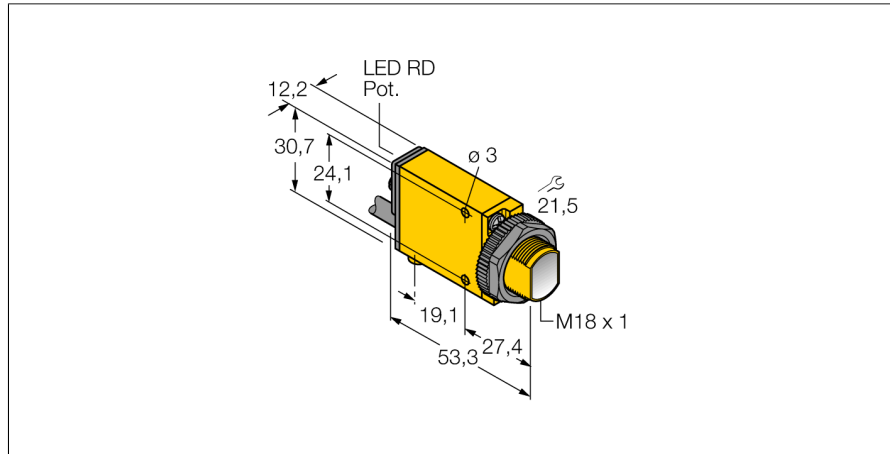
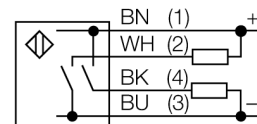


Photoelectric Sensor Opposed Mode Sensor (Emitter/Receiver) SM31RPDMHS W/30



- 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



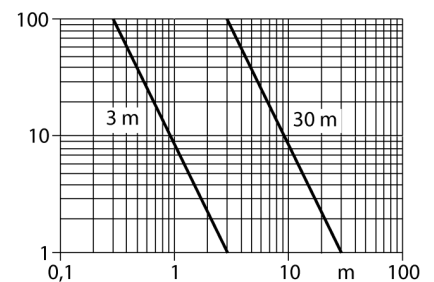
Type	SM31RPDMHS W/30
ID	3035658
Optical data	
Function	Opposed mode sensor
Operating mode	Receiver
Wavelength	650 nm
Electrical data	
Operating voltage U_s	10...30 VDC
Residual ripple	< 10 % U_s
DC rated operating current I_s	≤ 150 mA
No-load current I_0	≤ 25 mA
Output function	NO contact, PNP/NPN
Switching frequency	≤ 500 Hz
Readiness delay	≤ 100 ms
Response time typical	< 0.3 ms
Overcurrent release	> 220 mA
Setting option	Potentiometer
Mechanical data	
Design	Rectangular with thread, Mini Beam
Dimensions	Ø 18 x 53.3 x 12.3 x 30.7 mm
Housing material	Plastic, Thermoplastic material, Yellow
Lens	plastic, Acrylic
Electrical connection	Cable, 9 m, PVC
Number of cores	4
Core cross-section	0.5 mm ²
Ambient temperature	-20...+70 °C
Protection class	IP67
Special features	
	Clear object detection
	Encapsulated
Switching state	LED, Red
Excess gain indication	LED, red, flashing

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.

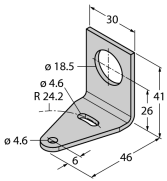
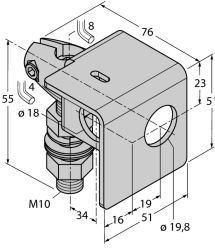
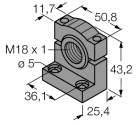
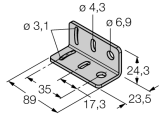
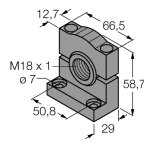
Excess gain curve

Excess gain in relation to the distance



Tests/approvals	
MTTF	777 years acc. to SN 29500 (Ed. 99) 40 °C
Approvals	CE, cURus, CSA

Accessories

Type code	Ident no.		Dimension drawing
SMB18A	3033200	Mounting bracket, rectangular, stainless steel, for sensors with 18 mm thread	 <p>Technical drawing of a rectangular stainless steel mounting bracket. Dimensions include: width 30, height 41, mounting hole diameter $\phi 18.5$, hole offset $\phi 4.6$, radius $R24.2$, and base dimensions 6, 46, and 26.</p>
SMB18AFAM10	3012558	Mounting bracket, material VA 1.4401, for M10 x 1.5 thread, thread length 18 mm	 <p>Technical drawing of a mounting bracket for M10 x 1.5 thread. Dimensions include: total width 76, height 23, mounting hole diameter $\phi 18$, and various offset dimensions: 8, 55, 4, 34, 16, 19, 51, and $\phi 19.8$.</p>
SMB18SF	3052519	Mounting bracket, PBT black, for sensors with 18 mm thread, rotatable	 <p>Technical drawing of a rotatable PBT black mounting bracket. Dimensions include: width 50.8, height 43.2, mounting hole diameter $\phi 18$, and other dimensions: 11.7, 38.1, 25.4, and $\phi 5$.</p>
SMB312B	3025519	Mounting bracket, stainless steel, for MINI-BEAM NAMUR	 <p>Technical drawing of a stainless steel mounting bracket for MINI-BEAM NAMUR. Dimensions include: width 89, height 24.3, mounting hole diameter $\phi 3.1$, and other dimensions: 35, 17.3, 23.5, $\phi 4.3$, and $\phi 6.9$.</p>
SMB3018SC	3053952	Mounting bracket, PTB black, for sensors with 18 mm thread	 <p>Technical drawing of a PTB black mounting bracket. Dimensions include: width 66.5, height 58.7, mounting hole diameter $\phi 18$, and other dimensions: 12.7, 50.8, and 29.</p>