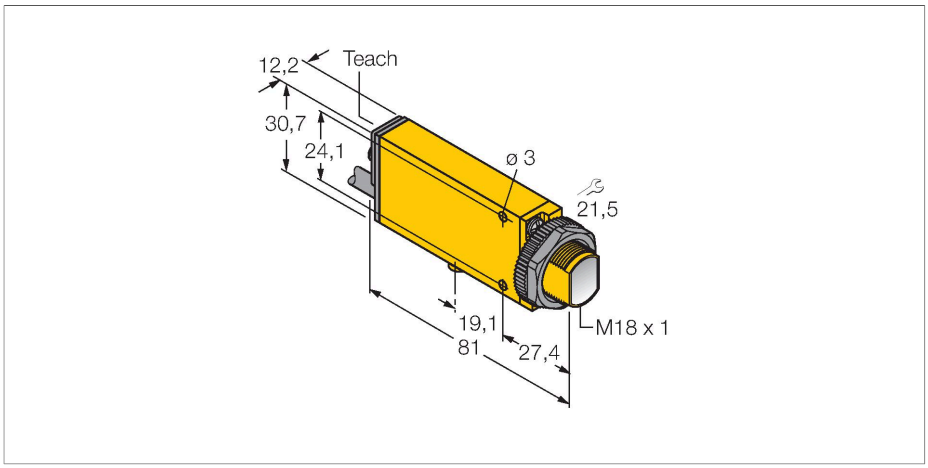
SMU31RL
Photoelectric Sensor – Opposed Mode Sensor (Emitter/ Receiver)



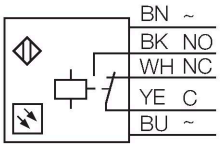
Technical data

Type	SMU31RL
ID	3055897
Optical data	
Function	Opposed mode sensor
Operating mode	Receiver
Range	30000 mm
Electrical data	
Operating voltage	24…240 VDC
Operating voltage	24…240 VAC
DC rated operational current	≤ 3000 mA
AC rated operational current	≤ 3000 mA
Output function	NO/NC, Relay output
Switching frequency	≤ 25 Hz
Readiness delay	≤ 0 ms
Response time typical	< 20 ms
Max. DC switching capacity	1 W
Setting option	Potentiometer
Mechanical data	
Design	Rectangular with thread, Mini Beam
Dimensions	Ø 18 x 81 x 12.3 x 30.7 mm
Housing material	Plastic, Thermoplastic material, Yellow
Lens	plastic, Acrylic
Electrical connection	Cable, 2 m, PVC
Number of cores	5
Core cross-section	0.5 mm^2
Ambient temperature	-20…+55 °C

Features

- Cable, PVC, 2 m
- Protection class IP67
- Sensitivity adjustable via potentiometer
- Alignment indicator
- Operating voltage: 24…240 VDC or 24… 240 VAC
- Relay output

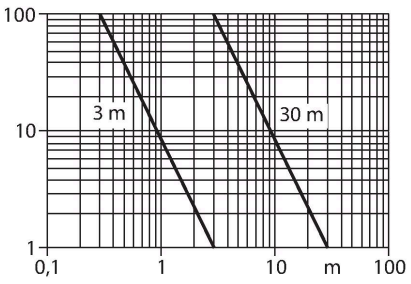
Wiring diagram



Functional principle

Opposed mode sensors consist of an emitter and receiver. They are installed opposite each other so that the light from the emitter is aimed directly at the receiver. When an object interrupts or weakens the light beam, the sensor switches. Opposed mode sensors are the most reliable photoelectric sensors for detection of opaque targets. An excellent contrast between light and dark conditions and an extremly high excess gain are typical of this sensing mode, thus allowing operation over larger distances and under difficult conditions.

Excess gain curve
Excess gain in relation to the distance

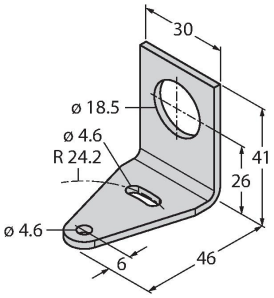


Technical data

Protection class	IP67
Special features	Encapsulated
Switching state	LED, Red
Excess gain indication	LED, red, flashing
Tests/approvals	
MTTF	777 years acc. to SN 29500 (Ed. 99) 40 °C
Approvals	CE, cURus, CSA

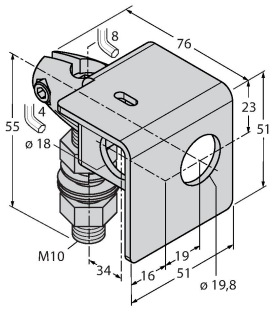
Accessories

SMB18A 3033200



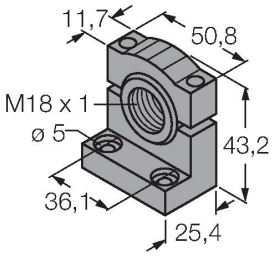
Mounting bracket, rectangular, stainless steel, for sensors with 18 mm thread

SMB18AFAM10 3012558



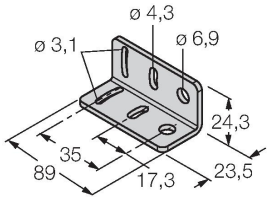
Mounting bracket, material VA 1.4401, for M10 x 1.5 thread, thread length 18 mm

SMB18SF 3052519



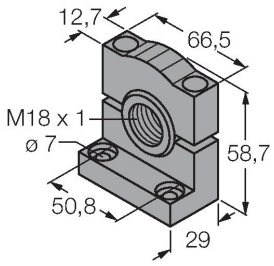
Mounting bracket, PBT black, for sensors with 18 mm thread, rotatable

SMB312B 3025519



Mounting bracket, stainless steel, for MINI-BEAM NAMUR

SMB3018SC 3053952



Mounting bracket, PTB black, for sensors with 18 mm thread