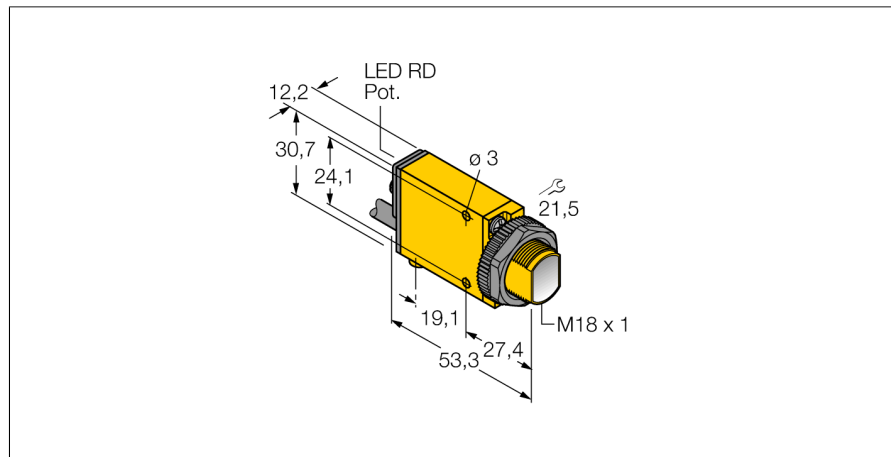


Photoelectric Sensor

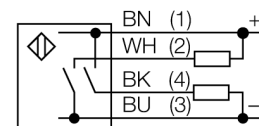
Opposed Mode Sensor (Emitter/Receiver)

SM31RPDMHS



- Cable, PVC, 2 m
- Protection class IP67
- Sensitivity adjustable via potentiometer
- Alignment indicator
- Operating voltage: 10...30 VDC
- Switching output, bipolar
- Light/dark operation

Wiring Diagram



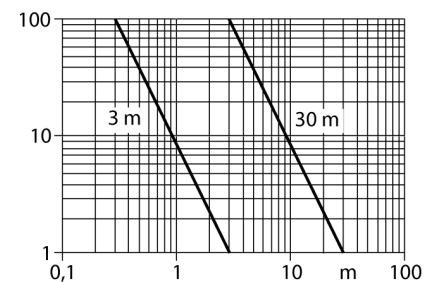
Type	SM31RPDMHS
ID	3027333
Optical data	
Function	Opposed mode sensor
Operating mode	Receiver
Electrical data	
Operating voltage U_s	10...30 VDC
Residual ripple	< 10 % U_s
DC rated operating current I_s	≤ 150 mA
No-load current I_0	≤ 25 mA
Output function	NO contact, PNP/NPN
Switching frequency	≤ 500 Hz
Readiness delay	≤ 100 ms
Overcurrent release	> 220 mA
Mechanical data	
Design	Rectangular, Mini Beam
Housing material	Plastic, PBT, Yellow
Lens	plastic, Acrylic
Electrical connection	Cable, 2 m, PVC
Number of cores	4
Core cross-section	0.5 mm ²
Ambient temperature	-20...+70 °C
Protection class	IP67
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

Functional principle

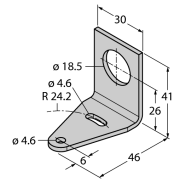
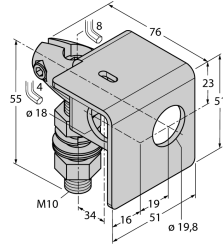
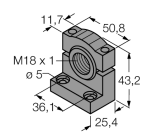
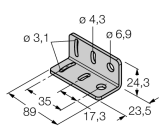
Opposed mode sensors consist of an emitter and receiver. They are installed opposite each other so that the light from the emitter is aimed directly at the receiver. When an object interrupts or weakens the light beam, the sensor switches. Opposed mode sensors are the most reliable photoelectric sensors for detection of opaque targets. An excellent contrast between light and dark conditions and an extremely 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



Accessories

Type code	Ident no.		Dimension drawing
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	