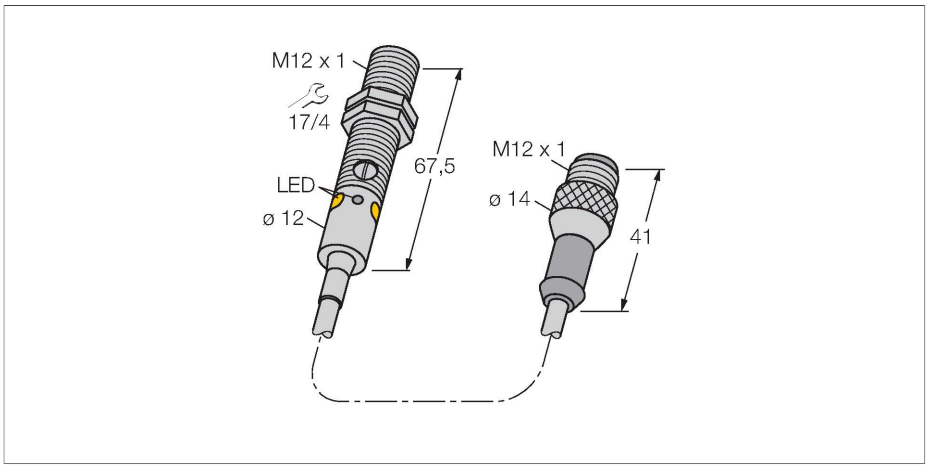
M12NDQPMA
Photoelectric Sensor – Diffuse Mode Sensor



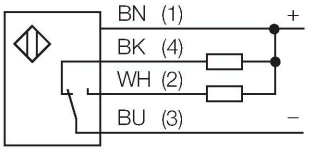
Technical data

Type	M12NDQPMA
ID	3077738
Optical data	
Function	Proximity switch
Operating mode	Diffuse
Light type	Red
Wavelength	660 nm
Range	0…400 mm
Electrical data	
Operating voltage	10…30 VDC
Residual ripple	< 10 % U_{ss}
DC rated operational current	≤ 100 mA
No-load current	≤ 20 mA
Short-circuit protection	yes
Reverse polarity protection	yes
Output function	Complementary contact, NPN
Switching frequency	≤ 1000 Hz
Readiness delay	≤ 100 ms
Response time typical	< 0.5 ms
Setting option	Potentiometer
Mechanical data	
Design	Tube, M12
Dimensions	Ø 12 x 67.5 mm
Housing material	Metal, Nickel-plated brass, Nickel Plated
Lens	plastic, PMMA
Electrical connection	Cable with connector, M12 × 1, 0.15 m, PUR

Features

- Cable with male end M12 × 1, 4-pin, PUR, 150 mm
- Protection classes IP67 / IP68
- Metal housing
- LED all-round visible
- Indication of insufficient excess gain
- Sensitivity adjustable via potentiometer
- Operating voltage: 10…30 VDC
- NPN switching output, changeover

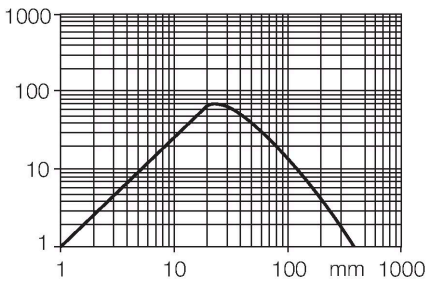
Wiring diagram



Functional principle

Identical to retro-reflective sensors, emitter and receiver circuitry are incorporated in the same housing of the diffuse mode sensors. However, diffuse mode sensors do not detect the interruption of the light beam but the reflection of the target. A target is detected if it reflects a sufficient amount of light back to the receiver. The switching distance of diffuse mode sensors thus largely depends on the reflectivity of the target.

Excess Gain Curve



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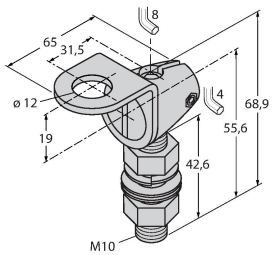
Technical data

Number of cores	4
Ambient temperature	-20…+60 °C
Protection class	IP67 IP68
Special features	Encapsulated Wash down
Power-on indication	LED, Green
Switching state	LED, Yellow
Error indication	LED, green, Flashing
Excess gain indication	LED, yellow, flashing
Tests/approvals	
MTTF	46 years acc. to SN 29500 (Ed. 99) 40 °C
Approvals	CE

Accessories

SMB12FAM10 3011221

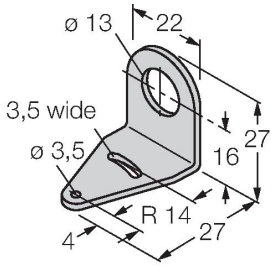


Mounting bracket, stainless steel, for M12, M10 x 1.5 thread

SMB12MM 3027635

Mounting bracket, stainless steel, for M12

SMBQS12PD 3059606



Mounting bracket; material VA 1.4401, for Q12 & M12 series

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