

IRD-GAC-CJC-OP Photoelectric proximity switch



1258



- Also for using with different types of fibre optics.
- Robust sensor for industrial applications

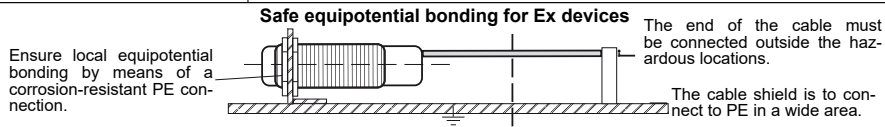
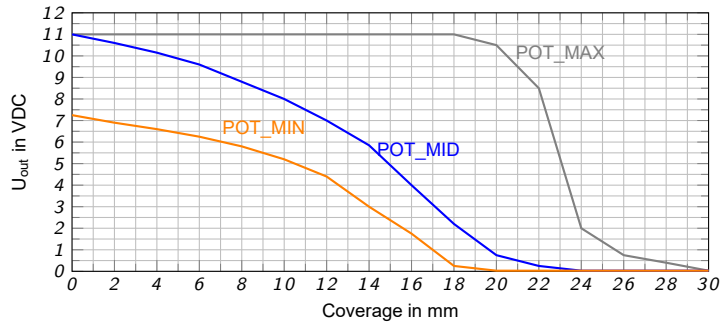
Technical Data	IRD-GAC-CJC-OP			
Gas Ex protection designation	II 2(1)G Ex d [op is Ga] IIC T6 Gb			
Dust Ex protection designation	II 2(1)D Ex tb [op is Da] IIIC T100°C Db			
For use in Ex Zones	(0), 1, 2, (20), 21 and 22			
Light Source	Infrared 870nm			
Measuring range	0.07m			
Maximum optical radiant power	≤15mW			
Maximum optical radiant intensity	≤5mW/mm ²			
Optical aperture angle	approx. 10°			
Response time	5ms			
Output type	PNP, output impedance approx. 25Ω, RLoad: 2kΩ to 1MΩ			
Working range	0.03VDC - 10.5VDC (Ripple: <20mV)			
Pollution degree	4			
Device designation according to EN 60947-5-1/2	T3A30BP1			
Supply voltage, Ue	24VDC ±15%			
Absolute maximum supply voltage, Um	30VDC			
Current consumption	max. 60mA			
Power consumption	1.4W			
Bootup time	500ms			
Housing	M30, brass, nickel plated			
Enclosure rating	IP67			
Ambient working temperature range, T _{amb}	-20°C up to +50°C			
Storage temperature range	-20°C up to +70°C			
Relative humidity	15% ... 90%, noncondensing			
Connection cable	TPU insulation, AWM 20236, 3+PE x 0.5mm ² , halogen free, shielded, leads numbering marked, oil resistant cable for trailing, length: 10m			
Accessories	Included <ul style="list-style-type: none"> • 2x Nuts M30 • 1x Spare safety screw with packing ring for potentiometer sealing. 	Optional		
Wiring and Dimensions				
Function and LED indication	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; text-align: center;"> <p style="text-align: center;">Light beam free</p> <p>The LED lights up analogously to the intensity of the diffusely reflected light and thus the output stroke.</p> </td> <td style="width: 50%; text-align: center;"> <p style="text-align: center;">Light beam interrupted</p> <p>no light detected, LED remains off</p> </td> </tr> </table>		<p style="text-align: center;">Light beam free</p> <p>The LED lights up analogously to the intensity of the diffusely reflected light and thus the output stroke.</p>	<p style="text-align: center;">Light beam interrupted</p> <p>no light detected, LED remains off</p>
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Output circuitry				

IRD-GAC-CJC-OP_e1/2025-12-01/MP

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Output Diagram
Potentiometer on minimal, middle, and maximal setting.



