

Photoelectric Sensor

Opposed Mode Sensor (Receiver)

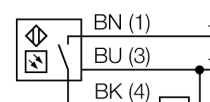
TM18AP6RQ5

Type	TM18AP6RQ5
ID	3042055
Optical data	
Function	Opposed mode sensor
Operating mode	Receiver
Range	0...20000 mm
Electrical data	
Operating voltage U_a	10...30 VDC
No-load current I_0	≤ 25 mA
Short-circuit protection	yes/Cyclic
Reverse polarity protection	yes
Output function	NO contact, light operation, PNP
Switching frequency	≤ 440 Hz
Readiness delay	≤ 100 ms
Response time typical	< 1.5 ms
Mechanical data	
Design	Tube, TM18
Dimensions	Ø 18 x 30 x 30 x 41 mm
Housing material	Metal, Zinc Die-Cast with Nickel-Plating
Lens	plastic, Polycarbonate
Electrical connection	Cable with connector, M12 × 1, 0.15 m, PVC
Number of cores	4
Core cross-section	0.5 mm ²
Ambient temperature	-40...+70 °C
Protection class	IP67 IP69
Special features	
	Encapsulated
	Wash down
Power-on indication	LED, Green
Switching state	LED, Yellow
Error indication	LED, green, Flashing
Excess gain indication	LED
Alarm display	LED yellow Flashing
Tests/approvals	
Approvals	CE, UL



- Cable with male end M12 × 1, 4-pin, PUR, 150 mm
- Protection class IP67
- Ambient temperature: -40 °C...+70 °C
- Metal housing
- Operating voltage: 10...30 VDC
- PNP switching output, light operation

Wiring Diagram

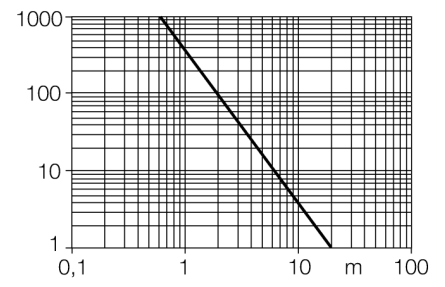


Functional principle

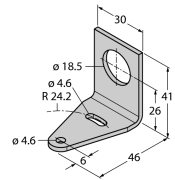
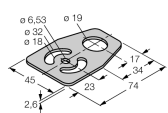
Opposed mode sensors consist of an emitter and receiver. They are installed opposite each other so that the light from the emitter is aimed directly at the receiver. When an object interrupts or weakens the light beam, the sensor switches. Opposed mode sensors are the most reliable photoelectric sensors for detection of opaque targets. An excellent contrast between light and dark conditions and an 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
SMBT18Y	3069554	mounting bracket, rectangular, for sensors with 18 mm thread, 15.3 mm cable feedthrough or M12 x 1 male	 Technical drawing of the SMBT18Y mounting bracket. It is a rectangular bracket with a vertical flange. Dimensions include: top flange width 30 mm, total width 46 mm, bottom flange width 6 mm, vertical flange height 41 mm, mounting hole diameter $\varnothing 18.5$, cable feedthrough hole diameter $\varnothing 4.6$, and a radius $R 24.2$ on the bottom flange.
SMB18A	3033200	Mounting bracket, rectangular, stainless steel, for sensors with 18 mm thread	
SMBAMS18P	3073134	Mounting bracket, stainless steel, for sensors with 18 mm thread	 Technical drawing of the SMBAMS18P mounting bracket. It is a rectangular bracket with two mounting holes. Dimensions include: overall width 74 mm, overall height 45 mm, mounting hole diameter $\varnothing 19$, hole spacing 34 mm, hole diameter $\varnothing 15$, and a small hole diameter $\varnothing 6.53$.