ISO 9001:2015 / ATEX

Original operating manual:

Glass Fibre Optics MS-xxxx-2-T-1GD / MS-xxxx-2-T-2GD / MS-xxxx-2-T

CE 1258

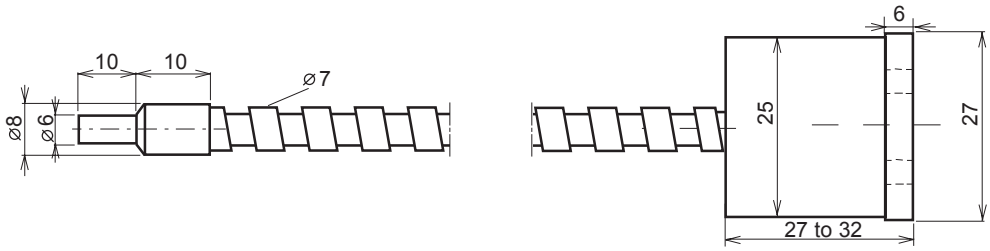
Ex

II 1 G IIC T4 Ga
II 1D IIIB T135°C Da
or
II 2 G IIB T4 Gb
II 2D IIIB T135°C Db

- Yellow brass protection sheath, for reflective measurement method
- MS-....-2-T-1GD: For use in Ex Zones 0, 1, 2, 20, 21, 22
- MS-....-2-T-2GD: For use in Ex Zones 1, 2, 21, 22
- MS-....-2-T: For use in Non-Hazardous Locations

Technical data / Type	MS-xxxx-2-T-1GD	MS-xxxx-2-T-2GD	MS-xxxx-2-T
Standard length	MS-xxxx-2-T(-G/D) (xxxx=Length in mm, 500, 1000, 1500, 2000)		
Type of Ex Protection, Gas	II 1 G IIC T4 Ga	II 2 G IIB T4 Gb	none
Type of Ex Protection, Dust	II 1D IIIB T135°C Da	II 2D IIIB T135°C Db	none
For use in Ex Zones	0, 1, 2, 20, 21, 22	1, 2, 21, 22	--
Maximum optical input power	<=15mW	<=35mW	Not limited
Maximum potential radiant intensity	<= 5mW/mm²	<= 5mW/mm²	Not limited
Active fibre optic diameter	2 mm		
Active cross-sectional area	3.14mm²		
Transmission rate, average	50-70%, at 880nm		
Optical aperture	appr. 65°, at 880nm		
Individual fibre diameter	50um		
Minimum bending radius	30mm (Single bend)		
Operating temperature range T_{amb}	0°C < T_{amb} < +120°C		-20°C< T_{amb} <+120°C
Enclosure rating at EN 60529	IP 68		
Material, adaption probe tip	Special steel, 1.4305 (V2A)		
Material, probe tip	Special steel, 1.4305 (V2A)		
Material, protection sheath	Brass, chromium plated		
Accessories, included	2 x Shrink-down plastic tubing	--	
Certificated accessories	- Optical probes, designation: OT-VA (Material: Brass, Ni plated)		
Options	- MS-1500-2-T-2GD S209: 0°C < Tamb < +85°C, type of Ex protection: II 2G IIB T5 Gb, II 2D IIIB T100°C Db		
ATEX related designation of the fibre optics	CE 1258 Manufacturer with address Type marking: MS-..-1GD Type marking: MS-..-2GD EC-Certification No: Production date: Numerals 5 to 8 of the serial number (year / calendar week)	T_{amb}: 0°C < T_{amb} < +120°C Ex II 1 G IIC T4 Ga, II 1D IIIB T135°C Da II 2 G IIB T4 Gb, II 2D IIIB T135°C Db BVS 10 ATEX E 130 X. DEKRA	

Dimensions:



Operating Manual / EU - Declaration of Conformity:

Ex mounting prescriptions

Types MS-...-..-1GD: For use in Ex zones 0, 1, 2, 20, 21, 22.

Types MS-...-..-2GD: Only for use in Ex zones 1, 2, 21, 22.

General regulations for all types:

The maximum rated optical input power must not be exceeded. The local equipotential bonding have to be done by grounding the fixed sensor. It is necessary to take into consideration the valid international and national rules and regulations (EN 60079-14). Other then original manufacturer, additional optical lenses are not allowed in hazardous locations. The fibre optics have to be installed in a manner to avoid tensile stress and frictional heat. If fibre optics and associated sensors are not mounted in the same hazardous location, the change over of the different areas must be realized in accordance with the valid regulations. With the additional shrink-down plastic tubings (only types MS..-1GD) a required change over can be realized.

Function

The fibre optics series MS.. are designed for the construction of reflective measurement method arrangements in hazardous locations and for high ambient temperatures. The fibre optics can be operated with certificated Matrix sensors, with an optical wave length from 500nm to 900nm. The fibre optics must not be buckled or laid with a small radius. Buckled or bad laid fibre optics results to a strong decrease of performance. Avoid performance decreasing and failures caused by wear, by a functional mounting of the fibre optics.

Maintenance

The fibre optics are maintenance-free. Protect the fibre optics against pollution. If they are contaminated, clean with alcohol. Do not use aggressive solvents. Equipment must only be repaired or serviced by the manufacturer.

Safety Informations

When installing and operating, it is necessary to take into consideration the relevant international and other national regulations. EN 60079-14, single directive 1999/92/EC.

Standards met:

EN 60079-0:2012 + A11:2013, EN 60079-28:2007, EN 13463-1:2009, ATEX directive: 2014/34/EU,

Machine directive: 2006/42/EC, RoHS directive: 2011/65/EU

General Notes, disposal

We reserve the right to modify our equipment. Our equipment is designed such way, that it has the least possible adverse effect on the environment. No longer usable or irreparable units must be disposed of in accordance with local waste disposal regulations.

EU-Declaration of Conformity:

MS-.-.GD: ATEX EC type certification No: BVS 10 ATEX E 130 X. ATEX certification of quality type production of Ex devices at the directive 2014/34/EU, CE 1258, Eurofins. Certification No: SEV 21 ATEX 4580. The conformity of the devices with the EC standards and directives and the observation of the Quality Safety System ISO 9001:2015 with the ATEX module "Production", declares:

Pablo Ledergerber, Matrix Elektronik AG

Tippkemper - Matrix GmbH
Meegener Str. 43 D-51491 Overath
Tel.:+49 2206 9566-0 Fax -19
info@tippkemper-matrix.com

Matrix Elektronik AG (Manufacturer)
Kirchweg 24 CH-5420 Ehrendingen
Tel.:+41 56 20400-20 Fax -29
info@matrix-elektronik.com