A75800
			Aluminium-Bronze	11A75801
1.3/16 ”	60 mm	400 gr	Copper-Beryllium	11A75802
			Aluminium-Bronze	11A75803
1.1/4 ”	60 mm	430 gr	Copper-Beryllium	11A75804
			Aluminium-Bronze	11A75805
1.5/16 ”	60 mm	440 gr	Copper-Beryllium	11A75806
			Aluminium-Bronze	11A75807
1.3/8 ”	60 mm	440 gr	Copper-Beryllium	11A75808
			Aluminium-Bronze	11A75809
1.7/16 ”	60 mm	460 gr	Copper-Beryllium	11A75810
			Aluminium-Bronze	11A75811
1.1/2 ”	60 mm	500 gr	Copper-Beryllium	11A75812
			Aluminium-Bronze	11A75813
1.5/8 ”	65 mm	550 gr	Copper-Beryllium	11A75814
			Aluminium-Bronze	11A75815
1.13/16 ”	65 mm	700 gr	Copper-Beryllium	11A77828
			Aluminium-Bronze	11A77829
1.7/8 ”	65 mm	700 gr	Copper-Beryllium	11A75816
			Aluminium-Bronze	11A75817
2 ”	70 mm	800 gr	Copper-Beryllium	11A75818
			Aluminium-Bronze	11A75819
2.1/8 ”	70 mm	850 gr	Copper-Beryllium	11A77830
			Aluminium-Bronze	11A77831

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NON-SPARKING SOCKET WRENCHES 1” 6 PT

INCHES					
	Size:	Lenght:	Weight:	Alloy:	Item No.:
	2.1/4 ”	75 mm	1000 gr	Copper-Beryllium	11A75820
				Aluminium-Bronze	11A75821
	2.3/8 ”	75 mm	1250 gr	Copper-Beryllium	11A77832
				Aluminium-Bronze	11A77833
	2.1/2 ”	75 mm	1250 gr	Copper-Beryllium	11A75822
				Aluminium-Bronze	11A75823
	2.9/16 ”	75 mm	1400 gr	Copper-Beryllium	11A77834
				Aluminium-Bronze	11A77835
	2.3/4 ”	80 mm	1400 gr	Copper-Beryllium	11A75824
				Aluminium-Bronze	11A75825
	2.15/16 ”	80 mm	1500 gr	Copper-Beryllium	11A77836
				Aluminium-Bronze	11A77837
	3 ”	80 mm	1500 gr	Copper-Beryllium	11A75826
				Aluminium-Bronze	11A75827
	3.1/8 ”	80 mm	2300 gr	Copper-Beryllium	11A77838
				Aluminium-Bronze	11A77839

NON-SPARKING 1/2” SOCKET WRENCH SET - 9 PCS

NON-SPARKING TOOLS | **1ZONES 1, 2 (gas) & 21, 22 (dust)**

1/2” Non-sparking Socket Wrench Set (12 points), made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in hazardous areas.

The Non-sparking tools that compose this set are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

- Non-sparking tools cannot reach the hardness of conventional tools. For this reason the use of non-sparking tools has to be carried out with special care, avoiding overstraining, heating, etc.

- To avoid damage being caused to both tool and fastener, it is necessary to always ensure that the correctly sized spanner/wrench/screwdriver is selected. Due to the reduced strength and wear resistance of non-sparking Alloys selecting the correctly sized tool becomes essential to avoid premature wear and early deterioration of the tool.

- The use of non-sparking tools must not be the only preventive measure in areas which the items are designed for. Other items, clothes or present material must also be adequate for non-sparking purposes.

COPPER-BERYLLIUM ALLOY

Non ferrous substance in the composition makes it safer when non-magnetic applications are required.

ALUMINIUM-BRONZE ALLOY

Minimum ferrous component makes them not 100% non-magnetic, although its low magnetism make it appropiate for non critical non-magnetic applications.

COPPER-BERYLLIUM ALLOY					
Designation:	Item No.:	Designation:	Item No.:	Weight:	Item No.:
Socket wrench 1/2” - 10mm	11A74452	Socket wrench 1/2” - 17mm	11A74459	1,4 kg	11A74263
Socket wrench 1/2” - 11mm	11A74453	Socket wrench 1/2” - 19mm	11A74461		
Socket wrench 1/2” - 12mm	11A74454	Socket wrench 1/2” - 22mm	11A74464		
Socket wrench 1/2” - 14mm	11A74456	Socket wrench 1/2” - 24mm	11A74466		
Offset handle 230mm, 400g			11A72410		
Socket wrench 1/2” - 3/8”	11A74504	Socket wrench 1/2” - 11/16”	11A74510	1,4 kg	11A35810
Socket wrench 1/2” - 7/16”	11A74505	Socket wrench 1/2” - 3/4”	11A74511		
Socket wrench 1/2” - 1/2”	11A74506	Socket wrench 1/2” - 7/8”	11A74514		
Socket wrench 1/2” - 5/8”	11A74509	Socket wrench 1/2” - 15/16”	11A74515		
Offset handle 230mm, 400g			11A72410		

ALUMINIUM-BRONZE ALLOY					
Designation:	Item No.:	Designation:	Item No.:	Weight:	Item No.:
Socket wrench 1/2” - 10mm	11A74479	Socket wrench 1/2” - 17mm	11A74486	1,4 kg	11A74264
Socket wrench 1/2” - 11mm	11A74480	Socket wrench 1/2” - 19mm	11A74488		
Socket wrench 1/2” - 12mm	11A74481	Socket wrench 1/2” - 22mm	11A74491		
Socket wrench 1/2” - 14mm	11A74483	Socket wrench 1/2” - 24mm	11A74493		
Offset handle 230mm, 400g			11A72411		
Socket wrench 1/2” - 3/8”	11A74522	Socket wrench 1/2” - 11/16”	11A74528	1,4 kg	11A35819
Socket wrench 1/2” - 7/16”	11A74523	Socket wrench 1/2” - 3/4”	11A74529		
Socket wrench 1/2” - 1/2”	11A74524	Socket wrench 1/2” - 7/8”	11A74532		
Socket wrench 1/2” - 5/8”	11A74527	Socket wrench 1/2” - 15/16”	11A74533		
Offset handle 230mm, 400g			11A72411		

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NON-SPARKING 1/2” SOCKET WRENCH SET - 9 PCS

MATERIALS		
Copper-Berylium Alloy		
Composition:	Be	1.8 % - 2 %
	Ni+Co	0.2 % - 1.2 %
	Otros	<0.5 %
	Resto	Cu
Hardness:	283-365 Brinell	
Tensile Strength:	1250 N/mm^2	
Aluminium-Bronze Alloy		
Composition:	Al	10 % - 12 %
	Ni	4 % - 6 %
	Fe+Mn	<5.8 %
	Otros	<0.5 %
	Resto	Cu
Hardness:	229-291 Brinell	
Tensile Strength:	800 N/mm^2	

PROPERTIES AND FEATURES	
Property:	Aplication or benefits:
Non-sparking	Appropriate for explosive potential environments.
Non-magnetic safety	Essential for equipments that require complete non-magnetic safety.
Corrosion resistant	Specially well suited for applications in corrosive environments like encountered in marine works or fire-fighting applications.
Forged after casting	Provide higher mechanical properties and better finishing.
Ergonomic designs	The use of bi-material anti-slippery handles, dipping anti-slippery handles, totally ergonomic designs make operations easier, more comfortable and master.

CAUTION:

These tools are not classified as anti-static because they do conduct electricity. Do not use high copper content tools (>65%) in direct contact with acetylene due to the possible formation of explosive acetylide, specially in the presence of moisture.

DIFFERENCES AND HOW TO MAKE THE CORRECT CHOICE		
Concept:	COPPER-BERYLLIUM Cu-Be	ALUMINIUM-BRONZE Al-Bron
Hardness:	283-365 Brinell.	229-291 Brinell.
Magnetism:	Non ferrous substance in the composition makes it safer when non-magnetic applications are required.	Minimum ferrous component makes them not 100% non-magnetic, although its low magnetism make it appropiate for non critical non-magnetic applications.
Durability:	Much higher due to the higher hardness and tensile strength. Higher efforts can be made.	Not as much as Cu-Be
Price:	Higher price due to the special raw material used.	Significantly lower price.

MAIN APPLICATION FIELDS			
Petrochemicals	Plastic manufacturing	Breweries	Air Forces
Refineries	Pharmaceutical Industry	Alcohol processing industries	Navy
Oil Companies	Fireworks Industry	Distilleries	Weapon & ammunition fabrication
Gas & oil pipe lines	Chemical Industry	Fire-fighters	Aerospace industry
Power Stations	Paper making Industries	Mines	Automobile Industry
Paint Manufacturing	Flour silos and mills	Defence	Etc.

NON-SPARKING 1/2” SOCKET WRENCH SET - 12 PCS

NON-SPARKING TOOLS | **1ZONES 1, 2 (gas) & 21, 22 (dust)**

1/2” Non-sparking Socket Wrench Set (12 points), made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in hazardous areas.

The Non-sparking tools that compose this set are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

- Non-sparking tools cannot reach the hardness of conventional tools. For this reason the use of non-sparking tools has to be carried out with special care, avoiding overstraining, heating, etc.

- To avoid damage being caused to both tool and fastener, it is necessary to always ensure that the correctly sized spanner/wrench/screwdriver is selected. Due to the reduced strength and wear resistance of non-sparking Alloys selecting the correctly sized tool becomes essential to avoid premature wear and early deterioration of the tool.

- The use of non-sparking tools must not be the only preventive measure in areas which the items are designed for. Other items, clothes or present material must also be adequate for non-sparking purposes.

COPPER-BERYLLIUM ALLOY					
Designation:	Item No.:	Designation:	Item No.:	Weight:	Item No.:
Socket wrench 1/2” - 8mm	11A74450	Socket wrench 1/2” - 17mm	11A74459		
Socket wrench 1/2” - 10mm	11A74452	Socket wrench 1/2” - 19mm	11A74461		
Socket wrench 1/2” - 11mm	11A74453	Socket wrench 1/2” - 22mm	11A74464		
Socket wrench 1/2” - 12mm	11A74454	Socket wrench 1/2” - 24mm	11A74466	2,3 kg	11A74265
Socket wrench 1/2” - 14mm	11A74456	Socket wrench 1/2” - 27mm	11A74469		
Hinged handle 230mm, 330g			11A72400		
Ratchet 250mm, 600g			11A70375		
Socket wrench 1/2” - 5/16”	11A74503	Socket wrench 1/2” - 11/16”	11A74510		
Socket wrench 1/2” - 3/8”	11A74504	Socket wrench 1/2” - 3/4”	11A74511		
Socket wrench 1/2” - 7/16”	11A74505	Socket wrench 1/2” - 7/8”	11A74514		
Socket wrench 1/2” - 1/2”	11A74506	Socket wrench 1/2” - 15/16”	11A74515	2,3 kg	11A35811
Socket wrench 1/2” - 5/8”	11A74509	Socket wrench 1/2” - 1.1/16”	11A74517		
Hinged handle 230mm, 330g			11A72400		
Ratchet 250mm, 600g			11A70375		

ALUMINIUM-BRONZE ALLOY					
Designation:	Item No.:	Designation:	Item No.:	Weight:	Item No.:
Socket wrench 1/2” - 8mm	11A74477	Socket wrench 1/2” - 17mm	11A74486		
Socket wrench 1/2” - 10mm	11A74479	Socket wrench 1/2” - 19mm	11A74488		
Socket wrench 1/2” - 11mm	11A74480	Socket wrench 1/2” - 22mm	11A74491		
Socket wrench 1/2” - 12mm	11A74481	Socket wrench 1/2” - 24mm	11A74493	2,3 kg	11A74266
Socket wrench 1/2” - 14mm	11A74483	Socket wrench 1/2” - 27mm	11A74496		
Hinged handle 230mm, 330g			11A72401		
Ratchet 250mm, 600g			11A71272		
Socket wrench 1/2” - 5/16”	11A74521	Socket wrench 1/2” - 11/16”	11A74528		
Socket wrench 1/2” - 3/8”	11A74522	Socket wrench 1/2” - 3/4”	11A74529		
Socket wrench 1/2” - 7/16”	11A74523	Socket wrench 1/2” - 7/8”	11A74532		
Socket wrench 1/2” - 1/2”	11A74524	Socket wrench 1/2” - 15/16”	11A74533	2,3 kg	11A35820
Socket wrench 1/2” - 5/8”	11A74527	Socket wrench 1/2” - 1.1/16”	11A74535		
Hinged handle 230mm, 330g			11A72401		
Ratchet 250mm, 600g			11A71272		

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NON-SPARKING 1/2” SOCKET WRENCH SET - 12 PCS

MATERIALS		
Copper-Berylium Alloy		
Composition:	Be	1.8 % - 2 %
	Ni+Co	0.2 % - 1.2 %
	Otros	<0.5 %
	Resto	Cu
Hardness:	283-365 Brinell	
Tensile Strength:	1250 N/mm^2	
Aluminium-Bronze Alloy		
Composition:	Al	10 % - 12 %
	Ni	4 % - 6 %
	Fe+Mn	<5.8 %
	Otros	<0.5 %
	Resto	Cu
Hardness:	229-291 Brinell	
Tensile Strength:	800 N/mm^2	

PROPERTIES AND FEATURES	
Property:	Aplication or benefits:
Non-sparking	Appropriate for explosive potential environments.
Non-magnetic safety	Essential for equipments that require complete non-magnetic safety.
Corrosion resistant	Specially well suited for applications in corrosive environments like encountered in marine works or fire-fighting applications.
Forged after casting	Provide higher mechanical properties and better finishing.
Ergonomic designs	The use of bi-material anti-slippery handles, dipping anti-slippery handles, totally ergonomic designs make operations easier, more comfortable and master.

CAUTION:

These tools are not classified as anti-static because they do conduct electricity. Do not use high copper content tools (>65%) in direct contact with acetylene due to the possible formation of explosive acetylide, specially in the presence of moisture.

DIFFERENCES AND HOW TO MAKE THE CORRECT CHOICE		
Concept:	COPPER-BERYLLIUM Cu-Be	ALUMINIUM-BRONZE Al-Bron
Hardness:	283-365 Brinell.	229-291 Brinell.
Magnetism:	Non ferrous substance in the composition makes it safer when non-magnetic applications are required.	Minimum ferrous component makes them not 100% non-magnetic, although its low magnetism make it appropiate for non critical non-magnetic applications.
Durability:	Much higher due to the higher hardness and tensile strength. Higher efforts can be made.	Not as much as Cu-Be
Price:	Higher price due to the special raw material used.	Significantly lower price.

MAIN APPLICATION FIELDS			
Petrochemicals	Plastic manufacturing	Breweries	Air Forces
Refineries	Pharmaceutical Industry	Alcohol processing industries	Navy
Oil Companies	Fireworks Industry	Distilleries	Weapon & ammunition fabrication
Gas & oil pipe lines	Chemical Industry	Fire-fighters	Aerospace industry
Power Stations	Paper making Industries	Mines	Automobile Industry
Paint Manufacturing	Flour silos and mills	Defence	Etc.

NON-SPARKING 1/2” SOCKET WRENCH SET - 16 PCS

NON-SPARKING TOOLS | **1ZONES 1, 2 (gas) & 21, 22 (dust)**

1/2” Non-sparking Socket Wrench Set (12 points), made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in hazardous areas.

The Non-sparking tools that compose this set are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

- Non-sparking tools cannot reach the hardness of conventional tools. For this reason the use of non-sparking tools has to be carried out with special care, avoiding overstraining, heating, etc.

- To avoid damage being caused to both tool and fastener, it is necessary to always ensure that the correctly sized spanner/wrench/screwdriver is selected. Due to the reduced strength and wear resistance of non-sparking Alloys selecting the correctly sized tool becomes essential to avoid premature wear and early deterioration of the tool.

- The use of non-sparking tools must not be the only preventive measure in areas which the items are designed for. Other items, clothes or present material must also be adequate for non-sparking purposes.

COPPER-BERYLLIUM ALLOY

Non ferrous substance in the composition makes it safer when non-magnetic applications are required.

ALUMINIUM-BRONZE ALLOY

Minimum ferrous component makes them not 100% non-magnetic, although its low magnetism make it appropiate for non critical non-magnetic applications.

COPPER-BERYLLIUM ALLOY					
Designation:	Item No.:	Designation:	Item No.:	Weight:	Item No.:
Socket wrench 1/2” - 10mm	11A74452	Socket wrench 1/2” - 22mm	11A74464		
Socket wrench 1/2” - 11mm	11A74453	Socket wrench 1/2” - 24mm	11A74466		
Socket wrench 1/2” - 12mm	11A74454	Socket wrench 1/2” - 27mm	11A74469		
Socket wrench 1/2” - 14mm	11A74456	Socket wrench 1/2” - 30mm	11A74472		
Socket wrench 1/2” - 17mm	11A74459	Socket wrench 1/2” - 32mm	11A74473		
Socket wrench 1/2” - 19mm	11A74461			4,5 kg	11A74267
Extension 125mm			11A76490		
Extension 250mm			11A70385		
Speeder handle 390mm			11A72416		
Sliding T handle 250mm			11A70378		
Ratchet 250mm			11A70375		
Socket wrench 1/2” - 3/8”	11A74504	Socket wrench 1/2” - 7/8”	11A74514		
Socket wrench 1/2” - 7/16”	11A74505	Socket wrench 1/2” - 15/16”	11A74515		
Socket wrench 1/2” - 1/2”	11A74506	Socket wrench 1/2” - 1.1/16”	11A74517		
Socket wrench 1/2” - 5/8”	11A74509	Socket wrench 1/2” - 1.3/16”	11A77790		
Socket wrench 1/2” - 11/16”	11A74510	Socket wrench 1/2” - 1.1/4”	11A74519		
Socket wrench 1/2” - 3/4”	11A74511			4,5 kg	11A35812
Extension 125mm			11A76490		
Extension 250mm			11A70385		
Speeder handle 390mm			11A72416		
Sliding T handle 250mm			11A70378		
Ratchet 250mm			11A70375		

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NON-SPARKING 1/2” SOCKET WRENCH SET - 16 PCS

ALUMINIUM-BRONZE ALLOY					
Designation:	Item No.:	Designation:	Item No.:	Weight:	Item No.:
Socket wrench 1/2” - 10mm	11A74479	Socket wrench 1/2” - 22mm	11A74491		
Socket wrench 1/2” - 11mm	11A74480	Socket wrench 1/2” - 24mm	11A74493		
Socket wrench 1/2” - 12mm	11A74481	Socket wrench 1/2” - 27mm	11A74496		
Socket wrench 1/2” - 14mm	11A74483	Socket wrench 1/2” - 30mm	11A74499		
Socket wrench 1/2” - 17mm	11A74486	Socket wrench 1/2” - 32mm	11A74500		
Socket wrench 1/2” - 19mm	11A74488			4,5 kg	11A74268
Extension 125mm			11A76491		
Extension 250mm			11A71281		
Speeder handle 390mm			11A72417		
Sliding T handle 250mm			11A71274		
Ratchet 250mm			11A71272		
Socket wrench 1/2” - 3/8”	11A74522	Socket wrench 1/2” - 7/8”	11A74532		
Socket wrench 1/2” - 7/16”	11A74523	Socket wrench 1/2” - 15/16”	11A74533		
Socket wrench 1/2” - 1/2”	11A74524	Socket wrench 1/2” - 1.1/16”	11A74535		
Socket wrench 1/2” - 5/8”	11A74527	Socket wrench 1/2” - 1.3/16”	11A77791		
Socket wrench 1/2” - 11/16”	11A74528	Socket wrench 1/2” - 1.1/4”	11A74537		
Socket wrench 1/2” - 3/4”	11A74529			4,5 kg	11A35821
Extension 125mm			11A76491		
Extension 250mm			11A71281		
Speeder handle 390mm			11A72417		
Sliding T handle 250mm			11A71274		
Ratchet 250mm			11A71272		

MATERIALS		
Copper-Berylium Alloy		
Composition:	Be	1.8 % - 2 %
	Ni+Co	0.2 % - 1.2 %
	Otros	<0.5 %
	Resto	Cu
Hardness:	283-365 Brinell	
Tensile Strength:	1250 N/mm²	
Aluminium-Bronze Alloy		
Composition:	Al	10 % - 12 %
	Ni	4 % - 6 %
	Fe+Mn	<5.8 %
	Otros	<0.5 %
	Resto	Cu
Hardness:	229-291 Brinell	
Tensile Strength:	800 N/mm²	

NON-SPARKING 1/2” SOCKET WRENCH SET - 16 PCS

PROPERTIES AND FEATURES	
Property:	Aplication or benefits:
Non-sparking	Appropriate for explosive potential environments.
Non-magnetic safety	Essential for equipments that require complete non-magnetic safety.
Corrosion resistant	Specially well suited for applications in corrosive environments like encountered in marine works or fire-fighting applications.
Forged after casting	Provide higher mechanical properties and better finishing.
Ergonomic designs	The use of bi-material anti-slippery handles, dipping anti-slippery handles, totally ergonomic designs make operations easier, more comfortable and master.
CAUTION: These tools are not classified as anti-static because they do conduct electricity. Do not use high copper content tools (>65%) in direct contact with acetylene due to the possible formation of explosive acetylide, specially in the presence of moisture.	

