

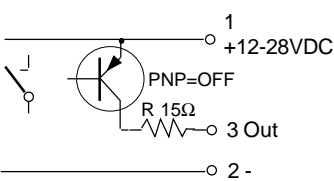
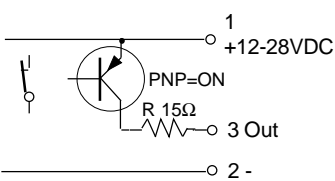
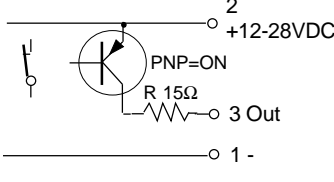
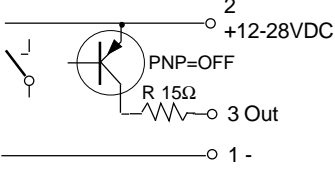
Photoelectronic Proximity Switch IRD-...XB

Housing M30

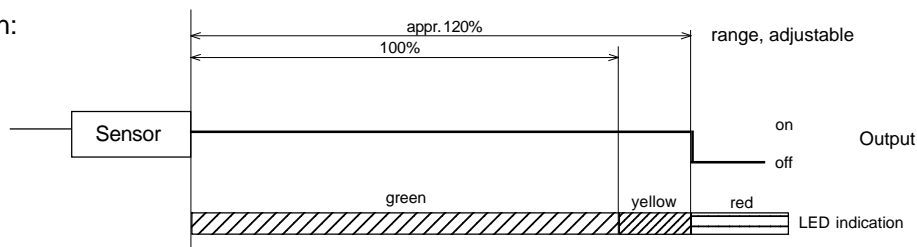
CE 0158

 II 2G Ex d IIC T6
 II 1/2D Ex tD A20/21 IP67 T90°C

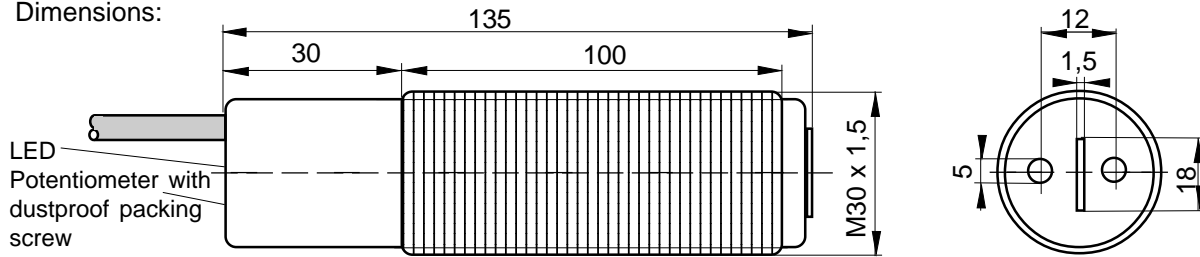
- Applicable in Ex Zones 1, 2, 20/21, 22
- Robust sensor for industrial applications
- Also for using with different types of fibre optics

	Type	IRD-5XB1	IRD-10XB2
Technical Data			
Type of Ex protection, Gas, at 94/9/EC	II 2G Ex d IIC T6		
Type of Ex protection, dUST, at 94/9/EC	II 1/2D Ex tD A20/21 IP67 T90°C		
Applicable in Ex zones	1, 2, 20/21, 22		
Range, (adjustable) (on white paper 80g, 20cm x 30cm)	500mm	1000mm	
Light source	Infrared, 880nm		
Optical beam pattern	appr.12°		
Supply voltage	12VDC - 28VDC (Ripple max. 10%)		
Current consumption	35mA	53mA	
Maximum power dissipation	1W	1.5W	
Output	1x PNP, short circuit protected, max. 100mA, Z:15Ω		
Switching frequency, response time	100Hz, 5ms		
Housing	M30, yellow brass, nickel plated		
Enclosure rating, at EN 60529	IP 67		
Operating temperature range TA	-20°C < TA < +60°C		
Connection cable	3+PE x 0,5mm ² , shielded, PUR, Length: 3m		
Option: fast response time	2kHz/250us	1kHz/500us	
Options: Cables	- Special or longer cables on demand		
Options: Delay functions	- Any delay or pulse forming functions on demand		
Accessories, included	- 2 nuts M30 (or 1 clamp, on request) - 1x Spare safety screw with packing ring for potentiometer sealing		
ATEX related designations	CE 0158 Device type EC-Certification number: TA: -20°C < TA < +60°C Date of construction: Numeral 4 to 7 of the serial number	Manufacturer with address II 2G Ex d IIC T6 II 1/2D Ex tD A20/21 IP67 T90°C DMT 99 ATEX E 056 Electrical data according to the chart Date of construction: Numeral 4 to 7 of the serial number	
Function and LED indication	LB with fibre Light beam not interrupted Proximity switch PS with fibre Object detected, LED=ON	LB with fibre Light beam interrupted Proximity switch PS with fibre No object detected, LED=OFF	
Connection layout and function on standard connection: 1 = +24VDC 2 = 0V 3 = Output yellow-green = PE white = Cable shield			
Connection layout and function on inverted connection of the supply voltage: 1 = 0V 2 = +24VDC 3 = Output yellow-green = PE white = Cable shield			

