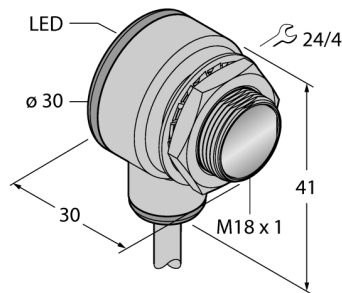


Photoelectric Sensor

Diffuse Mode Sensor with Fixed-Field Background Suppression

TM18VP6FF100



Type	TM18VP6FF100
ID	3042041

Optical data	
Function	Proximity switch
Operating mode	Background suppression, non-adjustable
Light type	Red
Wavelength	660 nm
Range	0...100 mm

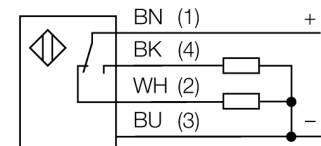
Electrical data	
Operating voltage U_a	10...30 VDC
No-load current I_0	≤ 25 mA
Short-circuit protection	yes/Cyclic
Reverse polarity protection	yes
Output function	Complementary contact, PNP
Switching frequency	≤ 220 Hz
Readiness delay	≤ 100 ms
Response time typical	< 3 ms

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, Acrylic
Electrical connection	Cable, 2 m, PVC
Number of cores	4
Core cross-section	0.5 mm ²
Ambient temperature	-40...+70 °C
Protection class	IP67

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

- Cable, 2 m
- Protection class IP67
- Ambient temperature: -40...+70 °C
- Metal housing
- Operating voltage: 10...30 VDC
- PNP switching output, light and dark operation

Wiring Diagram

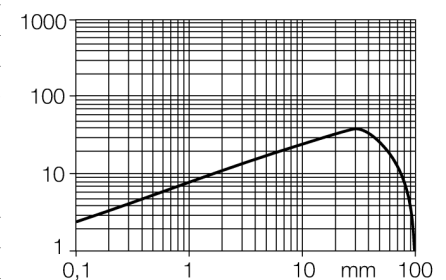


Functional principle

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.

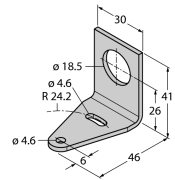
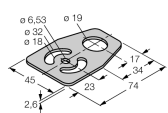
Excess gain curve

Excess gain in relation to the distance



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

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, 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 two mounting holes. Dimensions include: overall width 74 mm, overall height 45 mm, mounting hole diameter $\varnothing 19$, hole-to-hole distance 34 mm, hole-to-edge distance 17 mm, and a central slot with a width of 23 mm and a depth of 2.6 mm. Other hole diameters shown are $\varnothing 6.53$ and $\varnothing 15$.