DIFFERENCES AND HOW TO MAKE THE CORRECT CHOICE		
Concept:	COPPER-BERYLLIUM Cu-Be	ALUMINIUM-BRONZE Al-Bron
Hardness:	283-365 Brinell.	229-291 Brinell.
Magnetism:	Non ferrous substance in the composition makes it safer when non-magnetic applications are required.	Minimum ferrous component makes them not 100% non-magnetic, although its low magnetism make it appropiate for non critical non-magnetic applications.
Durability:	Much higher due to the higher hardness and tensile strength. Higher efforts can be made.	Not as much as Cu-Be
Price:	Higher price due to the special raw material used.	Significantly lower price.

MAIN APPLICATION FIELDS			
Petrochemicals	Plastic manufacturing	Breweries	Air Forces
Refineries	Pharmaceutical Industry	Alcohol processing industries	Navy
Oil Companies	Fireworks Industry	Distilleries	Weapon & ammunition fabrication
Gas & oil pipe lines	Chemical Industry	Fire-fighters	Aerospace industry
Power Stations	Paper making Industries	Mines	Automobile Industry
Paint Manufacturing	Flour silos and mills	Defence	Etc.

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NON-SPARKING 1/2” SOCKET WRENCH SET - 24 PCS

NON-SPARKING TOOLS | **1ZONES 1, 2 (gas) & 21, 22 (dust)**

1/2” Non-sparking Socket Wrench Set (12 points), made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in hazardous areas.

The Non-sparking tools that compose this set are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

- Non-sparking tools cannot reach the hardness of conventional tools. For this reason the use of non-sparking tools has to be carried out with special care, avoiding overstraining, heating, etc.

- To avoid damage being caused to both tool and fastener, it is necessary to always ensure that the correctly sized spanner/wrench/screwdriver is selected. Due to the reduced strength and wear resistance of non-sparking Alloys selecting the correctly sized tool becomes essential to avoid premature wear and early deterioration of the tool.

- The use of non-sparking tools must not be the only preventive measure in areas which the items are designed for. Other items, clothes or present material must also be adequate for non-sparking purposes.

COPPER-BERYLLIUM ALLOY					
Designation:	Item No.:	Designation:	Item No.:	Weight:	Item No.:
Socket wrench 1/2” - 10mm	11A74452	Socket wrench 1/2” - 19mm	11A74461		
Socket wrench 1/2” - 11mm	11A74453	Socket wrench 1/2” - 20mm	11A74462		
Socket wrench 1/2” - 12mm	11A74454	Socket wrench 1/2” - 21mm	11A74463		
Socket wrench 1/2” - 13mm	11A74455	Socket wrench 1/2” - 22mm	11A74464		
Socket wrench 1/2” - 14mm	11A74456	Socket wrench 1/2” - 23mm	11A74465		
Socket wrench 1/2” - 15mm	11A74457	Socket wrench 1/2” - 24mm	11A74466		
Socket wrench 1/2” - 16mm	11A74458	Socket wrench 1/2” - 27mm	11A74469		
Socket wrench 1/2” - 17mm	11A74459	Socket wrench 1/2” - 30mm	11A74472	5,5 kg	11A74269
Socket wrench 1/2” - 18mm	11A74460	Socket wrench 1/2” - 32mm	11A74473		
Universal joint 80mm			11A70372		
Extension 125mm			11A76490		
Extension 250mm			11A70385		
Speeder handle 390mm			11A72416		
Sliding T handle 250mm			11A70378		
Ratchet 250mm			11A70375		
Socket wrench 1/2” - 1/4”	11A74502	Socket wrench 1/2” - 3/4”	11A74511		
Socket wrench 1/2” - 5/16”	11A74503	Socket wrench 1/2” - 25/32”	11A74512		
Socket wrench 1/2” - 3/8”	11A74504	Socket wrench 1/2” - 13/16”	11A74513		
Socket wrench 1/2” - 7/16”	11A74505	Socket wrench 1/2” - 7/8”	11A74514		
Socket wrench 1/2” - 1/2”	11A74506	Socket wrench 1/2” - 15/16”	11A74515		
Socket wrench 1/2” - 9/16”	11A74507	Socket wrench 1/2” - 1”	11A74516		
Socket wrench 1/2” - 19/32”	11A74508	Socket wrench 1/2” - 1.1/16”	11A74517		
Socket wrench 1/2” - 5/8”	11A74509	Socket wrench 1/2” - 1.3/16”	11A77790	5,5 kg	11A35813
Socket wrench 1/2” - 11/16”	11A74510	Socket wrench 1/2” - 1.1/4”	11A74519		
Universal joint 80mm			11A70372		
Extension 125mm			11A76490		
Extension 250mm			11A70385		
Speeder handle 390mm			11A72416		
Sliding T handle 250mm			11A70378		
Ratchet 250mm			11A70375		

NON-SPARKING 1/2” SOCKET WRENCH SET - 24 PCS

ALUMINIUM-BRONZE ALLOY					
Designation:	Item No.:	Designation:	Item No.:	Weight:	Item No.:
Socket wrench 1/2” - 10mm	11A74479	Socket wrench 1/2” - 19mm	11A74488		
Socket wrench 1/2” - 11mm	11A74480	Socket wrench 1/2” - 20mm	11A74489		
Socket wrench 1/2” - 12mm	11A74481	Socket wrench 1/2” - 21mm	11A74490		
Socket wrench 1/2” - 13mm	11A74482	Socket wrench 1/2” - 22mm	11A74491		
Socket wrench 1/2” - 14mm	11A74483	Socket wrench 1/2” - 23mm	11A74492		
Socket wrench 1/2” - 15mm	11A74484	Socket wrench 1/2” - 24mm	11A74493		
Socket wrench 1/2” - 16mm	11A74485	Socket wrench 1/2” - 27mm	11A74496		
Socket wrench 1/2” - 17mm	11A74486	Socket wrench 1/2” - 30mm	11A74499	5,5 kg	11A74270
Socket wrench 1/2” - 18mm	11A74487	Socket wrench 1/2” - 32mm	11A74500		
Universal joint 80mm			11A71269		
Extension 125mm			11A76491		
Extension 250mm			11A71281		
Speeder handle 390mm			11A72417		
Sliding T handle 250mm			11A71274		
Ratchet 250mm			11A71272		
Socket wrench 1/2” - 1/4”	11A74520	Socket wrench 1/2” - 3/4”	11A74529		
Socket wrench 1/2” - 5/16”	11A74521	Socket wrench 1/2” - 25/32”	11A74530		
Socket wrench 1/2” - 3/8”	11A74522	Socket wrench 1/2” - 13/16”	11A74531		
Socket wrench 1/2” - 7/16”	11A74523	Socket wrench 1/2” - 7/8”	11A74532		
Socket wrench 1/2” - 1/2”	11A74524	Socket wrench 1/2” - 15/16”	11A74533		
Socket wrench 1/2” - 9/16”	11A74525	Socket wrench 1/2” - 1”	11A74534		
Socket wrench 1/2” - 19/32”	11A74526	Socket wrench 1/2” - 1.1/16”	11A74535		
Socket wrench 1/2” - 5/8”	11A74527	Socket wrench 1/2” - 1.3/16”	11A77791	5,5 kg	11A35822
Socket wrench 1/2” - 11/16”	11A74528	Socket wrench 1/2” - 1.1/4”	11A74537		
Universal joint 80mm			11A71269		
Extension 125mm			11A76491		
Extension 250mm			11A71281		
Speeder handle 390mm			11A72417		
Sliding T handle 250mm			11A71274		
Ratchet 250mm			11A71272		

MATERIALS		
Copper-Berylium Alloy		
Composition:	Be	1.8 % - 2 %
	Ni+Co	0.2 % - 1.2 %
	Otros	<0.5 %
	Resto	Cu
Hardness:	283-365 Brinell	
Tensile Strength:	1250 N/mm^2	
Aluminium-Bronze Alloy		
Composition:	Al	10 % - 12 %
	Ni	4 % - 6 %
	Fe+Mn	<5.8 %
	Otros	<0.5 %
	Resto	Cu
Hardness:	229-291 Brinell	
Tensile Strength:	800 N/mm^2	

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NON-SPARKING 1/2" SOCKET WRENCH SET - 24 PCS

PROPERTIES AND FEATURES	
Property:	**Aplication or benefits:**
Non-sparking	Appropriate for explosive potential environments.
Non-magnetic safety	Essential for equipments that require complete non-magnetic safety.
Corrosion resistant	Specially well suited for applications in corrosive environments like encountered in marine works or fire-fighting applications.
Forged after casting	Provide higher mechanical properties and better finishing.
Ergonomic designs	The use of bi-material anti-slippery handles, dipping anti-slippery handles, totally ergonomic designs make operations easier, more comfortable and master.
CAUTION: These tools are not classified as anti-static because they do conduct electricity. Do not use high copper content tools (>65%) in direct contact with acetylene due to the possible formation of explosive acetylide, specially in the presence of moisture.	

DIFFERENCES AND HOW TO MAKE THE CORRECT CHOICE		
Concept:	**COPPER-BERYLLIUM Cu-Be**	**ALUMINIUM-BRONZE Al-Bron**
Hardness:	283-365 Brinell.	229-291 Brinell.
Magnetism:	Non ferrous substance in the composition makes it safer when non-magnetic applications are required.	Minimum ferrous component makes them not 100% non-magnetic, although its low magnetism make it appropiate for non critical non-magnetic applications.
Durability:	Much higher due to the higher hardness and tensile strength. Higher efforts can be made.	Not as much as Cu-Be
Price:	Higher price due to the special raw material used.	Significantly lower price.

MAIN APPLICATION FIELDS			
Petrochemicals	Plastic manufacturing	Breweries	Air Forces
Refineries	Pharmaceutical Industry	Alcohol processing industries	Navy
Oil Companies	Fireworks Industry	Distilleries	Weapon & ammunition fabrication
Gas & oil pipe lines	Chemical Industry	Fire-fighters	Aerospace industry
Power Stations	Paper making Industries	Mines	Automobile Industry
Paint Manufacturing	Flour silos and mills	Defence	Etc.

COPPER BERYLLIUM ALLOY

Non ferrous substance in the composition makes it safer when non-magnetic applications are required.

ALUMINIUM BRONZE ALLOY

Minimum ferrous component makes them not 100% non-magnetic, although its low magnetism make it appropiate for non critical non-magnetic applications.

NON-SPARKING 1/2” SOCKET WRENCH SET - 27 PCS

NON-SPARKING TOOLS | **1ZONES 1, 2 (gas) & 21, 22 (dust)**

1/2” Non-sparking Socket Wrench Set (12 points), made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in hazardous areas.

The Non-sparking tools that compose this set are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

- Non-sparking tools cannot reach the hardness of conventional tools. For this reason the use of non-sparking tools has to be carried out with special care, avoiding overstraining, heating, etc.

- To avoid damage being caused to both tool and fastener, it is necessary to always ensure that the correctly sized spanner/wrench/screwdriver is selected. Due to the reduced strength and wear resistance of non-sparking Alloys selecting the correctly sized tool becomes essential to avoid premature wear and early deterioration of the tool.

- The use of non-sparking tools must not be the only preventive measure in areas which the items are designed for. Other items, clothes or present material must also be adequate for non-sparking purposes.

COPPER BERYLLIUM ALLOY

Non ferrous substance in the composition makes it safer when non-magnetic applications are required.

ALUMINIUM BRONZE ALLOY

Minimum ferrous component makes them not 100% non-magnetic, although its low magnetism make it appropiate for non critical non-magnetic applications.

MATERIALS		
Copper-Berylium Alloy		
Composition:	Be	1.8 % - 2 %
	Ni+Co	0.2 % - 1.2 %
	Otros	<0.5 %
	Resto	Cu
Hardness:	283-365 Brinell	
Tensile Strength:	1250 N/mm²	
Aluminium-Bronze Alloy		
Composition:	Al	10 % - 12 %
	Ni	4 % - 6 %
	Fe+Mn	<5.8 %
	Otros	<0.5 %
	Resto	Cu
Hardness:	229-291 Brinell	
Tensile Strength:	800 N/mm²	

MAIN APPLICATION FIELDS			
Petrochemicals	Plastic manufacturing	Breweries	Air Forces
Refineries	Pharmaceutical Industry	Alcohol processing industries	Navy
Oil Companies	Fireworks Industry	Distilleries	Weapon & ammunition fabrication
Gas & oil pipe lines	Chemical Industry	Fire-fighters	Aerospace industry
Power Stations	Paper making Industries	Mines	Automobile Industry
Paint Manufacturing	Flour silos and mills	Defence	Etc.

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NON-SPARKING 1/2” SOCKET WRENCH SET - 27 PCS

COPPER-BERYLLIUM ALLOY					
Designation:	Item No.:	Designation:	Item No.:	Weight:	Item No.:
Socket wrench 1/2” - 10mm	11A74452	Socket wrench 1/2” - 20mm	11A74462	6 kg	11A74271
Socket wrench 1/2” - 11mm	11A74453	Socket wrench 1/2” - 21mm	11A74463		
Socket wrench 1/2” - 12mm	11A74454	Socket wrench 1/2” - 22mm	11A74464		
Socket wrench 1/2” - 13mm	11A74455	Socket wrench 1/2” - 23mm	11A74465		
Socket wrench 1/2” - 14mm	11A74456	Socket wrench 1/2” - 24mm	11A74466		
Socket wrench 1/2” - 15mm	11A74457	Socket wrench 1/2” - 26mm	11A74468		
Socket wrench 1/2” - 16mm	11A74458	Socket wrench 1/2” - 27mm	11A74469		
Socket wrench 1/2” - 17mm	11A74459	Socket wrench 1/2” - 28mm	11A74470		
Socket wrench 1/2” - 18mm	11A74460	Socket wrench 1/2” - 30mm	11A74472		
Socket wrench 1/2” - 19mm	11A74461	Socket wrench 1/2” - 32mm	11A74473		
Flat bit socket 13x2 mm			11A73709		
Universal joint 80mm			11A70372		
Extension 125mm			11A76490		
Extension 250mm			11A70385		
Speeder handle 390mm			11A72416		
Sliding T handle 250mm			11A70378		
Ratchet 250mm			11A70375		
Socket wrench 1/2” - 1/4”	11A74502	Socket wrench 1/2” - 25/32”	11A74512	6 kg	11A35814
Socket wrench 1/2” - 5/16”	11A74503	Socket wrench 1/2” - 13/16”	11A74513		
Socket wrench 1/2” - 3/8”	11A74504	Socket wrench 1/2” - 7/8”	11A74514		
Socket wrench 1/2” - 7/16”	11A74505	Socket wrench 1/2” - 29/32”	11A35854		
Socket wrench 1/2” - 1/2”	11A74506	Socket wrench 1/2” - 15/16”	11A74515		
Socket wrench 1/2” - 9/16”	11A74507	Socket wrench 1/2” - 1”	11A74516		
Socket wrench 1/2” - 19/32”	11A74508	Socket wrench 1/2” - 1.1/16”	11A74517		
Socket wrench 1/2” - 5/8”	11A74509	Socket wrench 1/2” - 1.1/8”	11A74518		
Socket wrench 1/2” - 11/16”	11A74510	Socket wrench 1/2” - 1.3/16”	11A77790		
Socket wrench 1/2” - 3/4”	11A74511	Socket wrench 1/2” - 1.1/4”	11A74519		
Flat bit socket 13x2 mm			11A73709		
Universal joint 80mm			11A70372		
Extension 125mm			11A76490		
Extension 250mm			11A70385		
Speeder handle 390mm			11A72416		
Sliding T handle 250mm			11A70378		
Ratchet 250mm			11A70375		

PROPERTIES AND FEATURES	
Property:	Aplication or benefits:
Non-sparking	Appropriate for explosive potential environments.
Non-magnetic safety	Essential for equipments that require complete non-magnetic safety.
Corrosion resistant	Specially well suited for applications in corrosive environments like encountered in marine works or fire-fighting applications.
Forged after casting	Provide higher mechanical properties and better finishing.
Ergonomic designs	The use of bi-material anti-slippery handles, dipping anti-slippery handles, totally ergonomic designs make operations easier, more comfortable and master.
CAUTION: These tools are not classified as anti-static because they do conduct electricity. Do not use high copper content tools (>65%) in direct contact with acetylene due to the possible formation of explosive acetylide, specially in the presence of moisture.	

NON-SPARKING 1/2” SOCKET WRENCH SET - 27 PCS

ALUMINIUM-BRONZE ALLOY					
Designation:	Item No.:	Designation:	Item No.:	Weight:	Item No.:
Socket wrench 1/2” - 10mm	11A74479	Socket wrench 1/2” - 20mm	11A74489		
Socket wrench 1/2” - 11mm	11A74480	Socket wrench 1/2” - 21mm	11A74490		
Socket wrench 1/2” - 12mm	11A74481	Socket wrench 1/2” - 22mm	11A74491		
Socket wrench 1/2” - 13mm	11A74482	Socket wrench 1/2” - 23mm	11A74492		
Socket wrench 1/2” - 14mm	11A74483	Socket wrench 1/2” - 24mm	11A74493		
Socket wrench 1/2” - 15mm	11A74484	Socket wrench 1/2” - 26mm	11A74495		
Socket wrench 1/2” - 16mm	11A74485	Socket wrench 1/2” - 27mm	11A74496		
Socket wrench 1/2” - 17mm	11A74486	Socket wrench 1/2” - 28mm	11A74497		
Socket wrench 1/2” - 18mm	11A74487	Socket wrench 1/2” - 30mm	11A74499	6 kg	11A74272
Socket wrench 1/2” - 19mm	11A74488	Socket wrench 1/2” - 32mm	11A74500		
Flat bit socket 13x2 mm			11A73710		
Universal joint 80mm			11A71269		
Extension 125mm			11A76491		
Extension 250mm			11A71281		
Speeder handle 390mm			11A72417		
Sliding T handle 250mm			11A71274		
Ratchet 250mm			11A71272		
Socket wrench 1/2” - 1/4”	11A74520	Socket wrench 1/2” - 25/32”	11A74530		
Socket wrench 1/2” - 5/16”	11A74521	Socket wrench 1/2” - 13/16”	11A74531		
Socket wrench 1/2” - 3/8”	11A74522	Socket wrench 1/2” - 7/8”	11A74532		
Socket wrench 1/2” - 7/16”	11A74523	Socket wrench 1/2” - 29/32”	11A35855		
Socket wrench 1/2” - 1/2”	11A74524	Socket wrench 1/2” - 15/16”	11A74533		
Socket wrench 1/2” - 9/16”	11A74525	Socket wrench 1/2” - 1”	11A74534		
Socket wrench 1/2” - 19/32”	11A74526	Socket wrench 1/2” - 1.1/16”	11A74535		
Socket wrench 1/2” - 5/8”	11A74527	Socket wrench 1/2” - 1.1/8”	11A74536		
Socket wrench 1/2” - 11/16”	11A74528	Socket wrench 1/2” - 1.3/16”	11A77791	6 kg	11A35823
Socket wrench 1/2” - 3/4”	11A74529	Socket wrench 1/2” - 1.1/4”	11A74537		
Flat bit socket 13x2 mm			11A73710		
Universal joint 80mm			11A71269		
Extension 125mm			11A76491		
Extension 250mm			11A71281		
Speeder handle 390mm			11A72417		
Sliding T handle 250mm			11A71274		
Ratchet 250mm			11A71272		

DIFFERENCES AND HOW TO MAKE THE CORRECT CHOICE		
Concept:	COPPER-BERYLLIUM Cu-Be	ALUMINIUM-BRONZE Al-Bron
Hardness:	283-365 Brinell.	229-291 Brinell.
Magnetism:	Non ferrous substance in the composition makes it safer when non-magnetic applications are required.	Minimum ferrous component makes them not 100% non-magnetic, although its low magnetism make it appropiate for non critical non-magnetic applications.
Durability:	Much higher due to the higher hardness and tensile strength. Higher efforts can be made.	Not as much as Cu-Be
Price:	Higher price due to the special raw material used.	Significantly lower price.

NON-SPARKING 1/2” SOCKET WRENCH SET - 31 PCS

NON-SPARKING TOOLS | **1ZONES 1, 2 (gas) & 21, 22 (dust)**

1/2” Non-sparking Socket Wrench Set (12 points), made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in hazardous areas.

The Non-sparking tools that compose this set are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

- Non-sparking tools cannot reach the hardness of conventional tools. For this reason the use of non-sparking tools has to be carried out with special care, avoiding overstraining, heating, etc.

- To avoid damage being caused to both tool and fastener, it is necessary to always ensure that the correctly sized spanner/wrench/screwdriver is selected. Due to the reduced strength and wear resistance of non-sparking Alloys selecting the correctly sized tool becomes essential to avoid premature wear and early deterioration of the tool.

- The use of non-sparking tools must not be the only preventive measure in areas which the items are designed for. Other items, clothes or present material must also be adequate for non-sparking purposes.

