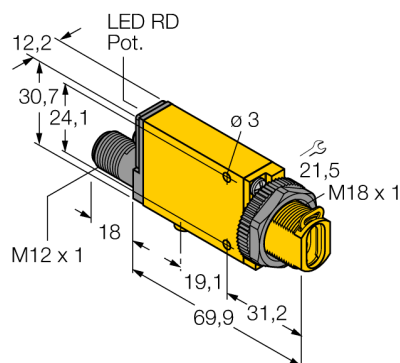


Photoelectric Sensor

Photoelectric Sensor for Glass Fibers

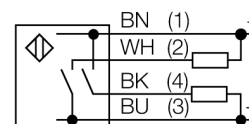
SM312FVBMHSQD



Type	SM312FVBMHSQD
ID	3047281
Optical data	
Function	Fiber optic sensor
Operating mode	Glass fiber
Fiber-optic type	glass
Light type	Blue
Wavelength	475 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_o	≤ 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
Housing material	Plastic, Thermoplastic material, Yellow
Electrical connection	Connector, M12 × 1, PVC
Number of cores	4
Ambient temperature	-20...+70 °C
Relative humidity	0...90%
Protection class	IP67
Special features	
Switching state	LED, Red
Excess gain indication	LED, red, flashing
Tests/approvals	
Approvals	CE, cURus, CSA

- Male M12 × 1, 4-pin
- Protection class IP67
- Sensitivity adjusted via potentiometer
- Alignment indicator
- Operating voltage: 10...30 VDC
- Switching output, bipolar
- Light/dark operation

Wiring Diagram

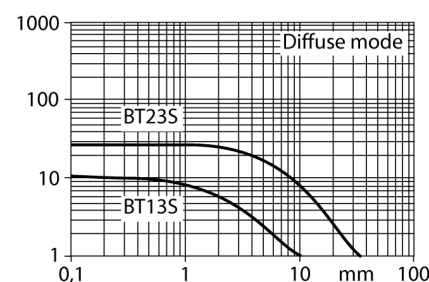


Functional principle

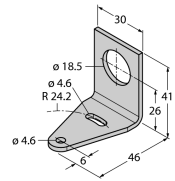
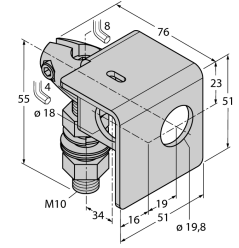
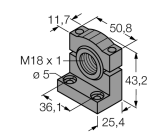
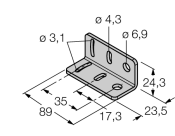
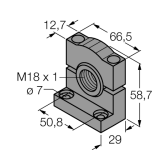
Glass or plastic fibers are the optimum choice for high-temperature applications and limited spaces. Optical fibers transfer the light from the sensor to a remote object. Individual fibers are used for opposed sensing mode, whereas bifurcated fibers are suited for diffuse sensing mode.

Excess gain curve

Excess gain in relation to 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	

Function accessories

Type code	Ident no.		Dimension drawing
BT23S	3017276	Glass fiber, sensing mode: Diffuse mode, threaded sleeve (brass), bundle diameter 3.2 mm, flexible stainless steel jacket, ambient temperatures -140...+250 °C	
IT23S	3017355	Glass fiber, sensing mode: Opposed mode, threaded sleeve (brass), bundle diameter 3.2 mm, flexible stainless steel jacket, ambient temperatures -140...+250 °C	