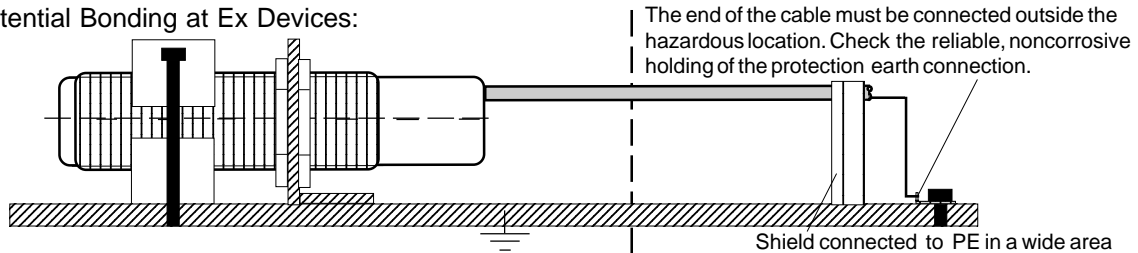
LED indication:



Dimensions:



Equipotential Bonding at Ex Devices:



Operating Manual / EC - Declaration of Conformity:

Ex Protection

The sensors type IRD are applicable in Ex zones 1, 2 and 20/21, 22. For the zones 20/21 only the front part (optical lens) can be mounted inside the zone 20. The rear part with the cable must be in the zone 21.

It is necessary to take into consideration the valid international and national rules and regulations (EN 60079-14). The local equipotential bonding have to be done. The protective earth (PE) is solid connected with the housing. The cable have to be protected against damages. To connect cables inside hazardous locations only use certificated Ex housings. All cable terminals must be connected outside hazardous locations. Use only original manufactured fibre optics and additional optical lenses, other additional optical lenses are not allowed in hazardous locations. In Ex zones 20/21 and 22, do not operate the sensors without fixed dustproof sealing crew. After adjust the potentiometer, the dustproof sealing crew with undamaged packing ring, must be screwed down. Damaged or lost screws or packing rings must be replaced.

General mounting prescriptions

Do not exceed the maximum ratings. The electrical connections must be exactly as shown in the connection diagram. The cable shield must be connected short. The cable shield should be connected to PE. Connection cables must not be installed parallel to high voltage cables.

Function

The sensor works basically as proximity switch on diffuse optical reflections. If the sensor detects reflected light, the output switches to +24VDC. If the sensor works under safe conditions the LED shows green. If the sensor detects only poor reflected light, the LED shows yellow. If no reflected light will be recognized, the output switches OFF and the LED shows red. The load must be connected to 0V(-).

Function at inversely connection of the supply voltage

The sensor works basically as proximity switch on diffuse optical reflections. If the sensor detects reflected light, the output switches OFF. If the sensor works under safe conditions the LED shows green. If the sensor detects only poor reflected light, the LED shows yellow. If no reflected light will be recognized, the output switches to +24VDC and the LED shows red. The load must be connected to 0V(-).

Fibre optics

For efficiently detection solutions look for our multiple program of fibre optics, also for high temperature areas.

Maintenance

Protect the sensor and the optional fibre optics against pollution. If the fibre optics or the sensor lenses are contaminated, clean with alcohol. Do not use aggressive solvents. Optical fibres can be destroyed by strong solvents. Equipment must only be repaired or serviced by the manufacturer.

Safety Informations

The sensors types IRD...XB must not be used for Accident-Prevention! In worst case of disturbance, the output can show any state. 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(BGR104), BetrSichV(ATEX137).

Standards met:

EN 60079-0:2004, EN 60079-1:2004, EN 60241-0:2004, EN 61241-1:2004; EN 60529:2000; EN 61000-6-1/-2, EN 61000-6-3/4

- Ex protection: 94/9/EC (ATEX 100a)

- Machine directive: 98/37/EC

- Low voltage directive: 73/23/EWG, 93/68/EWG

- EMC 89/336/EWG, 91/263/EWG, 92/31/EWG, 93/68/EWG

- RoHS: 2002/95/EC

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.

CE Declaration of Conformity

ATEX: EC type certification. No: DMT 99 ATEX E 056
ATEX certification of quality type production of Ex devices at the directive 94/9/EC Certification No: BVS 03 ATEX ZQS / E118. 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 9001:2008 with the ATEX module "Production", declares:

Hans Bracher, Matrix Elektronik AG

IRD-XB-GD_e7/2009-07-17/HB

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