MATERIALS		
Copper-Berylium Alloy		
Composition:	Be	1.8 % - 2 %
	Ni+Co	0.2 % - 1.2 %
	Otros	<0.5 %
	Resto	Cu
Hardness:	283-365 Brinell	
Tensile Strength:	1250 N/mm²	
Aluminium-Bronze Alloy		
Composition:	Al	10 % - 12 %
	Ni	4 % - 6 %
	Fe+Mn	<5.8 %
	Otros	<0.5 %
	Resto	Cu
Hardness:	229-291 Brinell	
Tensile Strength:	800 N/mm²	

PROPERTIES AND FEATURES	
Property:	Aplication or benefits:
Non-sparking	Appropriate for explosive potential environments.
Non-magnetic safety	Essential for equipments that require complete non-magnetic safety.
Corrosion resistant	Specially well suited for applications in corrosive environments like encountered in marine works or fire-fighting applications.
Forged after casting	Provide higher mechanical properties and better finishing.
Ergonomic designs	The use of bi-material anti-slippery handles, dipping anti-slippery handles, totally ergonomic designs make operations easier, more comfortable and master.
CAUTION: These tools are not classified as anti-static because they do conduct electricity. Do not use high copper content tools (>65%) in direct contact with acetylene due to the possible formation of explosive acetylide, specially in the presence of moisture.	

NON-SPARKING 1/2” SOCKET WRENCH SET - 31 PCS

COPPER-BERYLLIUM ALLOY					
Designation:	Item No.:	Designation:	Item No.:	Weight:	Item No.:
Socket wrench 1/2” - 8mm	11A74450	Socket wrench 1/2” - 19mm	11A74461		
Socket wrench 1/2” - 9mm	11A74451	Socket wrench 1/2” - 20mm	11A74462		
Socket wrench 1/2” - 10mm	11A74452	Socket wrench 1/2” - 21mm	11A74463		
Socket wrench 1/2” - 11mm	11A74453	Socket wrench 1/2” - 22mm	11A74464		
Socket wrench 1/2” - 12mm	11A74454	Socket wrench 1/2” - 23mm	11A74465		
Socket wrench 1/2” - 13mm	11A74455	Socket wrench 1/2” - 24mm	11A74466		
Socket wrench 1/2” - 14mm	11A74456	Socket wrench 1/2” - 26mm	11A74468		
Socket wrench 1/2” - 15mm	11A74457	Socket wrench 1/2” - 27mm	11A74469		
Socket wrench 1/2” - 16mm	11A74458	Socket wrench 1/2” - 28mm	11A74470		
Socket wrench 1/2” - 17mm	11A74459	Socket wrench 1/2” - 30mm	11A74472		
Socket wrench 1/2” - 18mm	11A74460	Socket wrench 1/2” - 32mm	11A74473	6,5 kg	11A74273
Spark plug socket 13/16”					
Flat bit socket 13x2 mm			11A73709		
Offset handle 230mm, 400g			11A72410		
Universal joint 80mm			11A70372		
Extension 125mm			11A76490		
Extension 250mm			11A70385		
Speeder handle 390mm			11A72416		
Sliding T handle 250mm			11A70378		
Ratchet 250mm			11A70375		
Socket wrench 1/2” - 1/4”	11A74502	Socket wrench 1/2” - 3/4”	11A74511		
Socket wrench 1/2” - 5/16”	11A74503	Socket wrench 1/2” - 25/32”	11A74512		
Socket wrench 1/2” - 11/32”	11A35850	Socket wrench 1/2” - 13/16”	11A74513		
Socket wrench 1/2” - 3/8”	11A74504	Socket wrench 1/2” - 7/8”	11A74514		
Socket wrench 1/2” - 7/16”	11A74505	Socket wrench 1/2” - 29/32”	11A35854		
Socket wrench 1/2” - 1/2”	11A74506	Socket wrench 1/2” - 15/16”	11A74515		
Socket wrench 1/2” - 9/16”	11A74507	Socket wrench 1/2” - 1”	11A74516		
Socket wrench 1/2” - 19/32”	11A74508	Socket wrench 1/2” - 1.1/16”	11A74517		
Socket wrench 1/2” - 5/8”	11A74509	Socket wrench 1/2” - 1.1/8”	11A74518		
Socket wrench 1/2” - 11/16”	11A74510	Socket wrench 1/2” - 1.3/16”	11A77790		
Socket wrench 1/2” - 23/32”	11A35852	Socket wrench 1/2” - 1.1/4”	11A74519	6,5 kg	11A35815
Spark plug socket 13/16”					
Flat bit socket 13x2 mm			11A73709		
Offset handle 230mm, 400g			11A72410		
Universal joint 80mm			11A70372		
Extension 125mm			11A76490		
Extension 250mm			11A70385		
Speeder handle 390mm			11A72416		
Sliding T handle 250mm			11A70378		
Ratchet 250mm			11A70375		

COPPER BERYLLIUM ALLOY
Non ferrous substance in the composition makes it safer when non-magnetic applications are required.

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NON-SPARKING 1/2” SOCKET WRENCH SET - 31 PCS

ALUMINIUM-BRONZE ALLOY					
Designation:	Item No.:	Designation:	Item No.:	Weight:	Item No.:
Socket wrench 1/2” - 8mm	11A74477	Socket wrench 1/2” - 19mm	11A74488	6,5 kg	11A74274
Socket wrench 1/2” - 9mm	11A74478	Socket wrench 1/2” - 20mm	11A74489		
Socket wrench 1/2” - 10mm	11A74479	Socket wrench 1/2” - 21mm	11A74490		
Socket wrench 1/2” - 11mm	11A74480	Socket wrench 1/2” - 22mm	11A74491		
Socket wrench 1/2” - 12mm	11A74481	Socket wrench 1/2” - 23mm	11A74492		
Socket wrench 1/2” - 13mm	11A74482	Socket wrench 1/2” - 24mm	11A74493		
Socket wrench 1/2” - 14mm	11A74483	Socket wrench 1/2” - 26mm	11A74495		
Socket wrench 1/2” - 15mm	11A74484	Socket wrench 1/2” - 27mm	11A74496		
Socket wrench 1/2” - 16mm	11A74485	Socket wrench 1/2” - 28mm	11A74497		
Socket wrench 1/2” - 17mm	11A74486	Socket wrench 1/2” - 30mm	11A74499		
Socket wrench 1/2” - 18mm	11A74487	Socket wrench 1/2” - 32mm	11A74500		
Spark plug socket 13/16”					
Flat bit socket 13x2 mm			11A73710		
Offset handle 230mm, 400g			11A72411		
Universal joint 80mm			11A71269		
Extension 125mm			11A76491		
Extension 250mm			11A71281		
Speeder handle 390mm			11A72417		
Sliding T handle 250mm			11A71274		
Ratchet 250mm			11A71272		
Socket wrench 1/2” - 1/4”	11A74520	Socket wrench 1/2” - 3/4”	11A74529	6,5 kg	11A35824
Socket wrench 1/2” - 5/16”	11A74521	Socket wrench 1/2” - 25/32”	11A74530		
Socket wrench 1/2” - 11/32”	11A35851	Socket wrench 1/2” - 13/16”	11A74531		
Socket wrench 1/2” - 3/8”	11A74522	Socket wrench 1/2” - 7/8”	11A74532		
Socket wrench 1/2” - 7/16”	11A74523	Socket wrench 1/2” - 29/32”	11A35855		
Socket wrench 1/2” - 1/2”	11A74524	Socket wrench 1/2” - 15/16”	11A74533		
Socket wrench 1/2” - 9/16”	11A74525	Socket wrench 1/2” - 1”	11A74534		
Socket wrench 1/2” - 19/32”	11A74526	Socket wrench 1/2” - 1.1/16”	11A74535		
Socket wrench 1/2” - 5/8”	11A74527	Socket wrench 1/2” - 1.1/8”	11A74536		
Socket wrench 1/2” - 11/16”	11A74528	Socket wrench 1/2” - 1.3/16”	11A77791		
Socket wrench 1/2” - 23/32”	11A35853	Socket wrench 1/2” - 1.1/4”	11A74537		
Spark plug socket 13/16”					
Flat bit socket 13x2 mm			11A73710		
Offset handle 230mm, 400g			11A72411		
Universal joint 80mm			11A71269		
Extension 125mm			11A76491		
Extension 250mm			11A71281		
Speeder handle 390mm			11A72417		
Sliding T handle 250mm			11A71274		
Ratchet 250mm			11A71272		

ALUMINIUM BRONZE ALLOY

Minimum ferrous component makes them not 100% non-magnetic, although its low magnetism make it appropiate for non critical non-magnetic applications.

NON-SPARKING 1/2” SOCKET WRENCH SET - 31 PCS

DIFFERENCES AND HOW TO MAKE THE CORRECT CHOICE		
Concept:	COPPER-BERYLLIUM Cu-Be	ALUMINIUM-BRONZE Al-Bron
Hardness:	283-365 Brinell.	229-291 Brinell.
Magnetism:	Non ferrous substance in the composition makes it safer when non-magnetic applications are required.	Minimum ferrous component makes them not 100% non-magnetic, although its low magnetism make it appropiate for non critical non-magnetic applications.
Durability:	Much higher due to the higher hardness and tensile strength. Higher efforts can be made.	Not as much as Cu-Be
Price:	Higher price due to the special raw material used.	Significantly lower price.

MAIN APPLICATION FIELDS			
Petrochemicals	Plastic manufacturing	Breweries	Air Forces
Refineries	Pharmaceutical Industry	Alcohol processing industries	Navy
Oil Companies	Fireworks Industry	Distilleries	Weapon & ammunition fabrication
Gas & oil pipe lines	Chemical Industry	Fire-fighters	Aerospace industry
Power Stations	Paper making Industries	Mines	Automobile Industry
Paint Manufacturing	Flour silos and mills	Defence	Etc.

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NON-SPARKING 3/4” SOCKET WRENCH SET - 14 PCS

NON-SPARKING TOOLS | 1ZONES 1, 2 (gas) & 21, 22 (dust)

3/4” Non-sparking Socket Wrench Set (12 points), made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in hazardous areas.

The Non-sparking tools that compose this set are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

- Non-sparking tools cannot reach the hardness of conventional tools. For this reason the use of non-sparking tools has to be carried out with special care, avoiding overstraining, heating, etc.

- To avoid damage being caused to both tool and fastener, it is necessary to always ensure that the correctly sized spanner/wrench/screwdriver is selected. Due to the reduced strength and wear resistance of non-sparking Alloys selecting the correctly sized tool becomes essential to avoid premature wear and early deterioration of the tool.

- The use of non-sparking tools must not be the only preventive measure in areas which the items are designed for. Other items, clothes or present material must also be adequate for non-sparking purposes.

COPPER BERYLLIUM ALLOY

Non ferrous substance in the composition makes it safer when non-magnetic applications are required.

ALUMINIUM BRONZE ALLOY

Minimum ferrous component makes them not 100% non-magnetic, although its low magnetism make it appropiate for non critical non-magnetic applications.

COPPER-BERYLLIUM ALLOY					
Designation:	Item No.:	Designation:	Item No.:	Weight:	Item No.:
Socket wrench 3/4” - 21mm	11A75740	Socket wrench 3/4” - 36mm	11A74543		
Socket wrench 3/4” - 24mm	11A74538	Socket wrench 3/4” - 38mm	11A75752		
Socket wrench 3/4” - 27mm	11A74540	Socket wrench 3/4” - 41mm	11A74544		
Socket wrench 3/4” - 30mm	11A74541	Socket wrench 3/4” - 46mm	11A74545		
Socket wrench 3/4” - 32mm	11A74542	Socket wrench 3/4” - 50mm	11A74546	8,5 kg	11A74275
Socket wrench 3/4” - 34mm	11A75750				
Extension 200mm			11A70387		
Sliding T handle 400mm					
Ratchet 320mm			11A70376		
Socket wrench 3/4” - 13/16”	11A75756	Socket wrench 3/4” - 1.7/16”	11A74558		
Socket wrench 3/4” - 15/16”	11A75760	Socket wrench 3/4” - 1.1/2”	11A74559		
Socket wrench 3/4” - 1.1/16”	11A75764	Socket wrench 3/4” - 1.5/8”	11A74561		
Socket wrench 3/4” - 1.3/16”	11A75768	Socket wrench 3/4” - 1.13/16”	11A74564		
Socket wrench 3/4” - 1.1/4”	11A75770	Socket wrench 3/4” - 2”	11A74566	8,5 kg	11A35816
Socket wrench 3/4” - 1.3/8”	11A74557				
Extension 200mm			11A70387		
Sliding T handle 400mm					
Ratchet 320mm			11A70376		

NON-SPARKING 3/4” SOCKET WRENCH SET - 14 PCS

ALUMINIUM-BRONZE ALLOY					
Designation:	Item No.:	Designation:	Item No.:	Weight:	Item No.:
Socket wrench 3/4” - 21mm	11A75741	Socket wrench 3/4” - 36mm	11A74552		
Socket wrench 3/4” - 24mm	11A74547	Socket wrench 3/4” - 38mm	11A75753		
Socket wrench 3/4” - 27mm	11A74549	Socket wrench 3/4” - 41mm	11A74553		
Socket wrench 3/4” - 30mm	11A74550	Socket wrench 3/4” - 46mm	11A74554		
Socket wrench 3/4” - 32mm	11A74551	Socket wrench 3/4” - 50mm	11A74555	8,5 kg	11A74276
Socket wrench 3/4” - 34mm	11A75751				
Extension 200mm			11A71283		
Sliding T handle 400mm					
Ratchet 320mm			11A71273		
Socket wrench 3/4” - 13/16”	11A75757	Socket wrench 3/4” - 1.7/16”	11A74569		
Socket wrench 3/4” - 15/16”	11A75761	Socket wrench 3/4” - 1.1/2”	11A74570		
Socket wrench 3/4” - 1.1/16”	11A75765	Socket wrench 3/4” - 1.5/8”	11A74572		
Socket wrench 3/4” - 1.3/16”	11A75769	Socket wrench 3/4” - 1.13/16”	11A74575		
Socket wrench 3/4” - 1.1/4”	11A75771	Socket wrench 3/4” - 2”	11A74577	8,5 kg	11A35825
Socket wrench 3/4” - 1.3/8”	11A74568				
Extension 200mm			11A71283		
Sliding T handle 400mm					
Ratchet 320mm			11A71273		

MATERIALS		
Copper-Berylium Alloy		
Composition:	Be	1.8 % - 2 %
	Ni+Co	0.2 % - 1.2 %
	Otros	<0.5 %
	Resto	Cu
Hardness:	283-365 Brinell	
Tensile Strength:	1250 N/mm²	
Aluminium-Bronze Alloy		
Composition:	Al	10 % - 12 %
	Ni	4 % - 6 %
	Fe+Mn	<5.8 %
	Otros	<0.5 %
	Resto	Cu
Hardness:	229-291 Brinell	
Tensile Strength:	800 N/mm²	

MAIN APPLICATION FIELDS			
Petrochemicals	Plastic manufacturing	Breweries	Air Forces
Refineries	Pharmaceutical Industry	Alcohol processing industries	Navy
Oil Companies	Fireworks Industry	Distilleries	Weapon & ammunition fabrication
Gas & oil pipe lines	Chemical Industry	Fire-fighters	Aerospace industry
Power Stations	Paper making Industries	Mines	Automobile Industry
Paint Manufacturing	Flour silos and mills	Defence	Etc.

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NON-SPARKING 3/4” SOCKET WRENCH SET - 14 PCS

PROPERTIES AND FEATURES	
Property:	**Aplication or benefits:**
Non-sparking	Appropriate for explosive potential environments.
Non-magnetic safety	Essential for equipments that require complete non-magnetic safety.
Corrosion resistant	Specially well suited for applications in corrosive environments like encountered in marine works or fire-fighting applications.
Forged after casting	Provide higher mechanical properties and better finishing.
Ergonomic designs	The use of bi-material anti-slippery handles, dipping anti-slippery handles, totally ergonomic designs make operations easier, more comfortable and master.
CAUTION: These tools are not classified as anti-static because they do conduct electricity. Do not use high copper content tools (>65%) in direct contact with acetylene due to the possible formation of explosive acetylide, specially in the presence of moisture.	

DIFFERENCES AND HOW TO MAKE THE CORRECT CHOICE		
Concept:	**COPPER-BERYLLIUM Cu-Be**	**ALUMINIUM-BRONZE Al-Bron**
Hardness:	283-365 Brinell.	229-291 Brinell.
Magnetism:	Non ferrous substance in the composition makes it safer when non-magnetic applications are required.	Minimum ferrous component makes them not 100% non-magnetic, although its low magnetism make it appropiate for non critical non-magnetic applications.
Durability:	Much higher due to the higher hardness and tensile strength. Higher efforts can be made.	Not as much as Cu-Be
Price:	Higher price due to the special raw material used.	Significantly lower price.

NON-SPARKING 3/4” SOCKET WRENCH SET - 20 PCS

NON-SPARKING TOOLS | **1ZONES 1, 2 (gas) & 21, 22 (dust)**

3/4” Non-sparking Socket Wrench Set (12 points), made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in hazardous areas.

The Non-sparking tools that compose this set are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

-- Non-sparking tools cannot reach the hardness of conventional tools. For this reason the use of non-sparking tools has to be carried out with special care, avoiding overstraining, heating, etc.

- To avoid damage being caused to both tool and fastener, it is necessary to always ensure that the correctly sized spanner/wrench/screwdriver is selected. Due to the reduced strength and wear resistance of non-sparking Alloys selecting the correctly sized tool becomes essential to avoid premature wear and early deterioration of the tool.

- The use of non-sparking tools must not be the only preventive measure in areas which the items are designed for. Other items, clothes or present material must also be adequate for non-sparking purposes.

COPPER BERYLLIUM ALLOY

Non ferrous substance in the composition makes it safer when non-magnetic applications are required.

COPPER-BERYLLIUM ALLOY					
Designation:	Item No.:	Designation:	Item No.:	Weight:	Item No.:
Socket wrench 3/4” - 21mm	11A75740	Socket wrench 3/4” - 30mm	11A74541		
Socket wrench 3/4” - 22mm	11A75742	Socket wrench 3/4” - 31mm	11A75748		
Socket wrench 3/4” - 23mm	11A76042	Socket wrench 3/4” - 32mm	11A74542		
Socket wrench 3/4” - 24mm	11A74538	Socket wrench 3/4” - 34mm	11A75750		
Socket wrench 3/4” - 26mm	11A74539	Socket wrench 3/4” - 38mm	11A75752		
Socket wrench 3/4” - 27mm	11A74540	Socket wrench 3/4” - 41mm	11A74544	8,5 kg	11A74277
Socket wrench 3/4” - 28mm	11A75744	Socket wrench 3/4” - 46mm	11A74545		
Socket wrench 3/4” - 29mm	11A75746	Socket wrench 3/4” - 50mm	11A74546		
Extension 200mm			11A70387		
Sliding T handle 400mm					
Ratchet 320mm			11A70376		
Socket wrench 3/4” - 3/4”	11A75754	Socket wrench 3/4” - 1.3/16”	11A75768		
LSocket wrench 3/4” - 13/16”	11A75756	Socket wrench 3/4” - 1.7/32”	11A35858		
Socket wrench 3/4” - 7/8”	11A75758	Socket wrench 3/4” - 1.1/4”	11A75770		
Socket wrench 3/4” - 15/16”	11A75760	Socket wrench 3/4” - 1.3/8”	11A74557		
Socket wrench 3/4” - 1”	11A75762	Socket wrench 3/4” - 1.1/2”	11A74559		
Socket wrench 3/4” - 1.1/16”	11A75764	Socket wrench 3/4” - 1.5/8”	11A74561	8,5 kg	11A35817
Socket wrench 3/4” - 1.1/8”	11A75766	Socket wrench 3/4” - 1.13/16”	11A74564		
Socket wrench 3/4” - 1.5/32”	11A35856	Socket wrench 3/4” - 2”	11A74566		
Extension 200mm			11A70387		
Sliding T handle 400mm					
Ratchet 320mm			11A70376		

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NON-SPARKING 3/4” SOCKET WRENCH SET - 20 PCS

ALUMINIUM BRONZE ALLOY

Minimum ferrous component makes them not 100% non-magnetic, although its low magnetism make it appropiate for non critical non-magnetic applications.

