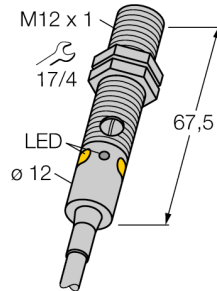


Photoelectric Sensor

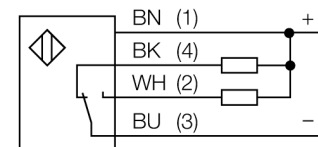
Opposed Mode Sensor (Emitter/Receiver)

M12NR W/30



- Cable, PVC, 9 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
- NPN switching output, changeover

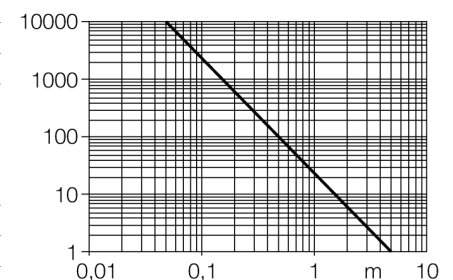
Wiring Diagram



Functional principle

Opposed mode sensors consist of an emitter and receiver. They are installed opposite each other so that the light from the emitter is aimed directly at the receiver. When an object interrupts or weakens the light beam, the sensor switches. Opposed mode sensors are the most reliable photoelectric sensors for detection of opaque targets. An excellent contrast between light and dark conditions and an extremely high excess gain are typical of this sensing mode, thus allowing operation over larger distances and under difficult conditions.

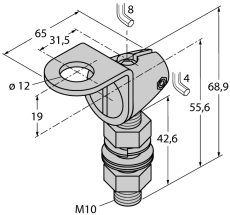
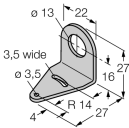
Excess Gain Curve



Type	M12NR W/30
ID	3077211
Optical data	
Function	Opposed mode sensor
Operating mode	Receiver
Wavelength	660 nm
Range	0...5000 mm
Electrical data	
Operating voltage U_s	10...30 VDC
Residual ripple	< 10 % U_s
DC rated operating current I_s	≤ 100 mA
No-load current I_0	≤ 20 mA
Short-circuit protection	yes
Reverse polarity protection	yes
Output function	Complementary contact, NPN
Switching frequency	≤ 500 Hz
Readiness delay	≤ 100 ms
Response time typical	< 0.625 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, 9 m, PVC
Number of cores	4
Core cross-section	0.35 mm ²
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

Type code	Ident no.		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	