

Original operating manual: Glass Fibre Optics

SKM-****-04-I-GR-OP2 / SKM-****-04-I-GR

- Silicone rubber protection sheath with a stainless steel reinforcement, for light barrier measurement method
- SKM-****-04-I-GR-OP2: For use in Ex zones 1, 2, 21, 22
- SKM-****-04-I-GR: Only for use out of Hazardous Locations

Technical data	Type	SKM-****-04-I-GR-OP2	SKM-****-04-I-GR
Standard length and designation		****=Length in mm, 200, 500, 1000, 1500, 2000, 3000, 4000 (Overall length)	
Length tolerance		+50mm	
Type of Ex Protection, Gas		Ex op is IIB T4 Gb	none
Type of Ex Protection, Dust		Ex op is IIIB T135°C Db	none
For use in Ex Zones		1, 2, 21, 22	--
Requirement at connected sensors		Ex op is Gb/Db	none
Maximum optical input power		≤35mW	not limited
Maximum potential radiant intensity		≤5mW/mm²	not limited
Active fibre optic diameter		4mm	
Active cross-sectional area		12.6mm²	
Transmission rate, average		50-70%, at 870nm	
Optical aperture		appr. 65°, at 870nm	
Individual fibre diameter		50µm	
Minimum bending radius		50mm (Single bend)	
Operating temperature range T _{amb}		-20°C < T _{amb} < +120°C (Head: +200°C)	
Enclosure rating, according to EN 60529		IP68	
Material, adaption probe tip		Special steel, 1.4305	
Material, probe tip		Special steel, 1.4305	
Material, protection sheath		Silicone rubber with Stainless steel reinforcement	
Accessories, included		--	
Accessories, not included		- Additional optics type OT-SK (Material: brass)	
Options		--	

ATEX/IECEx RELATED MARKINGS

CE 0158 T_{amb} = -20°C < T_{amb} < +120°C

Date of production: Numerals 5 to 8 of the serial number (year/calendar week)

Type: SKM-****-04-I-GR-OP2

II 2G IIB T4 Gb, II 2D IIIB T135°C Db

Date of production: Numerals 5 to 8 of the serial number (year / calendar week)

Certifications IECEx & ATEX:

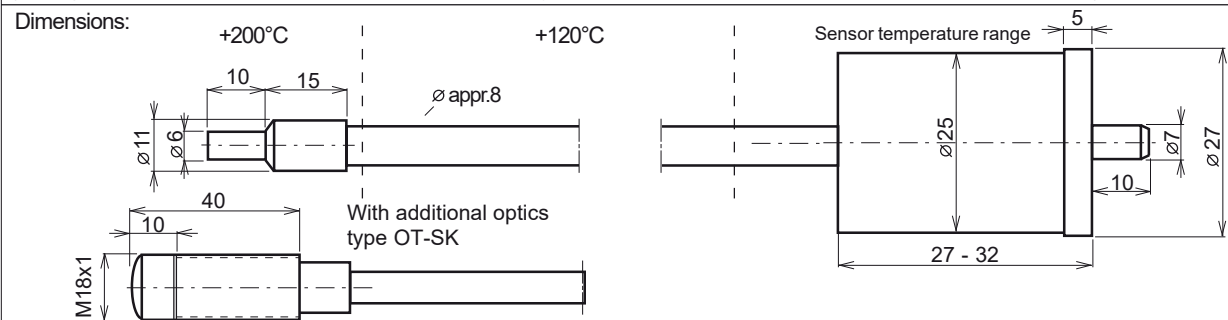
EC-Certification No: BVS 10 ATEX E 130 X. DEKRA



Ex op is IIB T4 Gb, Ex op is IIIB T135°C Db

IECEx-Certification No: IECEx 14.0108X

(X designation of the certification number: Fibre optics must only be applied with sensors with certificated limited optical power)



Ex mounting prescriptions

Type SKM-****-04-I-GR-OP2: 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 than 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.

Function

The fibre optics series SKM-****-04-I-GR(-OP2) 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 limited optical radiation power and 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).

Operating Manual, EC- / EU - Declaration of Conformity:

Standards met:

EN 60079-0:2012 + A11:2013, EN 60079-28:2007, EN 60079-31:2010,

EN 13463-1:2009, EN 60529:2014

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.

EC-/EU-Declaration of Conformity

IECEx certification No. BVS 14.0108X.

<http://iecex.iec.ch/iecex/iecexweb.nsf/0/FE79714C0BAEF6F5C1257D7E0044F6A9?opendocument>

ATEX certification: Certification No. BVS 10 ATEX E 130 X, DEKRA EXAM GmbH, Zertifizierungsstelle, Carl-Beyling-Haus, Dinendahlstrasse 9, D-44809 Bochum, Ident-No. 0158.

ATEX certification of quality type production of Ex devices in accordance to the directive 2014/34/EU, CE 0158. Certification No: BVS 18ATEX ZQS / E118, QAR No. DE/BVS/QAR13.0004/04. The conformity of the devices with the EC standards and directives and the EC-type examination certificate and the observation of the Quality Safety System ISO 9001:2015 with the ATEX module "Production", declares:

Pablo Ledergerber, Matrix Elektronik AG