EX related markings

CE 1258
 Typ: IRD-GAC-CJC-OP
 Gas: Ⓜ II 2(1)G Ex d [op is Ga] IIC T6 Gb
 ATEX:
 IECEx:
 Tamb:
 Manufacturing date:

Manufacturer with Address
 Electrical data according to table
 Dust: Ⓜ II 2(1)D Ex tb [op is Da] IIIC T100°C Db
 BVS 10 ATEX E130 X
 IECEx BVS 14.0108X
 -20°C up to +50°C
 Number 5 to 8 of the Serial Number (Year / CW)

Operating Manual / EU-declaration of conformity

Ex installation prescriptions

It is necessary to take into consideration the valid international and national rules and regulations (IEC 60079-14). The maximum ratings must not be exceeded. The electrical connections must be done according to the wiring diagram. The local equipotential bonding must be connected corrosion resistant and permanently. The protective earth (PE) is solidly connected with the housing.
 The cable shield must be solidly connected to protection earth. The cable have to be installed and protected against damages. The cable with termination fittings, or in cable tray systems and installed in a manner to avoid tensile stress at the termination fittings. To connect cables inside hazardous locations only use certificated Ex housings. All cable terminals must be connected outside hazardous locations.
 Other than original manufacturer, additional optical lenses are not allowed in hazardous locations.
 After adjusting the potentiometer, the dustproof sealing screw with undamaged packing ring, must be screwed down. Inside zones 21 and 22 the sensor must not be operated without fixed dustproof sealing crew. Damaged or lost screws or packing rings must be replaced.
 The product IRD-GAC-CJC-OP may only be installed and operated within Ex zones 1, 2, 21 and 22. The limited optical radiation may operate inside Ex zones 0 and 20.

Function

This analog sensor supplies an analog output signal depending on the amount of light received. With a cross-section transformer light guide connected (function as a light barrier), the sensor can be used to monitor web edges. The sensor can be optimally adapted to the measuring conditions by adjusting the potentiometer.

Range

The nominal optical range is specified on white paper A4, 80g. The range will be influenced by the color, kind of surface and shape of the object.

Fibre optics

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

General safety

The sensor must not be used for Accident-Prevention! In worst case the output can change to any state! When installing and operating the product, it is necessary to take into consideration all relevant international and other national regulations, especially those regarding explosion protection.

Safety information about light sources

WARNING! Do not look into the light source, a direct look into the light source can lead to eye damage.

Maintenance

No special maintenance is required.
 Protect the product and any optical ports (if applicable) from pollution. Clean with **non-aggressive** solvents only. Strong solvents may damage certain fibre optics. The equipment must only be repaired or serviced by the manufacturer.

General notes and disposal

We reserve the right to modify our products. Our products are designed in such a way, that it has the least possible adverse effect on the environment. It neither emits or contains 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.

EU-Declaration of Conformity

The product meets the requirements of the following standards and directives:
 ATEX/IECEX-Designation:
 Gas: II 2(1)G Ex d [op is Ga] IIC T6 Gb
 Dust: II 2(1)D Ex tb [op is Da] IIIC T100°C Db
 ATEX EU-type examination certificate No.: BVS 10 ATEX E130 X
 IECEx CoC No.: IECEx BVS 14.0108X
 Ex CB IECEx: DEKRA Testing and Certification GmbH, Carl-Beyling-Haus, Dinen-dahlstrasse 9, D-44809 Bochum.
 ATEX certification of quality management system, type production of Ex devices, in accordance to the directive 2014/34/EU:
 Certification No.: SEV 21 ATEX 4580, QAR No.: CH/SEV/QAR21.0009, CB: Eurofins Electric & Electronic Product Testing AG, Luppenstrasse 3, CH-8320 Fehraltorf CE 1258 Ident. Number: 1258
 Pablo Ledergerber, Matrix Elektronik AG, is authorized to generation of documentation. The conformity of the devices with all used standards, directives and EC-type examination certificates and the observation of the Quality Management System ISO 9001:2015, declares:

Ehrendingen, 1.12.2025

Pablo Ledergerber, Matrix Elektronik AG

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