ALUMINIUM-BRONZE ALLOY					
Designation:	Item No.:	Designation:	Item No.:	Weight:	Item No.:
Socket wrench 3/4” - 21mm	11A75741	Socket wrench 3/4” - 30mm	11A74550	8,5 kg	11A74278
Socket wrench 3/4” - 22mm	11A75743	Socket wrench 3/4” - 31mm	11A75749		
Socket wrench 3/4” - 23mm	11A76043	Socket wrench 3/4” - 32mm	11A74551		
Socket wrench 3/4” - 24mm	11A74547	Socket wrench 3/4” - 34mm	11A75751		
Socket wrench 3/4” - 26mm	11A74548	Socket wrench 3/4” - 38mm	11A75753		
Socket wrench 3/4” - 27mm	11A74549	Socket wrench 3/4” - 41mm	11A74553		
Socket wrench 3/4” - 28mm	11A75745	Socket wrench 3/4” - 46mm	11A74554		
Socket wrench 3/4” - 29mm	11A75747	Socket wrench 3/4” - 50mm	11A74555		
Extension 200mm			11A71283		
Sliding T handle 400mm					
Ratchet 320mm			11A71273		
Socket wrench 3/4” - 3/4”	11A75755	Socket wrench 3/4” - 1.3/16”	11A75769	8,5 kg	11A35826
LSocket wrench 3/4” - 13/16”	11A75757	Socket wrench 3/4” - 1.7/32”	11A35859		
Socket wrench 3/4” - 7/8”	11A75759	Socket wrench 3/4” - 1.1/4”	11A75771		
Socket wrench 3/4” - 15/16”	11A75761	Socket wrench 3/4” - 1.3/8”	11A74568		
Socket wrench 3/4” - 1”	11A75763	Socket wrench 3/4” - 1.1/2”	11A74570		
Socket wrench 3/4” - 1.1/16”	11A75765	Socket wrench 3/4” - 1.5/8”	11A74572		
Socket wrench 3/4” - 1.1/8”	11A75767	Socket wrench 3/4” - 1.13/16”	11A74575		
Socket wrench 3/4” - 1.5/32”	11A35857	Socket wrench 3/4” - 2”	11A74577		
Extension 200mm			11A71283		
Sliding T handle 400mm					
Ratchet 320mm			11A71273		

MATERIALS		
Copper-Berylium Alloy		
Composition:	Be	1.8 % - 2 %
	Ni+Co	0.2 % - 1.2 %
	Otros	<0.5 %
	Resto	Cu
Hardness:	283-365 Brinell	
Tensile Strength:	1250 N/mm^2	
Aluminium-Bronze Alloy		
Composition:	Al	10 % - 12 %
	Ni	4 % - 6 %
	Fe+Mn	<5.8 %
	Otros	<0.5 %
	Resto	Cu
Hardness:	229-291 Brinell	
Tensile Strength:	800 N/mm^2	

NON-SPARKING 3/4” SOCKET WRENCH SET - 20 PCS

PROPERTIES AND FEATURES	
Property:	Aplication or benefits:
Non-sparking	Appropriate for explosive potential environments.
Non-magnetic safety	Essential for equipments that require complete non-magnetic safety.
Corrosion resistant	Specially well suited for applications in corrosive environments like encountered in marine works or fire-fighting applications.
Forged after casting	Provide higher mechanical properties and better finishing.
Ergonomic designs	The use of bi-material anti-slippery handles, dipping anti-slippery handles, totally ergonomic designs make operations easier, more comfortable and master.
CAUTION: These tools are not classified as anti-static because they do conduct electricity. Do not use high copper content tools (>65%) in direct contact with acetylene due to the possible formation of explosive acetylide, specially in the presence of moisture.	

DIFFERENCES AND HOW TO MAKE THE CORRECT CHOICE		
Concept:	COPPER-BERYLLIUM Cu-Be	ALUMINIUM-BRONZE Al-Bron
Hardness:	283-365 Brinell.	229-291 Brinell.
Magnetism:	Non ferrous substance in the composition makes it safer when non-magnetic applications are required.	Minimum ferrous component makes them not 100% non-magnetic, although its low magnetism make it appropiate for non critical non-magnetic applications.
Durability:	Much higher due to the higher hardness and tensile strength. Higher efforts can be made.	Not as much as Cu-Be
Price:	Higher price due to the special raw material used.	Significantly lower price.

MAIN APPLICATION FIELDS			
Petrochemicals	Plastic manufacturing	Breweries	Air Forces
Refineries	Pharmaceutical Industry	Alcohol processing industries	Navy
Oil Companies	Fireworks Industry	Distilleries	Weapon & ammunition fabrication
Gas & oil pipe lines	Chemical Industry	Fire-fighters	Aerospace industry
Power Stations	Paper making Industries	Mines	Automobile Industry
Paint Manufacturing	Flour silos and mills	Defence	Etc.

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NON-SPARKING 1” SOCKET WRENCH SET - 18 PCS

NON-SPARKING TOOLS | 1ZONES 1, 2 (gas) & 21, 22 (dust)

1” Non-sparking Socket Wrench Set (12 points), made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in hazardous areas.

The Non-sparking tools that compose this set are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

-- Non-sparking tools cannot reach the hardness of conventional tools. For this reason the use of non-sparking tools has to be carried out with special care, avoiding overstraining, heating, etc.

- To avoid damage being caused to both tool and fastener, it is necessary to always ensure that the correctly sized spanner/wrench/screwdriver is selected. Due to the reduced strength and wear resistance of non-sparking Alloys selecting the correctly sized tool becomes essential to avoid premature wear and early deterioration of the tool.

- The use of non-sparking tools must not be the only preventive measure in areas which the items are designed for. Other items, clothes or present material must also be adequate for non-sparking purposes.

COPPER BERYLLIUM ALLOY

Non ferrous substance in the composition makes it safer when non-magnetic applications are required.

COPPER-BERYLLIUM ALLOY					
Designation:	Item No.:	Designation:	Item No.:	Weight:	Item No.:
Socket wrench 1” - 30mm	11A75842	Socket wrench 1” - 50mm	11A74581		
Socket wrench 1” - 31mm	11A75844	Socket wrench 1” - 55mm	11A74582		
Socket wrench 1” - 32mm	11A75846	Socket wrench 1” - 60mm	11A74583		
Socket wrench 1” - 34mm	11A75848	Socket wrench 1” - 65mm	11A74584		
Socket wrench 1” - 36mm	11A75850	Socket wrench 1” - 70mm	11A74585		
Socket wrench 1” - 38mm	11A75852	Socket wrench 1” - 75mm	11A74586	8,5 kg	11A74279
Socket wrench 1” - 41mm	11A74578	Socket wrench 1” - 80mm	11A74587		
Socket wrench 1” - 46mm	11A74580				
Flexible joint 120mm			11A72396		
Extension 200mm			11A70387		
Sliding T handle 400mm					
Socket wrench 1” - 1.1/8”	11A75856	Socket wrench 1” - 2”	11A75874		
Socket wrench 1” - 1.3/16”	11A75858	Socket wrench 1” - 2.1/4”	11A75876		
Socket wrench 1” - 1.1/4”	11A75860	Socket wrench 1” - 2.3/8”	11A77844		
Socket wrench 1” - 1.3/8”	11A75864	Socket wrench 1” - 2.9/16”	11A77846		
Socket wrench 1” - 1.7/16”	11A75866	Socket wrench 1” - 2.3/4”	11A75880		
Socket wrench 1” - 1.1/2”	11A75868	Socket wrench 1” - 2.15/16”	11A77848	8,5 kg	11A35818
Socket wrench 1” - 1.5/8”	11A75870	Socket wrench 1” - 3.1/8”	11A77850		
Socket wrench 1” - 1.13/16”	11A77840				
Flexible joint 120mm			11A72396		
Extension 200mm			11A70387		
Sliding T handle 400mm					

NON-SPARKING 1” SOCKET WRENCH SET - 18 PCS

ALUMINIUM BRONZE ALLOY

Minimum ferrous component makes them not 100% non-magnetic, although its low magnetism make it appropiate for non critical non-magnetic applications.

ALUMINIUM-BRONZE ALLOY					
Designation:	Item No.:	Designation:	Item No.:	Weight:	Item No.:
Socket wrench 1” - 30mm	11A75843	Socket wrench 1” - 50mm	11A74596	8,5 kg	11A74280
Socket wrench 1” - 31mm	11A75845	Socket wrench 1” - 55mm	11A74597		
Socket wrench 1” - 32mm	11A75847	Socket wrench 1” - 60mm	11A74598		
Socket wrench 1” - 34mm	11A75849	Socket wrench 1” - 65mm	11A74599		
Socket wrench 1” - 36mm	11A75851	Socket wrench 1” - 70mm	11A74600		
Socket wrench 1” - 38mm	11A75853	Socket wrench 1” - 75mm	11A74601		
Socket wrench 1” - 41mm	11A74593	Socket wrench 1” - 80mm	11A74602		
Socket wrench 1” - 46mm	11A74595				
Flexible joint 120mm			11A72397		
Extension 200mm			11A71283		
Sliding T handle 400mm					
Socket wrench 1” - 1.1/8”	11A75857	Socket wrench 1” - 2”	11A75875	8,5 kg	11A35827
Socket wrench 1” - 1.3/16”	11A75859	Socket wrench 1” - 2.1/4”	11A75877		
Socket wrench 1” - 1.1/4”	11A75861	Socket wrench 1” - 2.3/8”	11A77845		
Socket wrench 1” - 1.3/8”	11A75865	Socket wrench 1” - 2.9/16”	11A77847		
Socket wrench 1” - 1.7/16”	11A75867	Socket wrench 1” - 2.3/4”	11A75881		
Socket wrench 1” - 1.1/2”	11A75869	Socket wrench 1” - 2.15/16”	11A77849		
Socket wrench 1” - 1.5/8”	11A75871	Socket wrench 1” - 3.1/8”	11A77851		
Socket wrench 1” - 1.13/16”	11A77841				
Flexible joint 120mm			11A72397		
Extension 200mm			11A71283		
Sliding T handle 400mm					

MATERIALS		
Copper-Berylium Alloy		
Composition:	Be	1.8 % - 2 %
	Ni+Co	0.2 % - 1.2 %
	Otros	<0.5 %
	Resto	Cu
Hardness:	283-365 Brinell	
Tensile Strength:	1250 N/mm^2	
Aluminium-Bronze Alloy		
Composition:	Al	10 % - 12 %
	Ni	4 % - 6 %
	Fe+Mn	<5.8 %
	Otros	<0.5 %
	Resto	Cu
Hardness:	229-291 Brinell	
Tensile Strength:	800 N/mm^2	

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NON-SPARKING 1" SOCKET WRENCH SET - 18 PCS

PROPERTIES AND FEATURES	
Property:	**Aplication or benefits:**
Non-sparking	Appropriate for explosive potential environments.
Non-magnetic safety	Essential for equipments that require complete non-magnetic safety.
Corrosion resistant	Specially well suited for applications in corrosive environments like encountered in marine works or fire-fighting applications.
Forged after casting	Provide higher mechanical properties and better finishing.
Ergonomic designs	The use of bi-material anti-slippery handles, dipping anti-slippery handles, totally ergonomic designs make operations easier, more comfortable and master.
CAUTION: These tools are not classified as anti-static because they do conduct electricity. Do not use high copper content tools (>65%) in direct contact with acetylene due to the possible formation of explosive acetylide, specially in the presence of moisture.	

DIFFERENCES AND HOW TO MAKE THE CORRECT CHOICE		
Concept:	**COPPER-BERYLLIUM Cu-Be**	**ALUMINIUM-BRONZE Al-Bron**
Hardness:	283-365 Brinell.	229-291 Brinell.
Magnetism:	Non ferrous substance in the composition makes it safer when non-magnetic applications are required.	Minimum ferrous component makes them not 100% non-magnetic, although its low magnetism make it appropiate for non critical non-magnetic applications.
Durability:	Much higher due to the higher hardness and tensile strength. Higher efforts can be made.	Not as much as Cu-Be
Price:	Higher price due to the special raw material used.	Significantly lower price.

MAIN APPLICATION FIELDS			
Petrochemicals	Plastic manufacturing	Breweries	Air Forces
Refineries	Pharmaceutical Industry	Alcohol processing industries	Navy
Oil Companies	Fireworks Industry	Distilleries	Weapon & ammunition fabrication
Gas & oil pipe lines	Chemical Industry	Fire-fighters	Aerospace industry
Power Stations	Paper making Industries	Mines	Automobile Industry
Paint Manufacturing	Flour silos and mills	Defence	Etc.

NON-SPARKING TOOLS

ZONES 1, 2 (gas) & 21, 22 (dust)

Non-sparking pipe tools, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking pipe tools are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

HEAVY DUTY PIPE WRENCH

Size:	Opening capacity:	Weight:	Alloy:	Item No.:
8 ”	1 ”	0,3 kg	Copper-Beryllium	11A70121
			Aluminium-Bronze	11A71458
10 ”	1.1/2 ”	0,8 kg	Copper-Beryllium	11A70122
			Aluminium-Bronze	11A71459
12 ”	2 ”	1,3 kg	Copper-Beryllium	11A70123
			Aluminium-Bronze	11A71460
14 ”	2 ”	1,7 kg	Copper-Beryllium	11A70124
			Aluminium-Bronze	11A71461
18 ”	2.1/2 ”	2,6 kg	Copper-Beryllium	11A70125
			Aluminium-Bronze	11A71462
24 ”	3 ”	4,5 kg	Copper-Beryllium	11A70126
			Aluminium-Bronze	11A71463
36 ”	5 ”	9,0 kg	Copper-Beryllium	11A70127
			Aluminium-Bronze	11A71464
48 ”	6 ”	16 kg	Copper-Beryllium	11A70128
			Aluminium-Bronze	11A71465

OFFSET PIPE WRENCH 90°

Size:	Opening capacity:	Weight:	Alloy:	Item No.:
8 ”	34 mm	0,5 kg	Copper-Beryllium	11A36305
			Aluminium-Bronze	11A36310
10 ”	48 mm	0,8 kg	Copper-Beryllium	11A36306
			Aluminium-Bronze	11A36311
12 ”	50 mm	1,1 kg	Copper-Beryllium	11A36307
			Aluminium-Bronze	11A36312
15 ”	60 mm	1,9 kg	Copper-Beryllium	11A36308
			Aluminium-Bronze	11A36313
18 ”	76 mm	2,6 kg	Copper-Beryllium	11A36309
			Aluminium-Bronze	11A36314

SWEDISH PIPE WRENCH 45°

Opening capacity:	Lenght:	Weight:	Alloy:	Item No.:
1.1/2 ”	420 mm	1,4 kg	Copper-Beryllium	11A70129
			Aluminium-Bronze	11A71466
2 ”	550 mm	2,5 kg	Copper-Beryllium	11A70130
			Aluminium-Bronze	11A71467
3 ”	700 mm	4,5 kg	Copper-Beryllium	11A79821
			Aluminium-Bronze	11A79824

SWEDISH PIPE WRENCH 90º				
	Opening capacity:	Weight:	Alloy:	Item No.:
	2 ”	2,5 kg	Copper-Beryllium	11A79825
			Aluminium-Bronze	11A79822
	3 ”	4,5 kg	Copper-Beryllium	11A79826
			Aluminium-Bronze	11A79823

SPUD PIPE WRENCH					
	Size:	Opening capacity:	Weight:	Alloy:	Item No.:
	12 ”	58 mm	1,2 kg	Cobre-Berilio	11A71822
				Aluminio-Bronce	11A71823

STRAP WRENCH					
	Size:	Opening capacity:	Weight:	Alloy:	Item No.:
	300 mm	3 ”	800 gr	Cobre-Berilio	11A73906
				Aluminio-Bronce	11A73907

CHAIN PIPE WRENCH					
	Opening capacity:	Lenght:	Weight:	Alloy:	Item No.:
	4 ”	600 mm	3,8 kg	Cobre-Berilio	11A72976
				Aluminio-Bronce	11A72977
	6 ”	600 mm	4,2 kg	Cobre-Berilio	11A72978
				Aluminio-Bronce	11A72979
	8 ”	900 mm	8,5 kg	Cobre-Berilio	11A72980
				Aluminio-Bronce	11A72981
	12 ”	900 mm	9,5 kg	Cobre-Berilio	11A72982
				Aluminio-Bronce	11A72983
	18 ”	1600 mm	17 kg	Cobre-Berilio	11A36626
				Aluminio-Bronce	11A36627

CHAIN PIPE WRENCH					
	Opening capacity:	Lenght:	Weight:	Alloy:	Item No.:
	2 ”	600 mm	2,2 kg	Cobre-Berilio	11A70131
				Aluminio-Bronce	11A71468
	4 ”	600 mm	2,8 kg	Cobre-Berilio	11A70132
				Aluminio-Bronce	11A71469
	6 ”	600 mm	3,5 kg	Cobre-Berilio	11A70133
				Aluminio-Bronce	11A71470

NON-SPARKING TOOLS

ZONES 1, 2 (gas) & 21, 22 (dust)

Non-sparking screwdrivers, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking screwdrivers are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

SLOTTED						
	Size:	Rod length:	Handle length:	Weight:	Alloy:	Item No.:
	3 mm	50 mm	80 mm	35 gr	Copper-Beryllium	11A72258
					Aluminium-Bronze	11A72279
	4,5 mm	50 mm	80 mm	43 gr	Copper-Beryllium	11A72259
					Aluminium-Bronze	11A72280
	3 mm	75 mm	80 mm	35 gr	Copper-Beryllium	11A72260
					Aluminium-Bronze	11A72281
	4 mm	75 mm	80 mm	45 gr	Copper-Beryllium	11A72261
					Aluminium-Bronze	11A72282
	5 mm	75 mm	103 mm	70 gr	Copper-Beryllium	11A72262
					Aluminium-Bronze	11A72283
	4 mm	100 mm	82 mm	45 gr	Copper-Beryllium	11A72263
					Aluminium-Bronze	11A72284
	5 mm	100 mm	103 mm	75 gr	Copper-Beryllium	11A72264
					Aluminium-Bronze	11A72285
	6 mm	100 mm	103 mm	85 gr	Copper-Beryllium	11A72265
					Aluminium-Bronze	11A72286
	6 mm	125 mm	112 mm	100 gr	Copper-Beryllium	11A72266
					Aluminium-Bronze	11A72287
	6 mm	150 mm	112 mm	110 gr	Copper-Beryllium	11A72267
					Aluminium-Bronze	11A72288
	7 mm	150 mm	112 mm	125 gr	Copper-Beryllium	11A72268
					Aluminium-Bronze	11A72289
	8 mm	150 mm	112 mm	140 gr	Copper-Beryllium	11A72269
					Aluminium-Bronze	11A72290
	8 mm	200 mm	112 mm	165 gr	Copper-Beryllium	11A72270
					Aluminium-Bronze	11A72291
	9 mm	250 mm	112 mm	185 gr	Copper-Beryllium	11A72271
					Aluminium-Bronze	11A72292
	10 mm	200 mm	112 mm	230 gr	Copper-Beryllium	11A72272
					Aluminium-Bronze	11A72293
	10 mm	300 mm	112 mm	260 gr	Copper-Beryllium	11A72273
					Aluminium-Bronze	11A72294
	11 mm	250 mm	112 mm	240 gr	Copper-Beryllium	11A72274
					Aluminium-Bronze	11A72295
	11 mm	300 mm	112 mm	290 gr	Copper-Beryllium	11A72275
					Aluminium-Bronze	11A72296
	11 mm	350 mm	112 mm	320 gr	Copper-Beryllium	11A72276
					Aluminium-Bronze	11A72297

NON-SPARKING SCREWDRIVERS

SLOTTED

	Size:	Rod length:	Handle length:	Weight:	Alloy:	Item No.:
	12 mm	400 mm	150 mm	400 gr	Copper-Beryllium	11A72277
					Aluminium-Bronze	11A72298
	13 mm	450 mm	150 mm	480 gr	Copper-Beryllium	11A72278
					Aluminium-Bronze	11A72299

ELECTRICIAN

	Size:	Rod length:	Handle length:	Weight:	Alloy:	Item No.:
	2,5 mm	50 mm	84 mm	36 gr	Copper-Beryllium	11A74756
					Aluminium-Bronze	11A74757
	3 mm	50 mm	75 mm	50 gr	Copper-Beryllium	11A71581
					Aluminium-Bronze	11A71588
	3 mm	100 mm	84 mm	50 gr	Copper-Beryllium	11A76480
					Aluminium-Bronze	11A76481
	4 mm	100 mm	75 mm	70 gr	Copper-Beryllium	11A71582
					Aluminium-Bronze	11A71589
	4 mm	150 mm	75 mm	80 gr	Copper-Beryllium	11A71583
					Aluminium-Bronze	11A71590
	5 mm	100 mm	75 mm	100 gr	Copper-Beryllium	11A72306
					Aluminium-Bronze	11A72308
	5 mm	200 mm	75 mm	200 gr	Copper-Beryllium	11A72307
					Aluminium-Bronze	11A72309
	5,5 mm	100 mm	115 mm	100 gr	Copper-Beryllium	11A74758
					Aluminium-Bronze	11A74759
	6 mm	100 mm	95 mm	100 gr	Copper-Beryllium	11A71584
					Aluminium-Bronze	11A71591
	7 mm	150 mm	115 mm	200 gr	Copper-Beryllium	11A75268
					Aluminium-Bronze	11A75269
	8 mm	150 mm	105 mm	200 gr	Copper-Beryllium	11A71585
					Aluminium-Bronze	11A71592
	10 mm	200 mm	105 mm	200 gr	Copper-Beryllium	11A71586
					Aluminium-Bronze	11A71593
	10 mm	300 mm	105 mm	300 gr	Copper-Beryllium	11A71587
					Aluminium-Bronze	11A71594

PHILLIPS

	Size:	Rod length:	Handle length:	Weight:	Alloy:	Item No.:
	PH-0	60 mm	75 mm	40 gr	Copper-Beryllium	11A72909
					Aluminium-Bronze	11A72910
	PH-1	80 mm	75 mm	50 gr	Copper-Beryllium	11A71595
					Aluminium-Bronze	11A71599
	PH-1	100 mm	105 mm	70 gr	Copper-Beryllium	11A76486
					Aluminium-Bronze	11A76487

