ISO 9001:2015

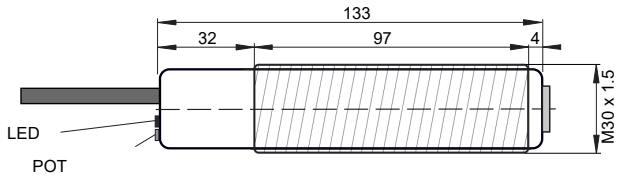
FTH-BAB-AAP-OP
Proximity sensor

1258

Technical Data	FTH-BAB-AAP-OP
Gas Ex protection designation	II 2(1)G Ex db [op is Ga] IIA T3 Gb
For use in Ex Zones	(0), 1 and 2
Laser class	Laser, visible red, 650nm, class II
Measuring range	1.5m (On white paper 80g, 20cm x 30cm)
Maximum optical radiant power	< 15mW
Optical power	< 1mW
Output type	push-pull, max. 100mA, short circuit protected
Supply voltage, Ue	24VDC ±10%
Absolute maximum supply voltage, Um	30VDC
Current consumption	66mA
Power consumption	1.6W
Switching frequency	100 Hz
Housing	M30, brass Ms 58, 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
Electrical connection	TPU insulation, AWM 20236, 3+PE x 0.5mm^2, halogen free, shielded, leads numbering marked, oil resistant cable for trailing, length: 3m

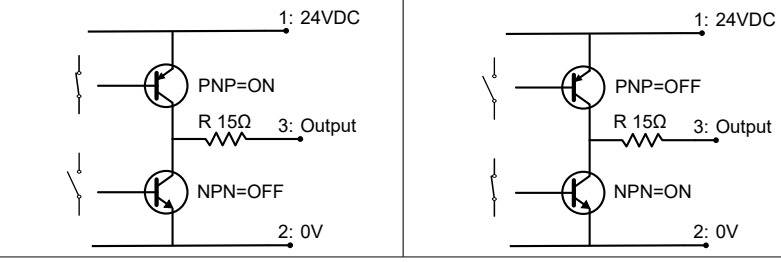
Wiring and Dimensions

1	+24VDC
2	GND
3	OUT
yellow-green	PE
white	Cable shield



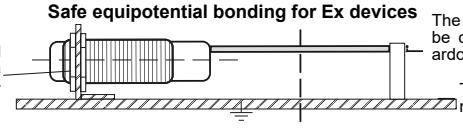
Function and LED Indication

Output circuitry



Safe equipotential bonding for Ex devices

Ensure local equipotential bonding by means of a corrosion-resistant PE connection.



The end of the cable must be connected outside the hazardous locations.

The cable shield is to connect to PE in a wide area.

EX related markings

CE 1258	Manufacturer with Address
Typ: FTH-BAB-AAP-OP	Electrical data according to table
Gas: II 2(1)G Ex db [op is Ga] IIA T3 Gb	
ATEX:	BVS 10 ATEX E130 X
IECEx:	IECEx BVS 14.0108X
Tamb:	–20°C up to +50°C
Manufacturing date:	Number 5 to 8 of the Serial Number (Year / CW)

FTH-BAB-AAP-OP_e1/2026-01–13/MP

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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 permanentely. 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 then original manufacturer, additional optical lenses are not allowed in hazardous locations.
The product FTH-BAB-AAP-OP may only be installed and operated within Ex zones 1 and 2. The limited optical radiation may operate inside Ex zones 0.

Function
The sensor detects objects blocking the laser beam up to the specified measuring range. The output and LED are either ON or OFF depending on if an object is blocking the beam or not. The range of the sensor can be adjusted using the potentiometer at the back.

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 for laser class 2 devices

By the installation, the going into operation and the application, it is necessary to take into consideration the valid rule EN 60825-1/-2 (Parts 12.5.1/12.6.2). Laser Class 2 without connected fibre optics. Do not stare into the beam!

Maintenance
No special maintenance is required.
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:
IEC 60079-0:2017, IEC 60079-1:2014, IEC 60079-28:2015, IEC 60079-31:2013, IEC 60529:2014, IEC 61000-4-2, IEC 61000-4-6, IEC 61000-6-1/-2, IEC 61000-6-4, ATEX directive 2014/34/EU, EMC directive 2014/30/EU, Machine directive 2006/42/EC, RoHS directive 2011/65/EU
ATEX/IECEx-Designation:
Gas: II 2(1)G Ex db [op is Ga] IIA T3 Gb
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, Dinendahlstrasse 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, Luppmenstrasse 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, 13.1.2026

Pablo Ledergerber, Matrix Elektronik AG

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