ISO 9001:2015 / ATEX

Glass Fibre Optics

MS-M18-xxxx-2-L-K90°-1GD / MS-M18-xxxx-2-L-K90°-2GD / MS-M18-xxxx-2-L-K90°

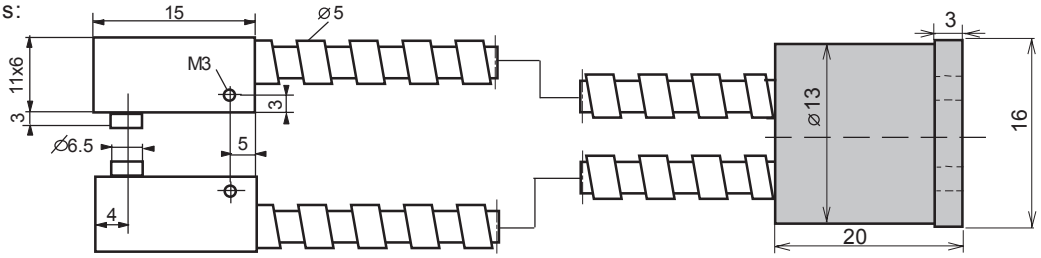
1258

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 light barrier measurement method
- MS-M18-xxxx-2-L-K90°-1GD: Applicable in Ex Zones 0, 1, 2, 20, 21, 22
- MS-M18-xxxx-2-L-K90°-2GD: Applicable in Ex Zones 1, 2, 21, 22
- MS-M18-xxxx-2-L-K90°: Applicable in Non-Hazardous Locations up to TA=+200°C

Technical data / Type	MS-M18-.-2-L-K90°-1GD	MS-M18-.-2-L-K90°-2GD	MS-M18-.-2-L-K90°
Standard length and designation (Overall length)	MS-M18-xxxx-2-L-K90°(-.GD) xxxx=Length in mm, 500, 1000, 2000, 3000		
Type of Ex Protection, Gas	II 1G IIC T4 Ga	II 2G IIB T4 Gb	none
Type of Ex Protection, Dust	II 1D IIIB T135°C Da	II 2D IIIB T135°C Db	none
Applicable in Ex Zones	0, 1, 2, 20, 21, 22	1, 2, 21, 22	--
Requirement at connected sensors	Ex op is Ga/Da	Ex op is Gb/Db	none
Maximum optical input power	<=15mW	<=35mW	Not limited
Maximum potential radiant intensity	<=5mW/mm²	<=5mW/mm²	Not limited
Active fibre optic diameter	2 x 2 mm		
Active cross-sectional area	2 x 3.14mm²		
Transmission rate, average	50-70%, at 870nm		
Optical aperture	appr. 65°, at 870nm		
Individual fibre diameter	50um		
Minimum bending radius	50mm (Single bend)		
Operating temperature range T_{amb}	0°C < T_{amb} < +120°C		-20°C < T_{amb} < +200°C
Enclosure rating at EN 60529	IP68		
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	--	
Options	- MS-M18-500-2-L-K90°-2GD S209: 0°C < T_{amb} < +85°C, ATEX: II 2G IIB T5 Gb, II 2D IIIB T100°C Db - MS-M18-1500-2-L-K90°-2GD S209: 0°C < T_{amb} < +85°C, ATEX: II 2G IIB T5 Gb, II 2D IIIB T100°C Db		
ATEX realted designation of the fibre optics	CE 1258 Ta: 0°C < T_{amb} < +120°C Manufacturer with address Type marking: MS-..-1GD (Ex) II 1 G IIC T4 Ga, II 1D IIIB T135°C Da Type marking: MS-..-2GD II 2 G IIB T4 Gb, II 2D IIIB T135°C Db EU-Certification No: BVS 10 ATEX E 130 X. DEKRA Production date: Numerals 5 to 8 of the serial number (year/calendar week)		

Dimensions:



Operating Manual / EU - Declaration of Conformity:

Ex mounting prescriptions

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

Types MS-...-..-2GD: Only applicable 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 light barrier 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, ATEX 118a, single directive 1999/92/EC.

Standards met:
- EN 13463-1:2009, EN 60079-28:2007
- 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. DEKRA.

ATEX certification of quality type production of Ex devices at the ATEX 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