NON-SPARKING SCREWDRIVERS

PHILLIPS

	Size:	Rod length:	Handle length:	Weight:	Alloy:	Item No.:
	PH-2	100 mm	95 mm	70 gr	Copper-Beryllium	11A71596
					Aluminium-Bronze	11A71600
	PH-2	125 mm	115 mm	100 gr	Copper-Beryllium	11A76488
					Aluminium-Bronze	11A76489
	PH-3	150 mm	95 mm	160 gr	Copper-Beryllium	11A71597
					Aluminium-Bronze	11A71601
	PH-4	200 mm	105 mm	200 gr	Copper-Beryllium	11A71598
					Aluminium-Bronze	11A71602

POZIDRIV

	Size:	Rod length:	Handle length:	Weight:	Alloy:	Item No.:
	PZ-0	50 mm	82 mm	35 gr	Copper-Beryllium	11A74336
					Aluminium-Bronze	11A74337
	PZ-1	75 mm	82 mm	40 gr	Copper-Beryllium	11A74347
					Aluminium-Bronze	11A74348
	PZ-2	100 mm	112 mm	80 gr	Copper-Beryllium	11A72247
					Aluminium-Bronze	11A72246
	PZ-3	150 mm	112 mm	135 gr	Copper-Beryllium	11A72249
					Aluminium-Bronze	11A72248
	PZ-4	200 mm	112 mm	210 gr	Copper-Beryllium	11A74365
					Aluminium-Bronze	11A74366

TORX

	Size:	Rod length:	Handle length:	Weight:	Alloy:	Item No.:
	T 10	75 mm	98 mm	67 gr	Copper-Beryllium	11A35714
					Aluminium-Bronze	11A35715
	T 15	75 mm	98 mm	71 gr	Copper-Beryllium	11A35716
					Aluminium-Bronze	11A35717
	T 20	100 mm	98 mm	98 gr	Copper-Beryllium	11A35718
					Aluminium-Bronze	11A35719
	T 25	125 mm	108 mm	103 gr	Copper-Beryllium	11A74367
					Aluminium-Bronze	11A74368
	T 27	150 mm	108 mm	108 gr	Copper-Beryllium	11A35720
					Aluminium-Bronze	11A35721
	T 30	150 mm	108 mm	108 gr	Copper-Beryllium	11A35722
					Aluminium-Bronze	11A35723
	T 40	200 mm	120 mm	160 gr	Copper-Beryllium	11A35724
					Aluminium-Bronze	11A35725
	T 45	250 mm	120 mm	180 gr	Copper-Beryllium	11A35726
					Aluminium-Bronze	11A35727

TAMPER TORX

Size:	Rod length:	Handle length:	Weight:	Alloy:	Item No.:
TT 10	75 mm	98 mm	67 gr	Copper-Beryllium	11A35700
				Aluminium-Bronze	11A35701
TT 15	75 mm	98 mm	71 gr	Copper-Beryllium	11A35702
				Aluminium-Bronze	11A35703
TT 20	100 mm	98 mm	98 gr	Copper-Beryllium	11A35704
				Aluminium-Bronze	11A35705
TT 25	125 mm	108 mm	103 gr	Copper-Beryllium	11A74349
				Aluminium-Bronze	11A74350
TT 27	150 mm	108 mm	108 gr	Copper-Beryllium	11A35706
				Aluminium-Bronze	11A35707
TT 30	150 mm	108 mm	108 gr	Copper-Beryllium	11A35708
				Aluminium-Bronze	11A35709
TT 40	200 mm	120 mm	160 gr	Copper-Beryllium	11A35710
				Aluminium-Bronze	11A35711
TT 45	250 mm	120 mm	180 gr	Copper-Beryllium	11A35712
				Aluminium-Bronze	11A35713

HEXAGONAL SOCKET

Size:	Rod length:	Handle length:	Weight:	Alloy:	Item No.:
6 mm	90 mm	100 mm	85 gr	Copper-Beryllium	11A73879
				Aluminium-Bronze	11A73880
7 mm	100 mm	110 mm	95 gr	Copper-Beryllium	11A73878
				Aluminium-Bronze	11A73891
8 mm	100 mm	110 mm	100 gr	Copper-Beryllium	11A73881
				Aluminium-Bronze	11A73882
10 mm	110 mm	110 mm	140 gr	Copper-Beryllium	11A73883
				Aluminium-Bronze	11A73884
13 mm	110 mm	120 mm	180 gr	Copper-Beryllium	11A73885
				Aluminium-Bronze	11A73886
16 mm	120 mm	120 mm	220 gr	Copper-Beryllium	11A73887
				Aluminium-Bronze	11A73888
17 mm	120 mm	120 mm	230 gr	Copper-Beryllium	11A73889
				Aluminium-Bronze	11A73890

NON-SPARKING SCREWDRIVERS

SET OF 6 SLOTTED/PHILLIPS SCREWDRIVERS

	Quantity:	Screwdrivers included:	Alloy:	Item No.:
	6	Slotted: 3x50, 4x100, 5x100, 8x150 mm Phillips: PH-1, PH-2	Copper-Beryllium	11A76465
			Aluminium-Bronze	11A76466

SET OF 6 ELECTRICIAN/PHILLIPS SCREWDRIVERS

	Quantity:	Screwdrivers included:	Alloy:	Item No.:
	6	Electrician: 3x50, 4x100, 5x100, 8x150 mm Phillips: PH-1, PH-2	Copper-Beryllium	11A76467
			Aluminium-Bronze	11A76468

SET OF 8 SLOTTED/PHILLIPS/POZIDRIV SCREWDRIVERS

	Quantity:	Screwdrivers included:	Alloy:	Item No.:
	8	Slotted: 3x50, 4x100, 5x100, 6x100 mm Phillips: PH-1, PH-2 Pozidriv: PZ-1, PZ-2	Copper-Beryllium	11A76469
			Aluminium-Bronze	11A76470

SET OF 8 ELECTRICIAN/PHILLIPS/POZIDRIV SCREWDRIVERS

	Quantity:	Screwdrivers included:	Alloy:	Item No.:
	8	Electrician: 3x50, 4x100, 5x100, 6x100 mm Phillips: PH-1, PH-2 Pozidriv: PZ-1, PZ-2	Copper-Beryllium	11A76471
			Aluminium-Bronze	11A76472

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NON-SPARKING CHISELS

NON-SPARKING TOOLS

ZONES 1, 2 (gas) & 21, 22 (dust)

Non-sparking chisels, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking chisels and rakes are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

FLAT CHISEL				
	Lenght:	Weight:	Alloy:	Item No.:
	160 x 14 mm	160 gr	Copper-Beryllium	11A76066
			Aluminium-Bronze	11A76067
	150 x 22 mm	240 gr	Copper-Beryllium	11A70447
			Aluminium-Bronze	11A71509
	200 x 22 mm	310 gr	Copper-Beryllium	11A70448
			Aluminium-Bronze	11A71510
	220 x 23 mm	430 gr	Copper-Beryllium	11A35864
			Aluminium-Bronze	11A36029
	225 x 20 mm	300 gr	Copper-Beryllium	11A79829
			Aluminium-Bronze	11A79832
	250 x 24 mm	500 gr	Copper-Beryllium	11A70449
			Aluminium-Bronze	11A71511
	300 x 24 mm	600 gr	Copper-Beryllium	11A72614
			Aluminium-Bronze	11A72622
	300 x 25 mm	700 gr	Copper-Beryllium	11A70450
			Aluminium-Bronze	11A71512
	305 x 13 mm	210 gr	Copper-Beryllium	11A79827
			Aluminium-Bronze	11A79830
	400 x 27 mm	1100 gr	Copper-Beryllium	11A70451
			Aluminium-Bronze	11A71513
	460 x 26 mm	1200 gr	Copper-Beryllium	11A79828
			Aluminium-Bronze	11A79831

CROSS CUTTING CHISEL				
	Lenght:	Weight:	Alloy:	Item No.:
	140 mm	270 gr	Copper-Beryllium	11A73778
			Aluminium-Bronze	11A73779
	200 mm	450 gr	Copper-Beryllium	11A73780
			Aluminium-Bronze	11A73781
	300 mm	800 gr	Copper-Beryllium	11A73782
			Aluminium-Bronze	11A73783

NON-SPARKING CHISELS

CYLINDRICAL COLD CHISEL					
	Lenght:	Diameter:	Weight:	Alloy:	Item No.:
	14 x 160 mm	14 mm	175 gr	Copper-Beryllium	11A73788
				Aluminium-Bronze	11A73789
	16 x 160 mm	16 mm	230 gr	Copper-Beryllium	11A73790
				Aluminium-Bronze	11A73791
	18 x 160 mm	18 mm	280 gr	Copper-Beryllium	11A73792
				Aluminium-Bronze	11A73793
	18 x 200 mm	18 mm	370 gr	Copper-Beryllium	11A73794
				Aluminium-Bronze	11A73795
	20 x 200 mm	20 mm	470 gr	Copper-Beryllium	11A73796
				Aluminium-Bronze	11A73797
	24 x 250 mm	24 mm	800 gr	Copper-Beryllium	11A73798
				Aluminium-Bronze	11A73799
	24 x 300 mm	24 mm	1000 gr	Copper-Beryllium	11A73800
				Aluminium-Bronze	11A73801
	25 x 300 mm	25 mm	1250 gr	Copper-Beryllium	11A73802
				Aluminium-Bronze	11A73803
	25 x 400 mm	25 mm	1400 gr	Copper-Beryllium	11A73804
				Aluminium-Bronze	11A73805
	25 x 500 mm	25 mm	1800 gr	Copper-Beryllium	11A73806
				Aluminium-Bronze	11A73807
	30 x 500 mm	30 mm	2650 gr	Copper-Beryllium	11A73808
				Aluminium-Bronze	11A73809

HEXAGONAL COLD CHISEL					
	Lenght:	Hexagon:	Weight:	Alloy:	Item No.:
	12 x 150 mm	10 mm	100 gr	Copper-Beryllium	11A73811
				Aluminium-Bronze	11A73812
	16 x 200 mm	14 mm	250 gr	Copper-Beryllium	11A73813
				Aluminium-Bronze	11A73814
	18 x 160 mm	16 mm	260 gr	Copper-Beryllium	11A73815
				Aluminium-Bronze	11A73816
	16 x 250 mm	14 mm	320 gr	Copper-Beryllium	11A73817
				Aluminium-Bronze	11A73818
	19 x 300 mm	17 mm	700 gr	Copper-Beryllium	11A73819
				Aluminium-Bronze	11A73820
	19 x 350 mm	17 mm	900 gr	Copper-Beryllium	11A73821
				Aluminium-Bronze	11A73822
	24 x 600 mm	22 mm	1800 gr	Copper-Beryllium	11A73823
				Aluminium-Bronze	11A73824
	28 x 300 mm	25 mm	1100 gr	Copper-Beryllium	11A73825
				Aluminium-Bronze	11A73826
	35 x 500 mm	30 mm	2700 gr	Copper-Beryllium	11A73827
				Aluminium-Bronze	11A73828

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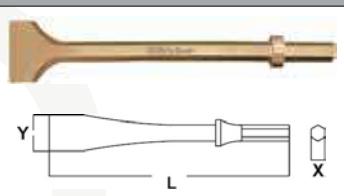
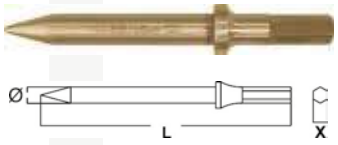
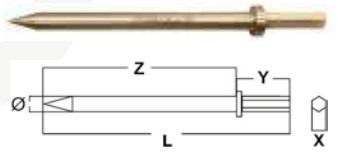
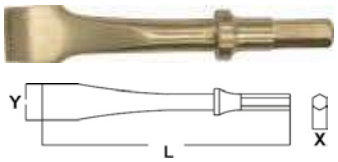
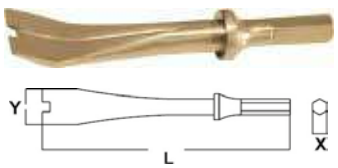
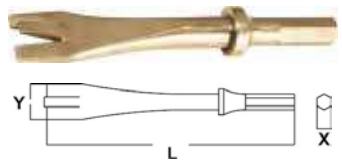
PNEUMATIC CHISEL						
	Lenght:	X:	Y:	Weight:	Alloy:	Item No.:
	440 mm	22 mm	75 mm	1700 gr	Copper-Beryllium	11A36347
					Aluminium-Bronze	11A36346

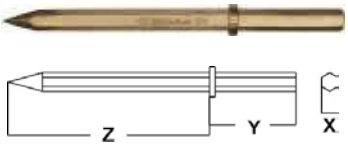
PNEUMATIC CHISEL						
	Lenght:	X:	Y:	Weight:	Alloy:	Item No.:
	125 mm	10 mm	12 mm	120 gr	Copper-Beryllium	11A72585
					Aluminium-Bronze	11A72586
	175 mm	10 mm	12 mm	170 gr	Copper-Beryllium	11A72587
					Aluminium-Bronze	11A72588

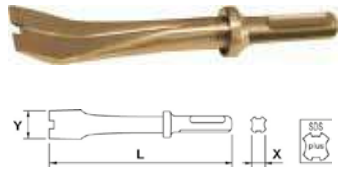
PNEUMATIC CHISEL								
	Lenght:	X:	Y:	Z:	Diameter:	Weight:	Alloy:	Item No.:
	435 mm	22 mm	85 mm	350 mm	25 mm	1700 gr	Copper-Beryllium	11A35791
							Aluminium-Bronze	11A35790

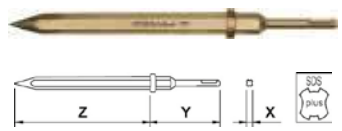
PNEUMATIC CHISEL						
	Lenght:	X:	Y:	Weight:	Alloy:	Item No.:
	125 mm	10 mm	20 mm	150 gr	Copper-Beryllium	11A72589
					Aluminium-Bronze	11A72590
	175 mm	10 mm	20 mm	190 gr	Copper-Beryllium	11A72591
					Aluminium-Bronze	11A72592
	330 mm	19 mm	25 mm	900 gr	Copper-Beryllium	11A36958
					Aluminium-Bronze	11A36959

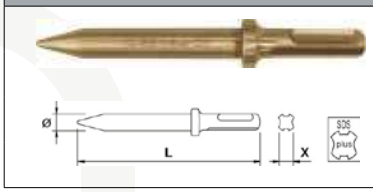
PNEUMATIC CHISEL						
	Lenght:	X:	Y:	Weight:	Alloy:	Item No.:
	125 mm	10 mm	20 mm	150 gr	Copper-Beryllium	11A72589
					Aluminium-Bronze	11A72590
	175 mm	10 mm	20 mm	190 gr	Copper-Beryllium	11A72591
					Aluminium-Bronze	11A72592

PNEUMATIC CHISEL						
	Lenght:	X:	Y:	Weight:	Alloy:	Item No.:
	125 mm	10 mm	20 mm	150 gr	Copper-Beryllium	11A72597
					Aluminium-Bronze	11A72598
	175 mm	10 mm	20 mm	190 gr	Copper-Beryllium	11A72599
					Aluminium-Bronze	11A72600

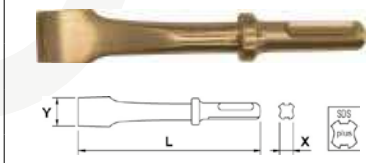
PNEUMATIC CHISEL						
	X:	Y:	Z:	Weight:	Alloy:	Item No.:
	19 mm	60 mm	270 mm	850 gr	Cobre-Berilio	11A76051
					Aluminio-Bronce	11A76052
	22 mm	80 mm	150 mm	750 gr	Cobre-Berilio	11A35801
				700 gr	Aluminio-Bronce	11A35796
	24 mm	150 mm	350 mm	1900 gr	Cobre-Berilio	11A36597
				1700 gr	Aluminio-Bronce	11A36599
	28 mm	150 mm	350 mm	3200 gr	Cobre-Berilio	11A72583
					Aluminio-Bronce	11A72584

PNEUMATIC CHISEL (SDSPlus)						
	Lenght:	X:	Y:	Weight:	Alloy:	Item No.:
	125 mm	10 mm	20 mm	150 gr	Copper-Beryllium	11A35580
					Aluminium-Bronze	11A35581
	175 mm	10 mm	20 mm	190 gr	Copper-Beryllium	11A35582
					Aluminium-Bronze	11A35583

PNEUMATIC CHISEL (SDSPlus)						
	X:	Y:	Z:	Weight:	Alloy:	Item No.:
	10 mm	150 mm	350 mm	3200 gr	Copper-Beryllium	11A35570
					Aluminium-Bronze	11A35571

PNEUMATIC CHISEL (SDSPlus)						
	Lenght:	X:	Diámetro:	Weight:	Alloy:	Item No.:
	125 mm	10 mm	12 mm	120 gr	Copper-Beryllium	11A35572
					Aluminium-Bronze	11A35573
	175 mm	10 mm	12 mm	170 gr	Copper-Beryllium	11A35574
					Aluminium-Bronze	11A35575

PNEUMATIC CHISEL (SDSPlus)						
	Lenght:	X:	Y:	Weight:	Alloy:	Item No.:
	125 mm	10 mm	20 mm	150 gr	Copper-Beryllium	11A35584
					Aluminium-Bronze	11A35585
	175 mm	10 mm	20 mm	190 gr	Copper-Beryllium	11A35586
					Aluminium-Bronze	11A35587

PNEUMATIC CHISEL (SDSPlus)						
	Lenght:	X:	Y:	Weight:	Alloy:	Item No.:
	125 mm	10 mm	20 mm	150 gr	Copper-Beryllium	11A35576
					Aluminium-Bronze	11A35577
	175 mm	10 mm	20 mm	190 gr	Copper-Beryllium	11A35578
					Aluminium-Bronze	11A35579

NON-SPARKING TOOLS

ZONES 1, 2 (gas) & 21, 22 (dust)

Non-sparking scrapers, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking scrapers are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

LONG BLADE SCRAPER

	Length:	Weight:	Alloy:	Item No.:
	60 x 185 mm	1,2 kg	Copper-Beryllium	11A71562
		1,5 kg	Aluminium-Bronze	11A71566
	100 x 225 mm	1,5 kg	Copper-Beryllium	11A71563
		2,6 kg	Aluminium-Bronze	11A71567
	150 x 180 mm	2,6 kg	Copper-Beryllium	11A71564
			Aluminium-Bronze	11A71568
	125 x 225 mm	1,7 kg	Copper-Beryllium	11A71565
			Aluminium-Bronze	11A71569

LONG BLADE SCRAPER

	Length:	Weight:	Alloy:	Item No.:
	95 x 480 mm	650 g	Copper-Beryllium	11A73759
			Aluminium-Bronze	11A73760

LONG BLADE SCRAPER

	Length:	Weight:	Alloy:	Item No.:
	50 x 900 mm	650 g	Copper-Beryllium	11A72155
			Aluminium-Bronze	11A72156

LONG BLADE SCRAPER

	Length:	Weight:	Alloy:	Item No.:
	50 x 900 mm	650 g	Copper-Beryllium	11A73744
			Aluminium-Bronze	11A73745

LONG BLADE SCRAPER

	Length:	Weight:	Alloy:	Item No.:
	50 x 695 mm	900 g	Copper-Beryllium	11A73750
			Aluminium-Bronze	11A73751
	75 x 710 mm	1100 g	Copper-Beryllium	11A73752
			Aluminium-Bronze	11A73753
	100 x 710 mm	1200 g	Copper-Beryllium	11A73754
			Aluminium-Bronze	11A73755
	150 x 750 mm	2000	Copper-Beryllium	11A73756
			Aluminium-Bronze	11A73757

LONG BLADE SCRAPER				
	Length:	Weight:	Alloy:	Item No.:
	40 x 270 mm	350 g	Copper-Beryllium	11A72167
			Aluminium-Bronze	11A72168

LONG BLADE SCRAPER				
	Length:	Weight:	Alloy:	Item No.:
	48 x 300 mm	400 g	Copper-Beryllium	11A73747
			Aluminium-Bronze	11A73749

LONG BLADE SCRAPER				
	Length:	Weight:	Alloy:	Item No.:
	75 x 600 mm	650 g	Copper-Beryllium	11A73762
			Aluminium-Bronze	11A73763

ARCHED SCRAPER				
	Length:	Weight:	Alloy:	Item No.:
	50 X 190 mm	400 g	Copper-Beryllium	11A73765
			Aluminium-Bronze	11A73766
	100 x 210 mm	650 g	Copper-Beryllium	11A73767
			Aluminium-Bronze	11A73768
	150 x 220 mm	800 g	Copper-Beryllium	11A73769
			Aluminium-Bronze	11A73770

FLAT SCRAPER				
	Length:	Weight:	Alloy:	Item No.:
	30 x 200 mm	300 g	Copper-Beryllium	11A72157
			Aluminium-Bronze	11A72162
	30 x 300 mm	425 g	Copper-Beryllium	11A72158
			Aluminium-Bronze	11A72163
	35 x 350 mm	550 g	Copper-Beryllium	11A72159
			Aluminium-Bronze	11A72164
	50 x 350 mm	900 g	Copper-Beryllium	11A72160
			Aluminium-Bronze	11A72165
	60 x 400 mm	1400 g	Copper-Beryllium	11A72161
			Aluminium-Bronze	11A72166

