Tippkemper®

ISO 9001:2015 / ATEX

MATRIX elektronik ag

CE 1258

II 2G IIB T4 Gb
II 2D IIIB T135°C Db

Glass Fibre Optics QWS-****/4-**-L(-90°)(-2GD)(S-195)

- Silicone rubber protection sheath
- For light barrier function
- QWS-xxxx/4-yy-L-2GD: Applicable in Ex Zones 1, 2, 21, 22 up to T_A=+120°C
- QWS-xxxx/4-yy-L: Applicable in Non-Hazardous Locations

Technical Data \ Type	QWS-xxxx/4-yy-L-2GD	QWS-xxxx/4-yy-L
	xxxx = Length in mm, yy = scanning width	
Type of Ex protection, Gas	II 2G IIB T4 Gb	--
Type of Ex protection, Dust	II 2D IIIB T135°C Db	--
Applicable in Hazardous Locations, Zones	1, 2, 21, 22	--
Requirement on connected sensors	Ex op is Gb/Db	None
Maximum optical input power	<=15mW	Not limited
Maximum potential radiant intensity	<=5mW/mm²	Not limited
Length, QWS-500/4-yy-L	540mm	
Length, QWS-1000/4-yy-L	1040mm	
Active scan area, QWS-xxxx/4-30-L	30 x 0.8mm	
Active scan area, QWS-xxxx/4-60-L	60 x 0.4mm	
Active cross-sectional area	24mm²	
Transmission rate, average	50-70%, at 870nm wave length	
Optical aperture	appr. 65°	
Individual fibre diameter	50um	
Minimum bending radius	50mm (Single bend)	
Operating temperature range Tamb	0°C < Tamb < +120°C	-20°C<Tamb<+120°C
Material of the protection sheath	Silicone rubber, special steel reinforced	
Material of adaption	Stainless steel, 1.4305	
Material of probe tip	Stainless steel, 1.4305	
Material of coupling ring	Yellow brass, nickel plated	
Options	QWS-****/4-**L-S195: Probe tip: Stainless steel 1.4305 QWS-****/4-**-L90°(-2GD): 90° angled probe tips	

ATEX related designations of the fibre optics:

CE 1258 Ex Manufacturer with address

Type QWS-****/4-**L-2GD: II 2G IIB T4 Gb, II 2D IIIB T135°C Db

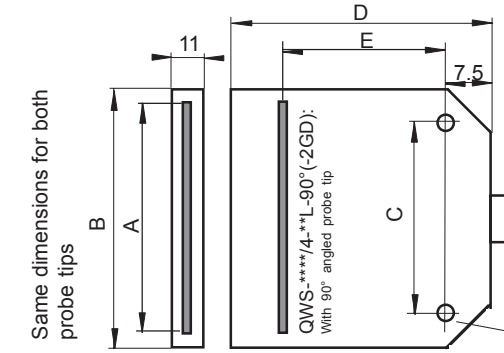
(X designation of the certification number: Fibre optics must only be applicated with sensors with certificated limited optical power)

T_{amb}: 0°C < T_{amb} < +120°C

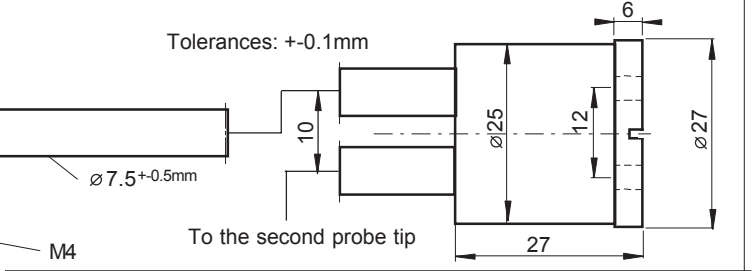
Date of production: Numerals 5 to 8 of the serial number (yr/cw)

EC type certification. No. BVS 10 ATEX E130 X

Dimensions:



Dimensions	A	B	C	D	E
QWS-xxxx/4-30-L(-2GD):	30x0.8mm	35	25	45	--
QWS-xxxx/4-30-L-90°(-2GD):	30x0.8mm	35	25	45	27.5
QWS-xxxx/4-60-L(-2GD):	60x0.4mm	65	40	70	--



Operating Manual / EU - Declaration of Conformity:

Ex protection:

General regulations for all types of Ex devices:

The fibre optics series QWS-**/4-**L(-90°)-2GD only usable in hazardous location / zones 1, 2, 21, 22.** 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.

Function

The glass fibre optics, type QWS, gives the possibility the realize a precision line scanning or width measurement of different objects. The fibre optics series QWS are also designed for the construction of light barriers 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.

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 13463-1:2009, EN 60079-28:2007, 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.

EU-Declaration of Conformity

Types QWS-****/4-**L(90°)-2GD:

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 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 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