



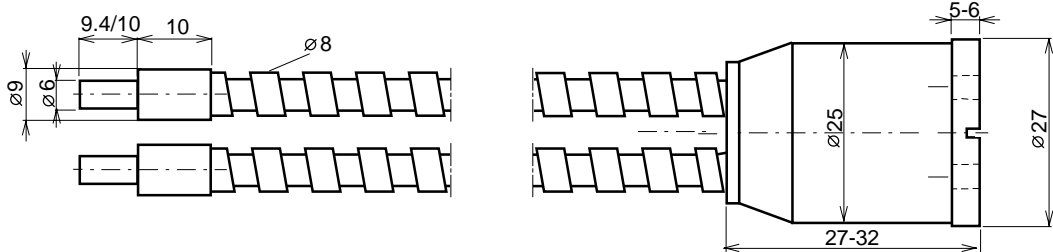
**0158**  
 II 1 G c T5  
 II 1 D c IP68 T100°C  
 or  
 II 2 G c T5  
 II 3 D c IP68 T100°C

### Glass Fibre Optics VA-.-5-L-1GD / VA-.-5-L-2G3D / VA-.-5-L

- Alloyed special steel protection sheath V2A
- For light barrier function
- VA-....-5-L-1GD: Applicable in Ex Zones 0, 1, 2, 20, 21, 22
- VA-....-5-L-2G3D: Applicable in Ex Zones 1, 2, 22
- VA-....-5-L: Applicable in Non-Hazardous Locations up to TA=+200°C

Technical Data	Type	VA-....-5-L-1GD	VA-....-5-L-2G3D	VA-....-5-L
		Applicable in Ex Zones	Applicable in Ex Zones	Not for Haz Locs
Standard length		VA-xxx-5-L(-G/D) (xxxx=Length in mm, 200, 500, 1000, 1500, 2000)		
Type of Ex Protection: Protection by constructional safety at EN 13463-1/-5		Yes	Yes	No
Applicable in Hazardous Locations, Zones		0, 1, 2, 20, 21, 22	1, 2, 22	--
Category / Grouping	II 1 GD c T5	II 2G 3D c T5	--	
Requirement on connected sensors		Limited optical power at DMT 99 ATEX E056/N5		None
Maximum optical input power		<=123mW	<=123mW	Not limited
Maximum potential radiant intensity		<= 5mW/mm <sup>2</sup>	<= 5mW/mm <sup>2</sup>	Not limited
Active fibre optic diameter		4.7mm		
Active cross-sectional area		17.34mm <sup>2</sup>		
Transmission rate, average		50-70%, at 880nm wave length		
Optical aperture		appr. 65°		
Individual fibre diameter		50um		
Minimum bending radius		50mm (Single bend)		
Operating temperature range TA		-20°C < TA < +100°C		-20°C < TA < +200°C
Enclosure rating at EN 60529		IP 68		
Material of adaption and probe tip		Special steel, V2A	Anticorodal 110	Anticorodal 110
Material of the protection sheath		Special steel, V2A	Special steel, V2A	Special steel, V2A
Accessories, included		2 x Shrink-down plastic tubing	--	--
Certificated accessories		- Optical probes, Designation: OT-VA (Material: Yellow brass, Ni plated)		
ATEX Designation of the fibre optics		CE 0158 Identification: VA-.-1GD Certification Number: Identification: VA-.-2G3D Tech. File Ref.: AN_EXLWL TA: -20°C < TA < 100°C	Manufacturer with address II 1 G c T5, II 1 D c IP68 T100°C BVS 03 ATEX H 047 X II 2 G c T5, II 3 D c IP68 T100°C Production date: Numerals 4 to 7 of the serial number	

Dimensions:



#### Operating Manual / EC - Declaration of Conformity:

##### Ex protection:

##### General regulations for all types of Ex devices:

It is necessary to take into consideration the valid international and national rules and regulations. The maximum rated optical input power must not be exceeded. 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.

With the additional shrink-down plastic tubings (only types VA-.-1GD) a required change over can be realized.

**Series VA-....-1GD: Applicable in hazardous location / zones 0, 1, 2, 20, 21, 22. The fibre optics must be operated with ATEX certificated sensors with limited optical output power, at DMT 99 ATEX E056/N5. The equipotential bonding must be executed over the associated sensor, reliable and noncorrosive.**

**Series VA-....-2G3D: Applicable in hazardous location / zones 1, 2, 22. The fibre optics must be operated with ATEX certificated sensors with limited optical output power, at DMT 99 ATEX E056/N5.**

##### Function

The fibre optics series VA.. are 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.

##### General Notes

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. It neither emit or contain any damaging or siliconized substances and use a minimum of energy and resources. No longer usable or irreparable units must be disposed of in accordance with local waste disposal regulations.

##### Safety Informations

When installing and operating with the sensor, it is necessary to take into consideration the relevant international and other national regulations. ATEX 118a, ElexV, TRbF, TRD, UVV, EX-RL, BetrSichV.

##### Standards met:

- EN 13463-1:2002, EN 13463-5:2002, EN 1197-1:1997;
- EN 50281-1-1:1999; EN 60529:2000
- Ex-Protection: 94/9/EG (ATEX 100a)
- Machine directive: 98/37/EG
- Tech. File Ref.: AN\_EXLWL

##### Certification / Declaration of Conformity

**Certification VA-....-1GD: BVS 03 ATEX H 047 X**

**Certification of manufacturer VA-....-2G3D:** Tech. File Ref.: AN\_EXLWL  
 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 with the ATEX module "Production", declares:  
 Hans Bracher, Matrix Elektronik AG