

TDD-BAA-BBA-TF LED TOF DISTANCE SENSOR

Zones 1, 2, 21, 22

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ATEX INSTRUMENTATION

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



The TDD-BAA-BBA-TF LED TOF distance sensor is a compact and rugged solution designed for reliable distance measurement in hazardous environments. Using 860nm infrared light, it measures distances from 100mm to 1000mm independently of object reflectance. Housed in a flameproof M30 metal enclosure and certified for use in gas and dust Ex zones, it offers high durability, IP67 protection, featuring RS485 communication together with a 4–20 mA analogue output.



EU-Type Examination Certificate

ITEM REFERENCES

Designation:	Measuring range:	Dimensions:	Item No.:
TDD-BAA-BBA-TF	10cm to 1m		

TECHNICAL SPECIFICATIONS

Marking:	II 2G Ex db IIC T6 Gb II 2D Ex tb IIIC T100°C Db													
Certificate:	EU-Type Examination Certificate													
Operating temperature:	-10°C to +50°C													
Storage temperature range:	-20°C to +80°C													
Housing:	M30, brass Ms 58, nickel plated													
Ingress protection:	IP67													
Light Source:	860nm (LED)													
Absolute measuring accuracy:	±10%													
Response time:	100ms													
Output type:	RS485 + 4 - 20mA PNP, max. 100mA, short circuit protected													
Device designation:	D3ASS1, according to EN 60947-5-1/2													
Supply voltage, U_e :	24 VDC ± 10%													
Absolute maximum supply voltage, U_m :	30 VDC													
Current consumption:	< 50mA													
Power consumption:	1.2 W													
Power up delay time:	3s													
Connection cable:	TPU insulation, AWM 20236, 5+PE x 0.5mm ² , halogen free, shielded, leads numbering marked, oil resistant cable for trailing, length: 3m													
Safe equipotential bonding for Ex devices:	Ensure local equipotential bonding by means of a corrosion-resistant PE connection. The end of the cable must be connected outside the hazardous locations.													
Wiring and Connection:	<table border="1"> <thead> <tr> <th>Lead-No</th> <th>Function</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>+24V</td> </tr> <tr> <td>2</td> <td>0V</td> </tr> <tr> <td>3</td> <td>4 - 20mA PNP, max. 100mA, short circuit protected</td> </tr> <tr> <td>4</td> <td>RS485: A (D+)</td> </tr> <tr> <td>5</td> <td>RS485: B (D-)</td> </tr> </tbody> </table>	Lead-No	Function	1	+24V	2	0V	3	4 - 20mA PNP, max. 100mA, short circuit protected	4	RS485: A (D+)	5	RS485: B (D-)	
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