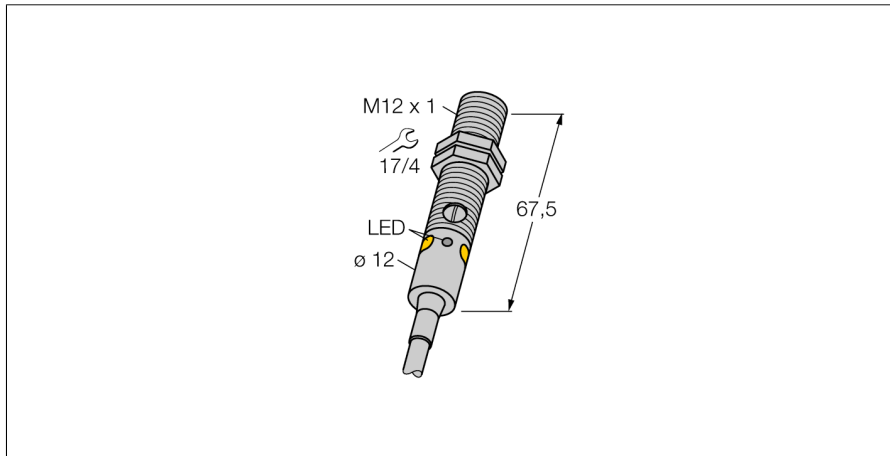
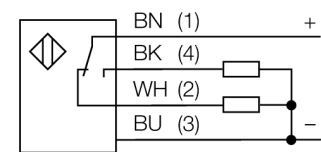


**Photoelectric sensor
diffuse mode sensor
M12PD**



- Cable, PVC, 2 m, 4-wire
- Protection classes IP67 / IP68
- Metal housing
- LED all-round visible
- Indication of insufficient excess gain
- Sensitivity adjustable via potentiometer
- Operating voltage: 10...30 VDC
- PNP switching output, changeover

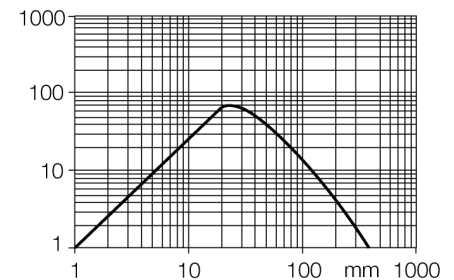
Wiring diagram



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



Type code	M12PD
Ident no.	3077178
Operating mode	diffuse mode sensor
Light type	red
Wavelength	660 nm
Range	0...400 mm
Ambient temperature	-20...+60 °C
Operating voltage	10...30VDC
Residual ripple	< 10 % U _s
DC rated operational current	≤ 100 mA
No-load current I ₀	≤ 20 mA
Short-circuit protection	yes
Reverse polarity protection	yes
Output function	changover contact, PNP
Switching frequency	≤ 1000 Hz
Readiness delay	≤ 100 ms
Design	threaded barrel, M12
Dimensions	67.5 mm
Housing diameter	12 mm
Housing material	metal, CuZn, nickel-plated
Lens	plastic, PMMP
Connection	cable, PVC
Cable length	2 m
Cable cross section	4 x 0.35 mm ²
Protection class	IP68
MTTF	46 years acc. to SN 29500 (Ed. 99) 40 °C
Power-on indication	LED green
Switching state	LED yellow
Error indication	LED green flashing
Excess gain indication	LED yellow flashing

Photoelectric sensor
diffuse mode sensor
M12PD

Accessories

Type code	Ident no.	Description	Dimension drawing
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	