

LDG-AAA-FCA-OF LASER DISTANCE SENSOR

Zones 1, 2, 21, 22

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

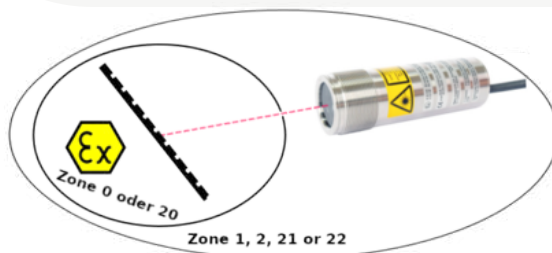
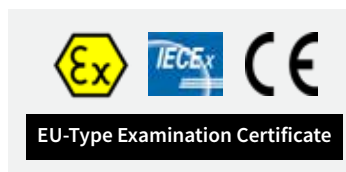
ATEX INSTRUMENTATION

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

Applications such as level measurement in hazardous areas, positioning, collision protection and others benefit from the reliable and accurate distance measurement of the explosion-proof laser measurement sensors of the LDx family.

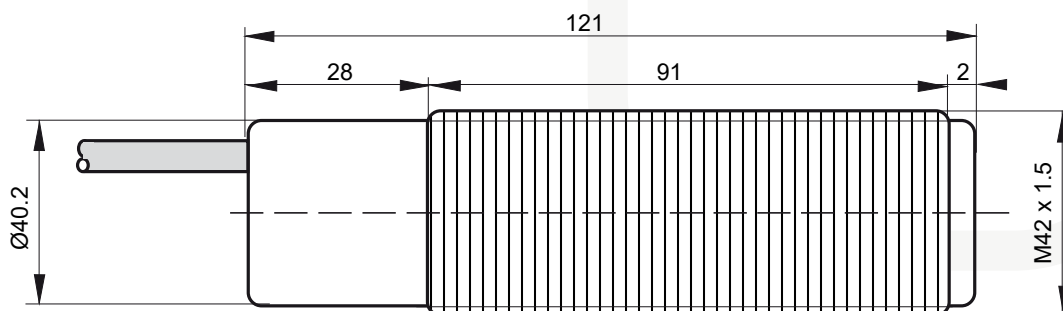
Whether in the chemical, automotive or pharmaceutical industry, these sensors are the right choice for safe working in hazardous areas. Applications can be found wherever precise measurement is required in potentially explosive areas, even over long distances, for example in the automotive industry, the pharmaceutical industry, the chemical industry, the biogas and methane gas industry, wastewater treatment and sewage technology, and much more...

- Time-of-flight based distance measurement (laser distance measurement, laser time of flight measurement or laser path measurement).
- Can be used directly in zones 1, 2, 21 and 22, and can radiate in zones 0 and 20.
- Displacement meter with 1 mm resolution via RS-485.
- Length measurement also via configurable 4-20 mA analogue interface.
- Complies with laser class 2 with red laser (635 nm).
- Explosion-proof housing made of stainless steel.



ITEM REFERENCES

Designation:	Measurement range analog output:	Measurement range digital output:	Item No.:
LDG-AAA-FCA-OF	0.05m to 30m	0.05m to 30m	
<small>If the analog output is used, the analog output is direct from 0.05m to 30m (0.05m=4mA,30m=20mA) If the RS485 digital output is used, the connection kit is always needed.</small>			
Connection kit: - Software / - MOXA UPORT 1130 Converter / - MINI DB9F-TU-TB Adaptor			9D0103



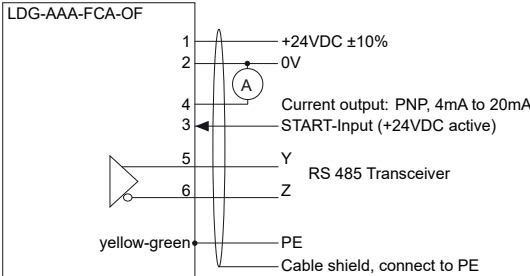


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Zones 1, 2, 21, 22

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TECHNICAL SPECIFICATIONS

Marking:	 II 2(1)G Ex db [op is Ga] IIB 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 1.4404
Operating temperature:	-10°C up to +35°C ¹ / -10°C up to +50°C ² ¹ For a longer lifetime of the laser diode, the housing temperature of 35°C must not be exceeded. ² For housing temperature larger than 35°C (i.e. direct sun exposure) use the sensor in pulse mode.
Storage temperature range:	-20°C 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:	min. 0.1s, max. 4.5s
Pollution degree:	4
Device designation according to EN 60947-5-1/2:	T3A42SS1
Supply voltage, U _e :	24VDC ±10%
Absolute maximum supply voltage, U _m :	30VDC
Current consumption:	70mA
Maximum power dissipation:	2.4W
Typical measuring accuracy:	±3.0 mm @ 2σ
Typical measuring repeatability:	±0.8 mm @ 2σ
Analog current output, type:	PNP, 4mA a 20mA, short circuit protected
Analog current outputs, operating range:	0,05m to 30m (0,05m = 4mA, 30m = 20mA)
Analog current output, error indication:	3.5mA: Measurement invalid 20.5mA: Object out of measurement range
Analog current output, resolution:	1mm = 0.00053mA
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. 30000h, 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 0.5mm ² , shielded, non-halogen, leads numbering marked, good chemical resistance, drag chain suitable ³ ³ The maximum cable length of L _{max} = 100m from sensor to control cabinet must not be exceeded.
Accessories:	2x nuts M42 (included)
Electrical connection: Wire number Function	 <p>LDG-AAA-FCA-OF</p> <p>1 +24VDC ±10%</p> <p>2 0V</p> <p>4 Current output: PNP, 4mA to 20mA</p> <p>3 START-Input (+24VDC active)</p> <p>5 Y RS 485 Transceiver</p> <p>6 Z</p> <p>yellow-green PE</p> <p>white Cable shield, connect to PE</p>
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	

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INSTRUMENTATION