SCRAPER PICK AND SCALER				
	Length:	Weight:	Alloy:	Item No.:
	75 x 450 mm	1200 g	Copper-Beryllium	11A73785
			Aluminium-Bronze	11A73786

NON-SPARKING TOOLS

ZONES 1, 2 (gas) & 21, 22 (dust)

Non-sparking hammers, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking hammers are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

BALL PEIN HAMMER - FIBER HANDLE

Length:	Weight:	Alloy:	Item No.:
280 mm	200 gr	Copper-Beryllium	11A70488
		Aluminium-Bronze	11A71743
310 mm	500 gr	Copper-Beryllium	11A70489
		Aluminium-Bronze	11A71744
340 mm	700 gr	Copper-Beryllium	11A70490
		Aluminium-Bronze	11A71745
350 mm	900 gr	Copper-Beryllium	11A70491
		Aluminium-Bronze	11A71746
350 mm	1100 gr	Copper-Beryllium	11A36068
		Aluminium-Bronze	11A36069

BALL PEIN HAMMER - WOODEN HANDLE

Length:	Weight:	Alloy:	Item No.:
280 mm	200 gr	Copper-Beryllium	11A35933
		Aluminium-Bronze	11A35937
310 mm	500 gr	Copper-Beryllium	11A35934
		Aluminium-Bronze	11A35938
340 mm	700 gr	Copper-Beryllium	11A35935
		Aluminium-Bronze	11A35939
350 mm	900 gr	Copper-Beryllium	11A35936
		Aluminium-Bronze	11A35940
380 mm	1100 gr	Copper-Beryllium	11A36226
		Aluminium-Bronze	11A36231

ENGINEER'S CROSS PEIN HAMMER - FIBER HANDLE

Length:	Weight:	Alloy:	Item No.:
350 mm	500 gr	Copper-Beryllium	11A70492
		Aluminium-Bronze	11A71747
350 mm	900 gr	Copper-Beryllium	11A70493
		Aluminium-Bronze	11A71748

ENGINEER'S CROSS PEIN HAMMER - WOODEN HANDLE

Length:	Weight:	Alloy:	Item No.:
380 mm	500 gr	Copper-Beryllium	11A35941
		Aluminium-Bronze	11A35943
380 mm	900 gr	Copper-Beryllium	11A35942
		Aluminium-Bronze	11A35944

GERMAN TYPE MACHINIST'S HAMMER - FIBER HANDLE				
	Length:	Weight:	Alloy:	Item No.:
	300 mm	100 gr	Copper-Beryllium	11A70494
			Aluminium-Bronze	11A71749
	300 mm	200 gr	Copper-Beryllium	11A70495
			Aluminium-Bronze	11A71750
	300 mm	300 gr	Copper-Beryllium	11A70496
			Aluminium-Bronze	11A71751
	300 mm	500 gr	Copper-Beryllium	11A70497
			Aluminium-Bronze	11A71752
	300 mm	800 gr	Copper-Beryllium	11A70498
			Aluminium-Bronze	11A71753
	340 mm	1000 gr	Copper-Beryllium	11A70499
			Aluminium-Bronze	11A71754
	400 mm	1500 gr	Copper-Beryllium	11A70500
			Aluminium-Bronze	11A71755
	400 mm	2000 gr	Copper-Beryllium	11A70501
			Aluminium-Bronze	11A71756

GERMAN TYPE MACHINIST'S HAMMER - WOODEN HANDLE				
	Length:	Weight:	Alloy:	Item No.:
	300 mm	100 gr	Copper-Beryllium	11A35945
			Aluminium-Bronze	11A35953
	300 mm	200 gr	Copper-Beryllium	11A35946
			Aluminium-Bronze	11A35954
	300 mm	300 gr	Copper-Beryllium	11A35947
			Aluminium-Bronze	11A35955
	300 mm	500 gr	Copper-Beryllium	11A35948
			Aluminium-Bronze	11A35956
	300 mm	800 gr	Copper-Beryllium	11A35949
			Aluminium-Bronze	11A35957
	340 mm	1000 gr	Copper-Beryllium	11A35950
			Aluminium-Bronze	11A35958
	380 mm	1500 gr	Copper-Beryllium	11A35951
			Aluminium-Bronze	11A35959
	450 mm	2000 gr	Copper-Beryllium	11A35952
			Aluminium-Bronze	11A35960

SLEDGE HAMMER - FIBER HANDLE				
	Length:	Weight:	Alloy:	Item No.:
	370 mm	0,5 kg	Copper-Beryllium	11A36215
			Aluminium-Bronze	11A36028
	370 mm	1,0 kg	Copper-Beryllium	11A70502
			Aluminium-Bronze	11A71757
	370 mm	1,5 kg	Copper-Beryllium	11A70503
			Aluminium-Bronze	11A71758

SLEDGE HAMMER - FIBER HANDLE				
	Length:	Weight:	Alloy:	Item No.:
	370 mm	2,0 kg	Copper-Beryllium	11A70504
			Aluminium-Bronze	11A71759
	900 mm	2,5 kg	Copper-Beryllium	11A70505
			Aluminium-Bronze	11A71760
	900 mm	3,0 kg	Copper-Beryllium	11A70506
			Aluminium-Bronze	11A71761
	900 mm	4,5 kg	Copper-Beryllium	11A70507
			Aluminium-Bronze	11A71762
	900 mm	5,0 kg	Copper-Beryllium	11A70508
			Aluminium-Bronze	11A71763
	900 mm	6,8 kg	Copper-Beryllium	11A70509
			Aluminium-Bronze	11A71764
	900 mm	8,0 kg	Copper-Beryllium	11A70510
			Aluminium-Bronze	11A71765
	900 mm	10 kg	Copper-Beryllium	11A72213
			Aluminium-Bronze	11A72211
	900 mm	12 kg	Copper-Beryllium	11A72975
			Aluminium-Bronze	11A72974
	900 mm	15 kg	Copper-Beryllium	11A36956
			Aluminium-Bronze	11A36957

SLEDGE HAMMER - WOODEN HANDLE				
	Length:	Weight:	Alloy:	Item No.:
	370 mm	0,5 kg	Copper-Beryllium	11A36184
			Aluminium-Bronze	11A36185
	370 mm	1,0 kg	Copper-Beryllium	11A35865
			Aluminium-Bronze	11A35882
	370 mm	1,5 kg	Copper-Beryllium	11A35866
			Aluminium-Bronze	11A35883
	370 mm	2,0 kg	Copper-Beryllium	11A35867
			Aluminium-Bronze	11A35884
	900 mm	2,5 kg	Copper-Beryllium	11A35868
			Aluminium-Bronze	11A35885
	900 mm	3,0 kg	Copper-Beryllium	11A35869
			Aluminium-Bronze	11A35886
	900 mm	4,5 kg	Copper-Beryllium	11A35870
			Aluminium-Bronze	11A35887
	900 mm	5,0 kg	Copper-Beryllium	11A35871
			Aluminium-Bronze	11A35888
	900 mm	6,8 kg	Copper-Beryllium	11A35872
			Aluminium-Bronze	11A35889
	900 mm	8,0 kg	Copper-Beryllium	11A35873
			Aluminium-Bronze	11A35890
	900 mm	10 kg	Copper-Beryllium	11A35874
			Aluminium-Bronze	11A35891

SLEDGE HAMMER - WOODEN HANDLE				
	Length:	Weight:	Alloy:	Item No.:
	900 mm	12 kg	Copper-Beryllium	11A35875
			Aluminium-Bronze	11A35892
	900 mm	15 kg	Copper-Beryllium	11A36960
			Aluminium-Bronze	11A36961

SLEDGE HAMMER - FIBER HANDLE				
	Length:	Weight:	Alloy:	Item No.:
	380 mm	2,0 lb	Copper-Beryllium	11A79930
			Aluminium-Bronze	11A79931
	380 mm	3,0 lb	Copper-Beryllium	11A35762
			Aluminium-Bronze	11A35763
	840 mm	5,0 lb	Copper-Beryllium	11A35764
			Aluminium-Bronze	11A35765
	840 mm	7,5 lb	Copper-Beryllium	11A35766
			Aluminium-Bronze	11A35767
	840 mm	10 lb	Copper-Beryllium	11A35768
			Aluminium-Bronze	11A35769
	840 mm	12 lb	Copper-Beryllium	11A79932
			Aluminium-Bronze	11A79933
	840 mm	15 lb	Copper-Beryllium	11A35770
			Aluminium-Bronze	11A35771
	840 mm	18 lb	Copper-Beryllium	11A35772
			Aluminium-Bronze	11A35773

SLEDGE HAMMER - WOODEN HANDLE				
	Length:	Weight:	Alloy:	Item No.:
	380 mm	2,0 lb	Copper-Beryllium	11A36438
			Aluminium-Bronze	11A36439
	380 mm	3,0 lb	Copper-Beryllium	11A35876
			Aluminium-Bronze	11A35893
	840 mm	5,0 lb	Copper-Beryllium	11A35877
			Aluminium-Bronze	11A35894
	840 mm	7,5 lb	Copper-Beryllium	11A35878
			Aluminium-Bronze	11A35895
	840 mm	10 lb	Copper-Beryllium	11A35879
			Aluminium-Bronze	11A35896
	840 mm	12 lb	Copper-Beryllium	11A36440
			Aluminium-Bronze	11A36441
	840 mm	15 lb	Copper-Beryllium	11A35880
			Aluminium-Bronze	11A35897
	840 mm	18 lb	Copper-Beryllium	11A35881
			Aluminium-Bronze	11A35898

GERMAN TYPE SLEDGE HAMMER - FIBER HANDLE				
	Length:	Weight:	Alloy:	Item No.:
	400 mm	1,0 kg	Copper-Beryllium	11A70511
			Aluminium-Bronze	11A71766
	400 mm	1,5 kg	Copper-Beryllium	11A70512
			Aluminium-Bronze	11A71767
	400 mm	2,0 kg	Copper-Beryllium	11A70513
			Aluminium-Bronze	11A71768
	900 mm	2,5 kg	Copper-Beryllium	11A70514
			Aluminium-Bronze	11A71769
	900 mm	3,0 kg	Copper-Beryllium	11A70515
			Aluminium-Bronze	11A71770
	900 mm	3,5 kg	Copper-Beryllium	11A72098
			Aluminium-Bronze	11A72099

GERMAN TYPE SLEDGE HAMMER - WOODEN HANDLE				
	Length:	Weight:	Alloy:	Item No.:
	380 mm	1,0 kg	Copper-Beryllium	11A35899
			Aluminium-Bronze	11A35905
	380 mm	1,5 kg	Copper-Beryllium	11A35900
			Aluminium-Bronze	11A35906
	380 mm	2,0 kg	Copper-Beryllium	11A35901
			Aluminium-Bronze	11A35907
	900 mm	2,5 kg	Copper-Beryllium	11A35902
			Aluminium-Bronze	11A35908
	900 mm	3,0 kg	Copper-Beryllium	11A35903
			Aluminium-Bronze	11A35909
	900 mm	3,5 kg	Copper-Beryllium	11A35904
			Aluminium-Bronze	11A35910

CUT-OFF HAMMER - FIBER HANDLE				
	Length:	Weight:	Alloy:	Item No.:
	400 mm	1,3 kg	Copper-Beryllium	11A70516
			Aluminium-Bronze	11A71771
	400 mm	2,1 kg	Copper-Beryllium	11A70517
			Aluminium-Bronze	11A71772

CUT-OFF HAMMER - WOODEN HANDLE				
	Length:	Weight:	Alloy:	Item No.:
	380 mm	1,3 kg	Copper-Beryllium	11A35961
			Aluminium-Bronze	11A35963
	380 mm	2,1 kg	Copper-Beryllium	11A35962
			Aluminium-Bronze	11A35964

NON-SPARKING HAMMERS

CHIPPING HAMMER - FIBER HANDLE				
	Length:	Weight:	Alloy:	Item No.:
	280 mm	200 gr	Copper-Beryllium	11A70518
			Aluminium-Bronze	11A71773
	355 mm	400 gr	Copper-Beryllium	11A70519
			Aluminium-Bronze	11A71774
	355 mm	600 gr	Copper-Beryllium	11A70520
			Aluminium-Bronze	11A71775
	400 mm	900 gr	Copper-Beryllium	11A70521
			Aluminium-Bronze	11A71776

CHIPPING HAMMER - WOODEN HANDLE				
	Length:	Weight:	Alloy:	Item No.:
	280 mm	200 gr	Copper-Beryllium	11A35911
			Aluminium-Bronze	11A35915
	355 mm	400 gr	Copper-Beryllium	11A35912
			Aluminium-Bronze	11A35916
	355 mm	600 gr	Copper-Beryllium	11A35913
			Aluminium-Bronze	11A35917
	380 mm	900 gr	Copper-Beryllium	11A35914
			Aluminium-Bronze	11A35918

STONE WEDGE - FIBER HANDLE				
	Length:	Weight:	Alloy:	Item No.:
	400 mm	1,0 kg	Copper-Beryllium	11A70522
			Aluminium-Bronze	11A71777

STONE WEDGE - WOODEN HANDLE				
	Length:	Weight:	Alloy:	Item No.:
	380 mm	1,0 kg	Copper-Beryllium	11A35919
			Aluminium-Bronze	11A35920

BRICKLAYER'S HAMMER - FIBER HANDLE				
	Length:	Weight:	Alloy:	Item No.:
	340 mm	700 gr	Copper-Beryllium	11A70523
			Aluminium-Bronze	11A71778
	340 mm	800 gr	Copper-Beryllium	11A70524
			Aluminium-Bronze	11A71779

NON-SPARKING HAMMERS

BRICKLAYER'S HAMMER - WOODEN HANDLE				
	Length:	Weight:	Alloy:	Item No.:
	340 mm	700 gr	Copper-Beryllium	11A35921
			Aluminium-Bronze	11A35923
	340 mm	800 gr	Copper-Beryllium	11A35922
			Aluminium-Bronze	11A35924

CLAW HAMMER - FIBER HANDLE				
	Length:	Weight:	Alloy:	Item No.:
	325 mm	500 gr	Copper-Beryllium	11A70525
			Aluminium-Bronze	11A71780
	325 mm	700 gr	Copper-Beryllium	11A70526
			Aluminium-Bronze	11A71781

CLAW HAMMER - WOODEN HANDLE				
	Length:	Weight:	Alloy:	Item No.:
	275 mm	500 gr	Copper-Beryllium	11A35925
			Aluminium-Bronze	11A35927
	338 mm	700 gr	Copper-Beryllium	11A35926
			Aluminium-Bronze	11A35928

NYLON HAMMER - FIBER HANDLE					
	Length:	Diameter:	Weight:	Alloy:	Item No.:
	340 mm	50 mm	800 gr	Copper-Beryllium	11A70527
				Aluminium-Bronze	11A71782
	400 mm	55 mm	1000 gr	Copper-Beryllium	11A73473
				Aluminium-Bronze	11A73393

NYLON HAMMER - WOODEN HANDLE					
	Length:	Diameter:	Weight:	Alloy:	Item No.:
	340 mm	50 mm	800 gr	Copper-Beryllium	11A35929
				Aluminium-Bronze	11A35931
	380 mm	55 mm	1000 gr	Copper-Beryllium	11A35930
				Aluminium-Bronze	11A35932

TESTING HAMMER - WOODEN HANDLE				
	Length:	Weight:	Alloy:	Item No.:
	380 mm	125 gr	Copper-Beryllium	11A75211
			Aluminium-Bronze	11A75212
	380 mm	250 gr	Copper-Beryllium	11A75214
			Aluminium-Bronze	11A75213

NON-SPARKING SHOVELS AND RAKES

NON-SPARKING TOOLS

ZONES 1, 2 (gas) & 21, 22 (dust)

Non-sparking shovels and rakes, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking shovels and rakes are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

SQUARE SHOVEL

	Length:	Dimensions:	Weight:	Alloy:	Item No.:
	1350 mm	240x290 mm	1500 gr	Copper-Beryllium	11A71615
				Aluminium-Bronze	11A71616

ROUND POINT SHOVEL

	Length:	Dimensions:	Weight:	Alloy:	Item No.:
	1350 mm	240x290 mm	1500 gr	Copper-Beryllium	11A71617
				Aluminium-Bronze	11A71618

EDGING SPADE

	Length:	Dimensions:	Weight:	Alloy:	Item No.:
	1120 mm	180x280 mm	1500 gr	Copper-Beryllium	11A71619
				Aluminium-Bronze	11A71620

BRICKLAYER

	Length:	Dimensions:	Weight:	Alloy:	Item No.:
	335 mm	210x130 mm	650 gr	Copper-Beryllium	11A73772
				Aluminium-Bronze	11A73773

HOE- FIBER HANDLE

	Length:	Dimensions:	Weight:	Alloy:	Item No.:
	900 mm	130x130 mm	1000 gr	Copper-Beryllium	11A74252
				Aluminium-Bronze	11A74249
	900 mm	200x200 mm	1700 gr	Copper-Beryllium	11A36224
				Aluminium-Bronze	11A36225

HOE - WOODEN HANDLE

	Length:	Dimensions:	Weight:	Alloy:	Item No.:
	900 mm	130x130 mm	1200 gr	Copper-Beryllium	11A74253
				Aluminium-Bronze	11A74254
	900 mm	200x200 mm	1800 gr	Copper-Beryllium	11A74255
				Aluminium-Bronze	11A74256

NON-SPARKING SHOVELS AND RAKES

3 PRONG FORK					
	Length:	Dimensions:	Weight:	Alloy:	Item No.:
	1025 mm	200x185 mm	1500 gr	Copper-Beryllium	11A74231
				Aluminium-Bronze	11A74232

4 PRONG FORK - FIBER HANDLE				
	Dimensions:	Weight:	Alloy:	Item No.:
	900x200 mm	2000 gr	Copper-Beryllium	11A74246
			Aluminium-Bronze	11A74244

4 PRONG FORK - WOODEN HANDLE				
	Dimensions:	Weight:	Alloy:	Item No.:
	1225x200 mm	2000 gr	Copper-Beryllium	11A74234
			Aluminium-Bronze	11A74235

RUST CLEANING RAKE					
	Length:	Dimensions:	Weight:	Alloy:	Item No.:
	350 mm	100x100 mm	900 gr	Copper-Beryllium	11A74237
				Aluminium-Bronze	11A74238

RAKE					
	Length:	Dimensions:	Weight:	Alloy:	Item No.:
	1270 mm	350x100 mm	1300 gr	Copper-Beryllium	11A74258
				Aluminium-Bronze	11A74259
	1270 mm	450x120 mm	1500 gr	Copper-Beryllium	11A74260
				Aluminium-Bronze	11A74261

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NON-SPARKING SPECIAL WRENCHES

NON-SPARKING TOOLS

ZONES 1, 2 (gas) & 21, 22 (dust)

Non-sparking special wrenches, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres. These Non-sparking special wrenches are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

"Q" VALVE SPANNER

	Length:	Diameter:	Weight:	Alloy:	Item No.:
	370 mm	1.3/8 "	600 gr	Copper-Beryllium	11A79961
				Aluminium-Bronze	11A79960
	430 mm	1.7/8 "	950 gr	Copper-Beryllium	11A79963
				Aluminium-Bronze	11A79962
	550 mm	2.7/16 "	2700 gr	Copper-Beryllium	11A79965
				Aluminium-Bronze	11A79964

"Q" VALVE SPANNER WITH HANDLE

	Length:	Diameter:	Weight:	Alloy:	Item No.:
	215 mm	3 " - 7 "	350 gr	Copper-Beryllium	11A36950
				Aluminium-Bronze	11A36951
	400 mm	8 " - 15 "	900 gr	Copper-Beryllium	11A36952
				Aluminium-Bronze	11A36953
	550 mm	16 " - 20 "	1900 gr	Copper-Beryllium	11A36954
				Aluminium-Bronze	11A36955

C WRENCH

	Length:	Opening capacity:	Weight:	Alloy:	Item No.:
	450 mm	40 mm	1100 gr	Copper-Beryllium	11A72418
				Aluminium-Bronze	11A72419

DOUBLE C WRENCH

	Length:	Opening capacity:	Weight:	Alloy:	Item No.:
	200 mm	14,5 - 18,5 mm	380 gr	Copper-Beryllium	11A72420
				Aluminium-Bronze	11A72421

"F" TYPE VALVE WRENCH

	Length:	Opening capacity:	Weight:	Alloy:	Item No.:
	250 mm	25 mm	260 gr	Copper-Beryllium	11A36233
				Aluminium-Bronze	11A36232

CARBIDE DRUM OPENER

	Length:	Weight:	Alloy:	Item No.:
	280 mm	650 gr	Copper-Beryllium	11A72169
			Aluminium-Bronze	11A72170

