

Photoelectric Sensor

Diffuse Mode Sensor with Fixed-Field Background Suppression

TM18VP6FF25Q5

Type	TM18VP6FF25Q5
ID	3042059

Optical data	
Function	Proximity switch
Operating mode	Background suppression, non-adjustable
Light type	Red
Wavelength	660 nm
Range	0...25 mm

Electrical data	
Operating voltage U_o	10...30 VDC
No-load current I_o	≤ 25 mA
Short-circuit protection	yes/Cyclic
Reverse polarity protection	yes
Output function	Complementary contact, PNP
Switching frequency	≤ 220 Hz
Readiness delay	≤ 100 ms
Response time typical	< 3 ms

Mechanical data	
Design	Tube, TM18
Dimensions	$\varnothing 18 \times 30 \times 30 \times 41$ mm
Housing material	Metal, Zinc Die-Cast with Nickel-Plating
Lens	plastic, Acrylic
Electrical connection	Cable with connector, M12 $\times$ 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

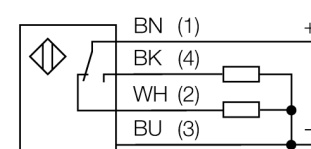
Special features	
Power-on indication	LED, Green
Switching state	LED, Yellow
Error indication	LED, green, Flashing
Excess gain indication	LED
Alarm display	LED yellow Flashing

Tests/approvals	
MTTF	448 years acc. to SN 29500 (Ed. 99) 40 °C
Approvals	CE, UL



- Cable with male end M12 $\times$ 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 and dark operation

Wiring Diagram

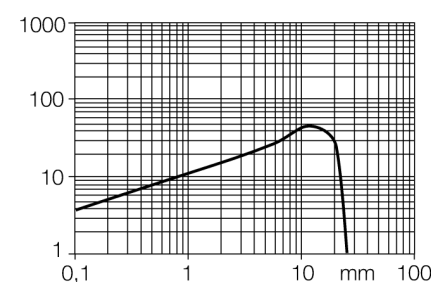


Functional principle

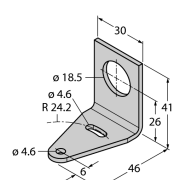
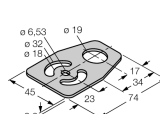
The emitter and receiver are incorporated in a single housing. The light reflection of the target is detected and triggers the sensor to switch. Thus the switching distance largely depends on the reflectivity of the target.

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 plate with four mounting holes. Dimensions include: overall width 74 mm, overall height 45 mm, mounting hole diameter $\varnothing 19$, hole-to-hole distance 32 mm, hole-to-edge distance 17 mm, and a thickness of 2.6 mm.