

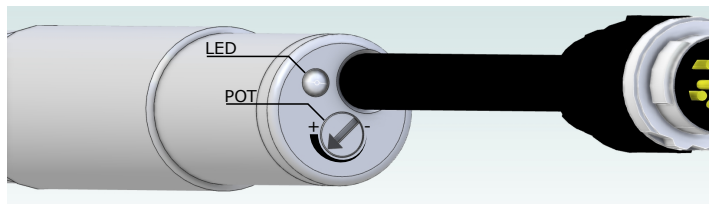
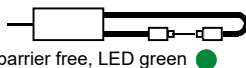
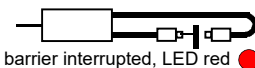
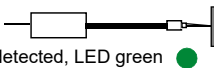
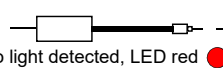
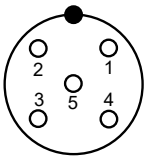
## Operating manual: PSE-AAK-CZB-OP Optoelectrical sensor with POF connection in a M18 housing



II 3G Ex ec IIC T4 Gc

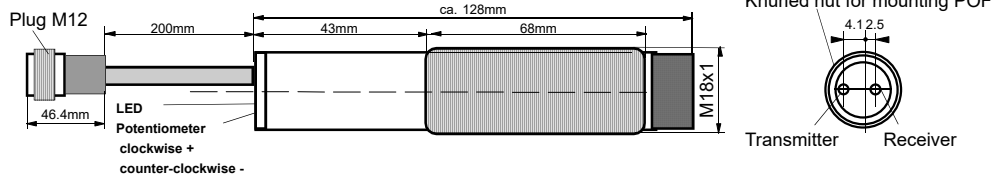
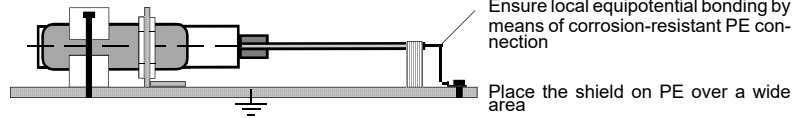
- Easy connection of POF, no additional tool needed
- Push-Pull Output
- Status indication with dual LED red/green

Made for 

Technical Data	Type	PSE-AAK-CZB-OP / E3401 0041	
Gas Ex protection designation		II 3G Ex ec IIC T4 Gc	
For use in Ex Zones		Zone 2	
Light Source		LED red, 660nm	
Response time		< 10ms	
Output type		push-pull, max. 100mA, short circuit protected	
Device designation according to EN 60947-5-1/2		T318AS1 (according to EN60947-5-2)	
Supply voltage, Ue		24VDC ±10%	
Absolute maximum supply voltage, Um		30 VDC	
Current consumption		< 30mA, no load at output	
Maximum power dissipation		< 1W, no load at output	
Housing		M18, Ms 58 nickel plated	
Enclosure rating		IP67	
Ambient working temperature range, T <sub>amb</sub>		-10°C up to +50°C	
Relative humidity		15% ... 90%, noncondensing	
Electrical connection		PUR cable shielded with 5x0.5mm <sup>2</sup> and M12 plug, Length: 200mm	
Fibre optics fitting		Screwed connection, without additional parts or special tools	
Accessories	<b>Included</b>	<b>Optional</b>	
		<ul style="list-style-type: none"> <li>• 2x nuts M18</li> <li>• 1x Safety interlock device for the connector, to be mounted at the cable connection. (black synthetic)</li> </ul>	
Operation (Backside)		 <p>The LED indicates whether the light signal of the sensor has been detected (green) or not (red). The potentiometer (POT) can be used to adjust the strength of the signal. (Turn to the right to increase the signal, turn to the left to decrease it).</p>	
Function and LED Indication		<p style="text-align: center;"><b>Light barrier with POF</b></p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Light barrier free, LED green ●</p> </div> <div style="text-align: center;">  <p>Light barrier interrupted, LED red ●</p> </div> </div> <hr/> <p style="text-align: center;"><b>Proximity switch with POF</b></p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Light detected, LED green ●</p> </div> <div style="text-align: center;">  <p>No light detected, LED red ●</p> </div> </div>	
Wiring and Connection		<div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p>1: +24VDC 2: NC 3: 0V 4: Output 5: PE/PA</p> <p>M12 plug, 5 pol</p> </div> </div> <p style="text-align: right;">Shield to knurled nut</p>	

PSE-AAK-CZB-OP\_e6/2022-10-05/PDL

Example of ensuring equipotential bonding



### Operating Manual / EC-/EU-declaration of conformity

#### Installation prescriptions for hazardous locations

The applicable rules and equipment regulations regarding explosion protection must be strictly observed (std). The local equipotential bonding must be corrosion-resistant and permanently ensured. The protective conductor  $\perp$  is firmly connected to the housing. The maximum permissible input voltage  $U_m = 30VDC$  must not be exceeded. Apart from original parts, no additional devices that focus the light beam may be used. The cables must be laid or protected in such a way that they cannot be damaged. The cable end must be placed inside the Ex area in certified Ex boxes or outside the Ex area.

#### PSE-AAK-CZB-OP / E3401 0041

May only be used in Ex Zone 2. The optical radiation may act in Ex Zone 0 and 1.

#### General mounting prescriptions

The pin assignment must be observed. If the connection cable is shortened or lengthened, the shield should be connected as short as possible. Within the Ex area, the cables must be connected in a certified Ex box. The shield must be connected to protective earth (PE) over a wide area. The sensor cables must not be laid parallel to high voltage and high voltage cables. The limit values must be observed. The device must be kept free of voltage during electrical installation.

#### Function

The sensor works according to the push button principle for diffuse reflection. If the sensor detects reflective light from an object, the LED lights up green and the output switches to +24V. If no light is detected, the LED lights up red and the output switches off. The output is push-pull.

#### Maintenance

Protect the fibre optic adaptor of the sensor and the optical fibres against pollution. Equipment must only be repaired or serviced by the manufacturer.

#### General safety informations

The sensors may only be installed, connected and put into operation by trained specialists. The PSE sensors must not be used for accident protection. Caution there is a risk of ignition when connecting or removing the connection cable if the plug isolating fuse has removed and the sensor is under voltage. The relevant EU and national regulations and guidelines, particularly those relating to explosion protection, must be observed during assembly, operation and maintenance. The sensors are conform to the following standards: EN IEC 60079-0:2018, IEC 60079-1:2014, EN 60079-7:2015, IEC 60079-28:2015, IEC 61000-4-2:2008, IEC 61000-4-3:2006+A1:2007+A2:2010, IEC 61000-4-4:2012, IEC 61000-4-5:2014, IEC 61000-4-6:2013, IEC 61000-6-1:2016, IEC 61000-6-2:2016, ATEX directive 2014/34/EU, Machine directive 2006/42/EC, EMC directive 2014/30/EU, RoHS directive 2011/65/EU

#### General Notes and 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. 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.

#### EU-Declaration of Conformity

Type PSE-AAK-CZB-OP manufacturer declaration according to ATEX guidelines 2014/34/EU.  
Production of Ex products according to the directive 2014/34/EU, CE 1258. SEV 21 ATEX 4580, QAR No. CH/SEV/QAR21.009/00.  
The conformity of the devices with all used standards and directives and the EC-type examination certificate and the observation of the Quality Management System ISO 9001:2015 with the ATEX module „Production“, declares:

Ehrendingen, 5.10.2022

Pablo Ledergerber, Matrix Elektronik AG