VALVE WHEEL HOOK					
	Length:	Opening capacity:	Weight:	Alloy:	Item No.:
	200 mm	30 mm	250 gr	Copper-Beryllium	11A72422
				Aluminium-Bronze	11A72423
	300 mm	32 mm	500 gr	Copper-Beryllium	11A72424
				Aluminium-Bronze	11A72425
	300 mm	35 mm	350 gr	Copper-Beryllium	11A72426
				Aluminium-Bronze	11A72427
	300 mm	40 mm	450 gr	Copper-Beryllium	11A72428
				Aluminium-Bronze	11A72429
	350 mm	45 mm	550 gr	Copper-Beryllium	11A72430
				Aluminium-Bronze	11A72431
	375 mm	48 mm	600 gr	Copper-Beryllium	11A72432
				Aluminium-Bronze	11A72433
	400 mm	50 mm	650 gr	Copper-Beryllium	11A72434
				Aluminium-Bronze	11A72435
	450 mm	55 mm	900 gr	Copper-Beryllium	11A72436
				Aluminium-Bronze	11A72437
	500 mm	60 mm	1150 gr	Copper-Beryllium	11A72438
				Aluminium-Bronze	11A72439
	550 mm	65 mm	1300 gr	Copper-Beryllium	11A72440
				Aluminium-Bronze	11A72441
	600 mm	70 mm	1400 gr	Copper-Beryllium	11A72442
				Aluminium-Bronze	11A72443
	650 mm	75 mm	1600 gr	Copper-Beryllium	11A72444
				Aluminium-Bronze	11A72445
	700 mm	80 mm	1700 gr	Copper-Beryllium	11A72446
				Aluminium-Bronze	11A72447
	750 mm	85 mm	2100 gr	Copper-Beryllium	11A72448
				Aluminium-Bronze	11A72449
	800 mm	90 mm	2200 gr	Copper-Beryllium	11A72450
				Aluminium-Bronze	11A72451

LONG VALVE WRENCH					
	Length:	Diameter:	Weight:	Alloy:	Item No.:
	210 mm	3/7 ” < 36 mm	400 gr	Copper-Beryllium	11A71432
				Aluminium-Bronze	11A71435
	400 mm	8/15 ” < 48 mm	900 gr	Copper-Beryllium	11A71433
				Aluminium-Bronze	11A71436
	490 mm	16/20 ” < 60 mm	1400 gr	Copper-Beryllium	11A71434
				Aluminium-Bronze	11A71437
	800 mm	16/20 ” < 60 mm	4600 gr	Copper-Beryllium	11A71441
				Aluminium-Bronze	11A71445

BUNG WRENCH					
	Length:	Opening capacity:	Weight:	Alloy:	Item No.:
	300 mm	2-3/4 ”	800 gr	Copper-Beryllium	11A71446
				Aluminium-Bronze	11A71447

MUTI-HEAD BUNG WRENCH				
	Length:	Weight:	Alloy:	Item No.:
	385 mm	1200 gr	Copper-Beryllium	11A72452
			Aluminium-Bronze	11A72453

SPECIAL BUNG WRENCH				
	Length:	Weight:	Alloy:	Item No.:
	260 mm	850 gr	Copper-Beryllium	11A76062
			Aluminium-Bronze	11A36393

SPECIAL BUNG WRENCH				
	Length:	Weight:	Alloy:	Item No.:
	350 mm	1100 gr	Copper-Beryllium	11A79817
			Aluminium-Bronze	11A79818

DRUM OPENER				
	Length:	Weight:	Alloy:	Item No.:
	485 mm	3,0 kg	Copper-Beryllium	11A74282
			Aluminium-Bronze	11A74283

HOOK SPANNER				
	Length:	Opening capacity:	Weight:	Alloy:	Item No.:
	105 mm	12 - 14 mm	40 gr	Copper-Beryllium	11A71392
				Aluminium-Bronze	11A71409
	110 mm	16 - 20 mm	50 gr	Copper-Beryllium	11A71393
				Aluminium-Bronze	11A71410
	130 mm	25 - 28 mm	80 gr	Copper-Beryllium	11A71394
				Aluminium-Bronze	11A71411
	170 mm	30 - 32 mm	100 gr	Copper-Beryllium	11A71395
				Aluminium-Bronze	11A71412
	170 mm	34 - 36 mm	100 gr	Copper-Beryllium	11A71396
				Aluminium-Bronze	11A71413

HOOK SPANNER					
	Length:	Opening capacity:	Weight:	Alloy:	Item No.:
	170 mm	41 - 42 mm	150 gr	Copper-Beryllium	11A71397
				Aluminium-Bronze	11A71414
	200 mm	45 - 50 mm	200 gr	Copper-Beryllium	11A71398
				Aluminium-Bronze	11A71415
	200 mm	52 - 55 mm	200 gr	Copper-Beryllium	11A71399
				Aluminium-Bronze	11A71416
	230 mm	58 - 62 mm	200 gr	Copper-Beryllium	11A71400
				Aluminium-Bronze	11A71417
	250 mm	68 - 75 mm	500 gr	Copper-Beryllium	11A71401
				Aluminium-Bronze	11A71418
	280 mm	80 - 90 mm	600 gr	Copper-Beryllium	11A71402
				Aluminium-Bronze	11A71419
	300 mm	90 - 100 mm	700 gr	Copper-Beryllium	11A71403
				Aluminium-Bronze	11A71420
	330 mm	100 - 110 mm	800 gr	Copper-Beryllium	11A71405
				Aluminium-Bronze	11A71422
	330 mm	110 - 115 mm	900 gr	Copper-Beryllium	11A71406
				Aluminium-Bronze	11A71423
	340 mm	120 - 130 mm	900 gr	Copper-Beryllium	11A71407
				Aluminium-Bronze	11A71424
	350 mm	135 - 145 mm	900 gr	Copper-Beryllium	11A71408
				Aluminium-Bronze	11A71425

ADJUSTABLE HOOK SPANNER					
	Length:	Opening capacity:	Weight:	Alloy:	Item No.:
	210 mm	32 - 75 mm	200 gr	Copper-Beryllium	11A71426
				Aluminium-Bronze	11A71429
	280 mm	50 - 120 mm	200 gr	Copper-Beryllium	11A71427
				Aluminium-Bronze	11A71430
	310 mm	115 - 170 mm	500 gr	Copper-Beryllium	11A71428
				Aluminium-Bronze	11A71431

NON-SPARKING SAFETY SET - 8 PCS

NON-SPARKING TOOLS | ZONES 1, 2 (gas) & 21, 22 (dust)

8 pcs Non-sparking tool set, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres.

The Non-sparking tools that compose this set are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

- Non-sparking tools can not reach the hardness of conventional tools. For this reason, special care must be taken when using them, avoiding heavy stress and high temperatures.

- If for all wrench/screwdriver it is imperative to use the size corresponding to the nut or screw, in the case of anti-spark spanners is even more so, since if a wrench/screwdriver of a different size is used improperly, the shearing effect that would be caused, would lead to its deterioration.

- The use of anti-spark tools should not be the only preventive measure in areas where they are designed for this purpose. Other objects, such as clothing or other materials must also be suitable for anti-spark applications.

COPPER BERYLLIUM ALLOY				
Designation:	Content:	Item No.:	Weight:	Item No.:
SAFETY SET 8 PCS CU-BE	Scraper 50x200mm	11A70474	7,5 Kg.	11A74386
	Scraper 100x200mm	11A70478		
	Flat scraper 30x200mm	11A72157		
	Triangular scraper 360mm	11A73422		
	Scraper pick and scaler 75x450mm	11A73785		
	Scraper 60x185mm	11A71562		
	Arched scraper 100x210mm	11A73767		
	Brush 4x16x240mm	11A61581		
	Aluminium Tool Case with Foam 665x500x110mm	11A51054		

ALUMINIUM BRONZE ALLOY				
Designation:	Content:	Item No.:	Weight:	Item No.:
SAFETY SET 8 PCS AL-BRON	Scraper 50x200mm	11A71624	7,5 Kg.	11A74387
	Scraper 100x200mm	11A71628		
	Flat scraper 30x200mm	11A72162		
	Triangular scraper 360mm	11A73399		
	Scraper pick and scaler 75x450mm	11A73786		
	Scraper 60x185mm	11A71566		
	Arched scraper 100x210mm	11A73768		
	Brush 4x16x240mm	11A61581		
	Aluminium Tool Case with Foam 665x500x110mm	11A51054		

IMPORTANT CONSIDERATION:

The hardness and resistance that can be achieved with the materials used to manufacture non-sparking tools is significantly lower than that which can be obtained in tools made of steel. Due to these special characteristics of the material employed, non sparking tools can not be guaranteed against any deformation or breakage. Non sparking tools will be replaced under guarantee only when the hardness of the damaged tool does not reach (or exceeds) the one indicated in our catalogue: 283-365 Brinell for those made in copper-beryllium and 229-291 Brinell for those made in aluminum bronze.

NON-SPARKING SAFETY SET - 8 PCS

MATERIALS		
Copper-Beryllium Alloy		
Composition:	Be	1.8 % - 2 %
	Ni+Co	0.2 % - 1.2 %
	Other	<0.5 %
	Rest	Cu
Hardness:	283-365 Brinell	
Tensile strength:	1250 N/mm^2	
Aluminium-Bronze Alloy		
Composition:	Al	10 % - 12 %
	Ni	4 % - 6 %
	Fe+Mn	<5.8 %
	Other	<0.5 %
	Rest	Cu
Hardness:	229-291 Brinell	
Tensile strength:	800 N/mm^2	

PROPERTIES AND CHARACTERISTICS	
Property:	Application or benefit:
Non-sparking	Suitable for potentially explosive environments.
Non-magnetic safety	Essential for equipments that require complete non-magnetic safety
Corrosion resistant	Specially well suited for applications in corrosive environments like encountered in marine works or fire-fighting applications
Forged after casting	Provides higher mechanical properties and better finishing.
Ergonomic designs	The use of bi-material anti-slippery handles, dipping anti-slippery handles, totally ergonomic designs make operations easier, more comfortable and master.

CAUTION:

These tools are not classified as anti-static because they do conduct electricity. Do not use high copper content tools (>65%) in direct contact with acetylene due to the possible formation of explosive acetylide, specially in the presence of moisture.

DIFFERENCES AND CORRECT CHOICE		
Concept:	COPPER-BERILLIUM Cu-Be	ALUMINIO-BRONCE Al-Bron
Hardness:	283-365 Brinell.	229-291 Brinell.
Magnetism:	Non ferrous substance in the composition makes it safer when non-magnetic applications are required.	Minimum ferrous component makes them not 100% non-magnetic, although its low magnetism make it appropiate for non critical non-magnetic applications.
Durability:	Much higher due to the higher hardness and tensile strength. Higher efforts can be made.	Not as much as Cu-Be.
Price:	Higher price due to the special raw material used.	Around 30 % lower price.

MAIN APPLICATION FIELDS			
Petrochemicals	Plastic manufacturing	Breweries	Air Forces
Refineries	Pharmaceutical Industry	Alcohol processing industries	Navy
Oil Companies	Fireworks Industry	Distilleries	Weapon & ammunition fabrication
Gas & oil pipe lines	Chemical Industry	Fire-fighters	Aerospace industry
Power Stations	Paper making Industries	Mines	Automobile Industry
Paint Manufacturing	Flour silos and mills	Defence	Etc.

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NON-SPARKING SAFETY SET - 15 PCS

NON-SPARKING TOOLS | 1ZONES 1, 2 (gas) & 21, 22 (dust)

15 pcs Non-sparking tool set, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres.

The Non-sparking tools that compose this set are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

- Non-sparking tools can not reach the hardness of conventional tools. For this reason, special care must be taken when using them, avoiding heavy stress and high temperatures.

- If for all wrench/screwdriver it is imperative to use the size corresponding to the nut or screw, in the case of anti-spark spanners is even more so, since if a wrench/screwdriver of a different size is used improperly, the shearing effect that would be caused, would lead to its deterioration.

- The use of anti-spark tools should not be the only preventive measure in areas where they are designed for this purpose. Other objects, such as clothing or other materials must also be suitable for anti-spark applications.

COPPER BERYLLIUM ALLOY						
Designation:	Content:	Item No.:	Content:	Item No.:	Weight:	Item No.:
SAFETY SET 15 PCS CU-BE	Scraper 50mm	11A70474	Claw hammer 338mm	11A70526	11 Kg.	11A74382
	Groove joint pince 12”	11A70111	Brush 4x16x240mm	11A61581		
	Tin snips 300mm	11A72458	Knife 250mm	11A71613		
	Adjustable wrench 8”	11A70117	Long blade scraper 48x300mm	11A73747		
	Llave ajustable 12”	11A70119	Philips screwdriver PH3	11A71597		
	Multi-head bung wrench	11A72452	Electrician screwdriver 8x150mm	11A71585		
	Combination pliers 200mm	11A70102	Heavy Duty pipe wrench 14”	11A70124		
	Long nose pliers 200mm	11A70106	ABS tool case 464x335x212mm	11A50995		

ALUMINIUM BRONZE ALLOY						
Designation:	Content:	Item No.:	Content:	Item No.:	Weight:	Item No.:
SAFETY SET 15 PCS AL-BRON	Scraper 50mm	11A71624	Claw hammer 338mm	11A71781	11 Kg.	11A74383
	Groove joint pince 12”	11A70541	Brush 4x16x240mm	11A61581		
	Tin snips 300mm	11A72459	Knife 250mm	11A71614		
	Adjustable wrench 8”	11A71452	Long blade scraper 48x300mm	11A73749		
	Llave ajustable 12”	11A71454	Philips screwdriver PH3	11A71601		
	Multi-head bung wrench	11A72453	Electrician screwdriver 8x150mm	11A71592		
	Combination pliers 200mm	11A70532	Heavy Duty pipe wrench 14”	11A71461		
	Long nose pliers 200mm	11A70536	ABS tool case 464x335x212mm	11A50995		

IMPORTANT CONSIDERATION:

The hardness and resistance that can be achieved with the materials used to manufacture non-sparking tools is significantly lower than that which can be obtained in tools made of steel. Due to these special characteristics of the material employed, non sparking tools can not be guaranteed against any deformation or breakage. Non sparking tools will be replaced under guarantee only when the hardness of the damaged tool does not reach (or exceeds) the one indicated in our catalogue: 283-365 Brinell for those made in copper-beryllium and 229-291 Brinell for those made in aluminum bronze.

NON-SPARKING SAFETY SET - 15 PCS

MATERIALS		
Copper-Beryllium Alloy		
Composition:	Be	1.8 % - 2 %
	Ni+Co	0.2 % - 1.2 %
	Other	<0.5 %
	Rest	Cu
Hardness:	283-365 Brinell	
Tensile strength:	1250 N/mm^2	
Aluminium-Bronze Alloy		
Composition:	Al	10 % - 12 %
	Ni	4 % - 6 %
	Fe+Mn	<5.8 %
	Other	<0.5 %
	Rest	Cu
Hardness:	229-291 Brinell	
Tensile strength:	800 N/mm^2	

PROPERTIES AND CHARACTERISTICS	
Property:	Application or benefit:
Non-sparking	Suitable for potentially explosive environments.
Non-magnetic safety	Essential for equipments that require complete non-magnetic safety
Corrosion resistant	Specially well suited for applications in corrosive environments like encountered in marine works or fire-fighting applications
Forged after casting	Provides higher mechanical properties and better finishing.
Ergonomic designs	The use of bi-material anti-slippery handles, dipping anti-slippery handles, totally ergonomic designs make operations easier, more comfortable and master.

CAUTION:

These tools are not classified as anti-static because they do conduct electricity. Do not use high copper content tools (>65%) in direct contact with acetylene due to the possible formation of explosive acetylide, specially in the presence of moisture.

DIFFERENCES AND CORRECT CHOICE		
Concept:	COPPER-BERILLIUM Cu-Be	ALUMINIO-BRONCE Al-Bron
Hardness:	283-365 Brinell.	229-291 Brinell.
Magnetism:	Non ferrous substance in the composition makes it safer when non-magnetic applications are required.	Minimum ferrous component makes them not 100% non-magnetic, although its low magnetism make it appropiate for non critical non-magnetic applications.
Durability:	Much higher due to the higher hardness and tensile strength. Higher efforts can be made.	Not as much as Cu-Be.
Price:	Higher price due to the special raw material used.	Around 30 % lower price.

MAIN APPLICATION FIELDS			
Petrochemicals	Plastic manufacturing	Breweries	Air Forces
Refineries	Pharmaceutical Industry	Alcohol processing industries	Navy
Oil Companies	Fireworks Industry	Distilleries	Weapon & ammunition fabrication
Gas & oil pipe lines	Chemical Industry	Fire-fighters	Aerospace industry
Power Stations	Paper making Industries	Mines	Automobile Industry
Paint Manufacturing	Flour silos and mills	Defence	Etc.

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NON-SPARKING SAFETY SET - 17 PCS V1

NON-SPARKING TOOLS | ZONES 1, 2 (gas) & 21, 22 (dust)

17 pcs Non-sparking tool set, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres.

The Non-sparking tools that compose this set are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

- Non-sparking tools can not reach the hardness of conventional tools. For this reason, special care must be taken when using them, avoiding heavy stress and high temperatures.

- If for all wrench/screwdriver it is imperative to use the size corresponding to the nut or screw, in the case of anti-spark spanners is even more so, since if a wrench/screwdriver of a different size is used improperly, the shearing effect that would be caused, would lead to its deterioration.

- The use of anti-spark tools should not be the only preventive measure in areas where they are designed for this purpose. Other objects, such as clothing or other materials must also be suitable for anti-spark applications.

COPPER BERYLLIUM ALLOY						
Designation:	Content:	Item No.:	Content:	Item No.:	Weight:	Item No.:
SAFETY SET 17 PCS CU-BE	Round nose pliers 160mm	11A70104	Slotted screwdriver 6x150mm	11A72267	3,6 Kg.	11A74388
	Flat nose pliers 160mm	11A70103	Philips screwdriver PH0	11A72909		
	Diagonal cutting pliers 160mm	11A70107	Philips screwdriver PH1	11A71595		
	Combination pliers 160mm	11A70100	Ballpoint hexagonal key 3mm	11A70410		
	PNeat tips tweezers	11A70115	Ballpoint hexagonal key 4mm	11A70411		
	Wirestripper 170mm	11A73903	Ballpoint hexagonal key 5mm	11A70412		
	Adjustable wrench 6”	11A71448	Knife 250mm	11A71613		
	Slotted screwdriver 3x75mm	11A72260	Scissors 225mm	11A70529		
	Slotted screwdriver 4x100mm	11A72263	ABS tool case 464x335x142mm	11A50994		

ALUMINIUM BRONZE ALLOY						
Designation:	Content:	Item No.:	Content:	Item No.:	Weight:	Item No.:
SAFETY SET 17 PCS AL-BRON	Round nose pliers 160mm	11A70534	Slotted screwdriver 6x150mm	11A72288	3,6 Kg.	11A74389
	Flat nose pliers 160mm	11A70533	Philips screwdriver PH0	11A72910		
	Diagonal cutting pliers 160mm	11A70537	Philips screwdriver PH1	11A71599		
	Combination pliers 160mm	11A70530	Ballpoint hexagonal key 3mm	11A71354		
	PNeat tips tweezers	11A70547	Ballpoint hexagonal key 4mm	11A71355		
	Wirestripper 170mm	11A73904	Ballpoint hexagonal key 5mm	11A71356		
	Adjustable wrench 6”	11A71451	Knife 250mm	11A71614		
	Slotted screwdriver 3x75mm	11A72281	Scissors 225mm	11A70546		
	Slotted screwdriver 4x100mm	11A72284	ABS tool case 464x335x142mm	11A50994		

IMPORTANT CONSIDERATION:

The hardness and resistance that can be achieved with the materials used to manufacture non-sparking tools is significantly lower than that which can be obtained in tools made of steel. Due to these special characteristics of the material employed, non sparking tools can not be guaranteed against any deformation or breakage. Non sparking tools will be replaced under guarantee only when the hardness of the damaged tool does not reach (or exceeds) the one indicated in our catalogue: 283-365 Brinell for those made in copper-beryllium and 229-291 Brinell for those made in aluminum bronze.

NON-SPARKING SAFETY SET - 17 PCS V1

MATERIALS		
Copper-Beryllium Alloy		
Composition:	Be	1.8 % - 2 %
	Ni+Co	0.2 % - 1.2 %
	Other	<0.5 %
	Rest	Cu
Hardness:	283-365 Brinell	
Tensile strength:	1250 N/mm²	
Aluminium-Bronze Alloy		
Composition:	Al	10 % - 12 %
	Ni	4 % - 6 %
	Fe+Mn	<5.8 %
	Other	<0.5 %
	Rest	Cu
Hardness:	229-291 Brinell	
Tensile strength:	800 N/mm²	

PROPERTIES AND CHARACTERISTICS	
Property:	Application or benefit:
Non-sparking	Suitable for potentially explosive environments.
Non-magnetic safety	Essential for equipments that require complete non-magnetic safety
Corrosion resistant	Specially well suited for applications in corrosive environments like encountered in marine works or fire-fighting applications
Forged after casting	Provides higher mechanical properties and better finishing.
Ergonomic designs	The use of bi-material anti-slippery handles, dipping anti-slippery handles, totally ergonomic designs make operations easier, more comfortable and master.

CAUTION:

These tools are not classified as anti-static because they do conduct electricity. Do not use high copper content tools (>65%) in direct contact with acetylene due to the possible formation of explosive acetylide, specially in the presence of moisture.

DIFFERENCES AND CORRECT CHOICE		
Concept:	COPPER-BERILLIUM Cu-Be	ALUMINIO-BRONCE Al-Bron
Hardness:	283-365 Brinell.	229-291 Brinell.
Magnetism:	Non ferrous substance in the composition makes it safer when non-magnetic applications are required.	Minimum ferrous component makes them not 100% non-magnetic, although its low magnetism make it appropiate for non critical non-magnetic applications.
Durability:	Much higher due to the higher hardness and tensile strength. Higher efforts can be made.	Not as much as Cu-Be.
Price:	Higher price due to the special raw material used.	Around 30 % lower price.

MAIN APPLICATION FIELDS			
Petrochemicals	Plastic manufacturing	Breweries	Air Forces
Refineries	Pharmaceutical Industry	Alcohol processing industries	Navy
Oil Companies	Fireworks Industry	Distilleries	Weapon & ammunition fabrication
Gas & oil pipe lines	Chemical Industry	Fire-fighters	Aerospace industry
Power Stations	Paper making Industries	Mines	Automobile Industry
Paint Manufacturing	Flour silos and mills	Defence	Etc.

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NON-SPARKING SAFETY SET - 17 PCS V2

NON-SPARKING TOOLS | ZONES 1, 2 (gas) & 21, 22 (dust)

17 pcs Non-sparking tool set, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres.

The Non-sparking tools that compose this set are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

- Non-sparking tools can not reach the hardness of conventional tools. For this reason, special care must be taken when using them, avoiding heavy stress and high temperatures.

- If for all wrench/screwdriver it is imperative to use the size corresponding to the nut or screw, in the case of anti-spark spanners is even more so, since if a wrench/screwdriver of a different size is used improperly, the shearing effect that would be caused, would lead to its deterioration.

- The use of anti-spark tools should not be the only preventive measure in areas where they are designed for this purpose. Other objects, such as clothing or other materials must also be suitable for anti-spark applications.

COPPER BERYLLIUM ALLOY						
Designation:	Content:	Item No.:	Content:	Item No.:	Weight:	Item No.:
SAFETY SET 17 PCS CU-BE	Wrecking bar 19x900mm	11A71576	Arched scraper 100x210mm	11A73767	23 Kg.	11A74390
	Adjustable wrench 10”	11A70118	Slotted screwdriver 10x200mm	11A72272		
	Adjustable wrench 12”	11A70119	Slotted screwdriver 10x300mm	11A72273		
	Adjustable wrench 15”	11A70120	Hexagonal cold chisel 18x160mm	11A73815		
	Ball pein hammer 310mm	11A70489	Cylindrical cold chisel 24x250mm	11A73798		
	Ball pein hammer 350mm	11A70491	Heavy Duty pipe wrench 8”	11A70121		
	Chipping hammer 355mm	11A70519	Heavy Duty pipe wrench 10”	11A70122		
	Sledge hammer 900mm	11A70505	Heavy Duty pipe wrench 14”	11A70124		
	Long blade scraper 48x300mm	11A73747	Aluminium Tool Case with Foam 1350x356x114mm	11A51055		

ALUMINIUM BRONZE ALLOY						
Designation:	Content:	Item No.:	Content:	Item No.:	Weight:	Item No.:
SAFETY SET 17 PCS AL-BRON	Wrecking bar 19x900mm	11A71577	Arched scraper 100x210mm	11A73768	23 Kg.	11A74391
	Adjustable wrench 10”	11A71453	Slotted screwdriver 10x200mm	11A72293		
	Adjustable wrench 12”	11A71454	Slotted screwdriver 10x300mm	11A72294		
	Adjustable wrench 15”	11A71455	Hexagonal cold chisel 18x160mm	11A73816		
	Ball pein hammer 310mm	11A71744	Cylindrical cold chisel 24x250mm	11A73799		
	Ball pein hammer 350mm	11A71746	Heavy Duty pipe wrench 8”	11A71458		
	Chipping hammer 355mm	11A71774	Heavy Duty pipe wrench 10”	11A71459		
	Sledge hammer 900mm	11A71760	Heavy Duty pipe wrench 14”	11A71461		
	Long blade scraper 48x300mm	11A73749	Aluminium Tool Case with Foam 1350x356x114mm	11A51055		

IMPORTANT CONSIDERATION:

The hardness and resistance that can be achieved with the materials used to manufacture non-sparking tools is significantly lower than that which can be obtained in tools made of steel. Due to these special characteristics of the material employed, non sparking tools can not be guaranteed against any deformation or breakage. Non sparking tools will be replaced under guarantee only when the hardness of the damaged tool does not reach (or exceeds) the one indicated in our catalogue: 283-365 Brinell for those made in copper-beryllium and 229-291 Brinell for those made in aluminum bronze.

NON-SPARKING SAFETY SET - 17 PCS V2

MATERIALS		
Copper-Beryllium Alloy		
Composition:	Be	1.8 % - 2 %
	Ni+Co	0.2 % - 1.2 %
	Other	<0.5 %
	Rest	Cu
Hardness:	283-365 Brinell	
Tensile strength:	1250 N/mm²	
Aluminium-Bronze Alloy		
Composition:	Al	10 % - 12 %
	Ni	4 % - 6 %
	Fe+Mn	<5.8 %
	Other	<0.5 %
	Rest	Cu
Hardness:	229-291 Brinell	
Tensile strength:	800 N/mm²	

PROPERTIES AND CHARACTERISTICS	
Property:	Application or benefit:
Non-sparking	Suitable for potentially explosive environments.
Non-magnetic safety	Essential for equipments that require complete non-magnetic safety
Corrosion resistant	Specially well suited for applications in corrosive environments like encountered in marine works or fire-fighting applications
Forged after casting	Provides higher mechanical properties and better finishing.
Ergonomic designs	The use of bi-material anti-slippery handles, dipping anti-slippery handles, totally ergonomic designs make operations easier, more comfortable and master.

CAUTION:

These tools are not classified as anti-static because they do conduct electricity. Do not use high copper content tools (>65%) in direct contact with acetylene due to the possible formation of explosive acetylide, specially in the presence of moisture.

DIFFERENCES AND CORRECT CHOICE		
Concept:	COPPER-BERILLIUM Cu-Be	ALUMINIO-BRONCE Al-Bron
Hardness:	283-365 Brinell.	229-291 Brinell.
Magnetism:	Non ferrous substance in the composition makes it safer when non-magnetic applications are required.	Minimum ferrous component makes them not 100% non-magnetic, although its low magnetism make it appropiate for non critical non-magnetic applications.
Durability:	Much higher due to the higher hardness and tensile strength. Higher efforts can be made.	Not as much as Cu-Be.
Price:	Higher price due to the special raw material used.	Around 30 % lower price.

MAIN APPLICATION FIELDS			
Petrochemicals	Plastic manufacturing	Breweries	Air Forces
Refineries	Pharmaceutical Industry	Alcohol processing industries	Navy
Oil Companies	Fireworks Industry	Distilleries	Weapon & ammunition fabrication
Gas & oil pipe lines	Chemical Industry	Fire-fighters	Aerospace industry
Power Stations	Paper making Industries	Mines	Automobile Industry
Paint Manufacturing	Flour silos and mills	Defence	Etc.

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NON-SPARKING SAFETY SET - 20 PCS

NON-SPARKING TOOLS | ZONES 1, 2 (gas) & 21, 22 (dust)

20 pcs Non-sparking tool set, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres.

The Non-sparking tools that compose this set are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

- Non-sparking tools can not reach the hardness of conventional tools. For this reason, special care must be taken when using them, avoiding heavy stress and high temperatures.

- If for all wrench/screwdriver it is imperative to use the size corresponding to the nut or screw, in the case of anti-spark spanners is even more so, since if a wrench/screwdriver of a different size is used improperly, the shearing effect that would be caused, would lead to its deterioration.

- The use of anti-spark tools should not be the only preventive measure in areas where they are designed for this purpose. Other objects, such as clothing or other materials must also be suitable for anti-spark applications.

COPPER BERYLLIUM ALLOY						
Designation:	Content:	Item No.:	Content:	Item No.:	Weight:	Item No.:
SAFETY SET 20 PCS CU-BE	Heavy Duty pipe wrench 14”	11A70124	Adjustable wrench 10”	11A70118	8 Kg.	11A74380
	Combination wrench 10mm	11A70174	Combination pliers 200mm	11A70102		
	Combination wrench 11mm	11A70175	Long nose pliers 200mm	11A70106		
	Combination wrench 12mm	11A70176	Claw hammer 338mm	11A70526		
	Combination wrench 13mm	11A70177	Brush 4x16x2540mm	11A61581		
	Combination wrench 14mm	11A70178	Long blade scraper 48x300mm	11A73747		
	Combination wrench 17mm	11A70181	Scraper 30mm	11A70472		
	Combination wrench 19mm	11A70183	Knife 250mm	11A71613		
	Combination wrench 22mm	11A70186	Groove joint 10”	11A70110		
	Philips screwdriver PH2	11A71596	ABS tool case 464x335x142mm	11A50994		
	Electrician screwdriver 8x150mm	11A71585				

ALUMINIUM BRONZE ALLOY						
Designation:	Content:	Item No.:	Content:	Item No.:	Weight:	Item No.:
SAFETY SET 20 PCS AL-BRON	Heavy Duty pipe wrench 14”	11A71461	Adjustable wrench 10”	11A71453	8 Kg.	11A74381
	Combination wrench 10mm	11A70686	Combination pliers 200mm	11A70532		
	Combination wrench 11mm	11A70687	Long nose pliers 200mm	11A70536		
	Combination wrench 12mm	11A70688	Claw hammer 338mm	11A71781		
	Combination wrench 13mm	11A70689	Brush 4x16x2540mm	11A61581		
	Combination wrench 14mm	11A70690	Long blade scraper 48x300mm	11A73749		
	Combination wrench 17mm	11A70693	Scraper 30mm	11A71622		
	Combination wrench 19mm	11A70695	Knife 250mm	11A71614		
	Combination wrench 22mm	11A70698	Groove joint 10”	11A70540		
	Philips screwdriver PH2	11A71600	ABS tool case 464x335x142mm	11A50994		
	Electrician screwdriver 8x150mm	11A71592				

IMPORTANT CONSIDERATION:

The hardness and resistance that can be achieved with the materials used to manufacture non-sparking tools is significantly lower than that which can be obtained in tools made of steel. Due to these special characteristics of the material employed, non sparking tools can not be guaranteed against any deformation or breakage. Non sparking tools will be replaced under guarantee only when the hardness of the damaged tool does not reach (or exceeds) the one indicated in our catalogue: 283-365 Brinell for those made in copper-beryllium and 229-291 Brinell for those made in aluminum bronze.

NON-SPARKING SAFETY SET - 20 PCS

MATERIALS		
Copper-Beryllium Alloy		
Composition:	Be	1.8 % - 2 %
	Ni+Co	0.2 % - 1.2 %
	Other	<0.5 %
	Rest	Cu
Hardness:	283-365 Brinell	
Tensile strength:	1250 N/mm^2	
Aluminium-Bronze Alloy		
Composition:	Al	10 % - 12 %
	Ni	4 % - 6 %
	Fe+Mn	<5.8 %
	Other	<0.5 %
	Rest	Cu
Hardness:	229-291 Brinell	
Tensile strength:	800 N/mm^2	

PROPERTIES AND CHARACTERISTICS	
Property:	Application or benefit:
Non-sparking	Suitable for potentially explosive environments.
Non-magnetic safety	Essential for equipments that require complete non-magnetic safety
Corrosion resistant	Specially well suited for applications in corrosive environments like encountered in marine works or fire-fighting applications
Forged after casting	Provides higher mechanical properties and better finishing.
Ergonomic designs	The use of bi-material anti-slippery handles, dipping anti-slippery handles, totally ergonomic designs make operations easier, more comfortable and master.

CAUTION:

These tools are not classified as anti-static because they do conduct electricity. Do not use high copper content tools (>65%) in direct contact with acetylene due to the possible formation of explosive acetylide, specially in the presence of moisture.

DIFFERENCES AND CORRECT CHOICE		
Concept:	COPPER-BERILLIUM Cu-Be	ALUMINIO-BRONCE Al-Bron
Hardness:	283-365 Brinell.	229-291 Brinell.
Magnetism:	Non ferrous substance in the composition makes it safer when non-magnetic applications are required.	Minimum ferrous component makes them not 100% non-magnetic, although its low magnetism make it appropiate for non critical non-magnetic applications.
Durability:	Much higher due to the higher hardness and tensile strength. Higher efforts can be made.	Not as much as Cu-Be.
Price:	Higher price due to the special raw material used.	Around 30 % lower price.

MAIN APPLICATION FIELDS			
Petrochemicals	Plastic manufacturing	Breweries	Air Forces
Refineries	Pharmaceutical Industry	Alcohol processing industries	Navy
Oil Companies	Fireworks Industry	Distilleries	Weapon & ammunition fabrication
Gas & oil pipe lines	Chemical Industry	Fire-fighters	Aerospace industry
Power Stations	Paper making Industries	Mines	Automobile Industry
Paint Manufacturing	Flour silos and mills	Defence	Etc.

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NON-SPARKING SAFETY SET - 37 PCS

NON-SPARKING TOOLS | ZONES 1, 2 (gas) & 21, 22 (dust)

37 pcs Non-sparking tool set, made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in potentially explosive atmospheres.

The Non-sparking tools that compose this set are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).

- Non-sparking tools can not reach the hardness of conventional tools. For this reason, special care must be taken when using them, avoiding heavy stress and high temperatures.

- If for all wrench/screwdriver it is imperative to use the size corresponding to the nut or screw, in the case of anti-spark spanners is even more so, since if a wrench/screwdriver of a different size is used improperly, the shearing effect that would be caused, would lead to its deterioration.

- The use of anti-spark tools should not be the only preventive measure in areas where they are designed for this purpose. Other objects, such as clothing or other materials must also be suitable for anti-spark applications.

COPPER BERYLLIUM ALLOY

Non ferrous substance in the composition makes it safer when non-magnetic applications are required.

ALUMINIUM BRONZE ALLOY

Minimum ferrous component makes them not 100% non-magnetic, although its low magnetism make it appropiate for non critical non-magnetic applications.

BERYLLIUM COPPER ALLOY						
Designation:	Content:	Item No.:	Content:	Item No.:	Weight:	Item No.:
SAFETY SET 37 PCS CU-BE	Combination wrench 10mm	11A70174	Hexagonal key 8mm	11A70397	13 Kg.	11A74384
	Combination wrench 11mm	11A70175	Hexagonal key 10mm	11A70399		
	Combination wrench 12mm	11A70176	Combination pliers 200mm	11A70102		
	Combination wrench 13mm	11A70177	Diagonal cutting pliers 160mm	11A70107		
	Combination wrench 14mm	11A70178	Swedish pipe wrench 45° 1.1/2"	11A70129		
	Combination wrench 15mm	11A70179	Adjustable wrench 10"	11A70118		
	Combination wrench 17mm	11A70181	Adjustable wrench 12"	11A70119		
	Combination wrench 19mm	11A70183	German type hammer 310mm	11A70497		
	Combination wrench 22mm	11A70186	Stoning hammer 2 Kg	11A70513		
	Combination wrench 24mm	11A70188	Electrician screwdriver 5x100mm	11A72306		
	Groove joint 10"	11A70110	Electrician screwdriver 8x150mm	11A71585		
	Knife 250mm	11A71613	Philips screwdriver PH1	11A71595		
	Scraper 50mm	11A70474	Philips screwdriver PH3	11A71597		
	Brush 4x16x240mm	11A61581	Cylindrical cold chisel 20x200mm	11A73796		
	Hexagonal key 2mm	11A70391	Cross cutting chisel 200mm	11A73780		
	Hexagonal key 3mm	11A70392	Taper punch 5, 150x10mm	11A70429		
	Hexagonal key 4mm	11A70393	Taper punch 10, 150x14mm	11A70434		
	Hexagonal key 5mm	11A70394	Scissors 225mm	11A70529		
	Hexagonal key 6mm	11A70395	ABS tool case 464x335x212mm	11A50995		

NON-SPARKING SAFETY SET - 37 PCS

ALUMINIUM BRONZE ALLOY						
Designation:	Content:	Item No.:	Content:	Item No.:	Weight:	Item No.:
SAFETY SET 37 PCS AL-BRON	Combination wrench 10mm	11A70686	Hexagonal key 8mm	11A71293	13 Kg.	11A74385
	Combination wrench 11mm	11A70687	Hexagonal key 10mm	11A71295		
	Combination wrench 12mm	11A70688	Combination pliers 200mm	11A70532		
	Combination wrench 13mm	11A70689	Diagonal cutting pliers 160mm	11A70537		
	Combination wrench 14mm	11A70690	Swedish pipe wrench 45° 1.1/2"	11A71466		
	Combination wrench 15mm	11A70691	Adjustable wrench 10"	11A71453		
	Combination wrench 17mm	11A70693	Adjustable wrench 12"	11A71454		
	Combination wrench 19mm	11A70695	German type hammer 310mm	11A71752		
	Combination wrench 22mm	11A70698	Stoning hammer 2 Kg	11A71768		
	Combination wrench 24mm	11A70700	Electrician screwdriver 5x100	11A72308		
	Groove joint 10"	11A70540	Electrician screwdriver 8x150	11A71592		
	Knife 250mm	11A71614	Philips screwdriver PH1	11A71599		
	Scraper 50mm	11A71624	Philips screwdriver PH3	11A71601		
	Brush 4x16x240mm	11A61581	Cylindrical cold chisel 20x200	11A73797		
	Hexagonal key 2mm	11A71287	Cross cutting chisel 200mm	11A73781		
	Hexagonal key 3mm	11A71288	Taper punch 5, 150x10	11A71475		
	Hexagonal key 4mm	11A71289	Taper punch 10, 150x14	11A71480		
	Hexagonal key 5mm	11A71290	Scissors 225mm	11A70546		
	Hexagonal key 6mm	11A71291	ABS tool case 464x335x212mm	11A50995		

Non-Sparking Tools cannot reach the hardness of conventiona tools. For this reason, the use of Non-Sparking Tools has to be carried out with special care, avoiding overstraining, heating, etc.

To avoid damage being caused to both tool and fastener, it is necessary to always ensure that the correctly sized spanner/wrench/screwdriver is selected. Due to the reduced strength and wear resistance of Non-Sparking alloys selecting the correctly sized tools becomes essential to avoid premature wear and early deterioration of the tool.

Non-Sparking Tools must not be the only preventive measure in areas which the items are designed for. Other items, clothes or present material must also be adecuate for non-sparking purposes.

NON-SPARKING SAFETY SET - 37 PCS

MATERIALS		
Copper-Beryllium Alloy		
Composition:	Be	1.8 % - 2 %
	Ni+Co	0.2 % - 1.2 %
	Other	<0.5 %
	Rest	Cu
Hardness:	283-365 Brinell	
Tensile strength:	1250 N/mm^2	
Aluminium-Bronze Alloy		
Composition:	Al	10 % - 12 %
	Ni	4 % - 6 %
	Fe+Mn	<5.8 %
	Other	<0.5 %
	Rest	Cu
Hardness:	229-291 Brinell	
Tensile strength:	800 N/mm^2	

PROPERTIES AND CHARACTERISTICS	
Property:	Application or benefit:
Non-sparking	Suitable for potentially explosive environments.
Non-magnetic safety	Essential for equipments that require complete non-magnetic safety
Corrosion resistant	Specially well suited for applications in corrosive environments like encountered in marine works or fire-fighting applications
Forged after casting	Provides higher mechanical properties and better finishing.
Ergonomic designs	The use of bi-material anti-slippery handles, dipping anti-slippery handles, totally ergonomic designs make operations easier, more comfortable and master.
CAUTION: These tools are not classified as anti-static because they do conduct electricity. Do not use high copper content tools (>65%) in direct contact with acetylene due to the possible formation of explosive acetylide, specially in the presence of moisture.	

DIFFERENCES AND CORRECT CHOICE		
Concept:	COPPER-BERILLIUM Cu-Be	ALUMINIO-BRONCE Al-Bron
Hardness:	283-365 Brinell.	229-291 Brinell.
Magnetism:	Non ferrous substance in the composition makes it safer when non-magnetic applications are required.	Minimum ferrous component makes them not 100% non-magnetic, although its low magnetism make it appropiate for non critical non-magnetic applications.
Durability:	Much higher due to the higher hardness and tensile strength. Higher efforts can be made.	Not as much as Cu-Be.
Price:	Higher price due to the special raw material used.	Around 30 % lower price.

MAIN APPLICATION FIELDS			
Petrochemicals	Plastic manufacturing	Breweries	Air Forces
Refineries	Pharmaceutical Industry	Alcohol processing industries	Navy
Oil Companies	Fireworks Industry	Distilleries	Weapon & ammunition fabrication
Gas & oil pipe lines	Chemical Industry	Fire-fighters	Aerospace industry
Power Stations	Paper making Industries	Mines	Automobile Industry
Paint Manufacturing	Flour silos and mills	Defence	Etc.

NOTES

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