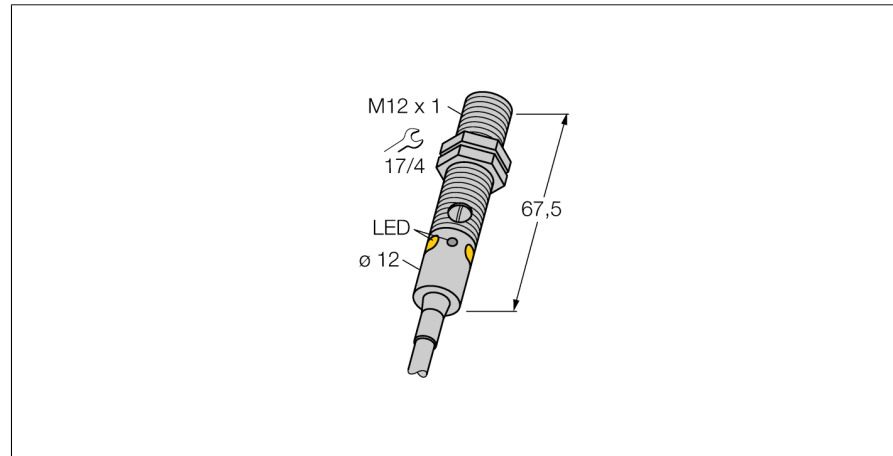
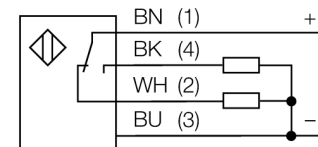


Photoelectric sensor
diffuse mode sensor with fixed-field background suppression
M12PFF50



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

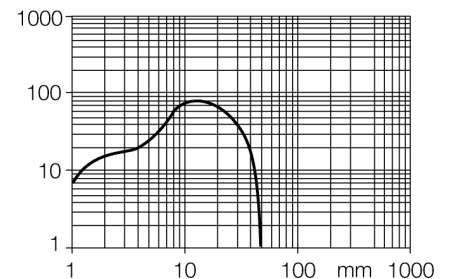
Wiring diagram



Functional principle

Diffuse mode sensors with background suppression operate with a single emitter and several receiver elements. The target position and the photoelectric structure of the sensor determine which of the receiving elements receives the most light. The sensor electronics determine whether the reflecting object is within or outside the measuring range. These sensors come with a fixed cut-off point.

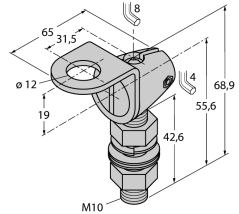
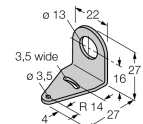
Excess gain curve



Type code	M12PFF50
Ident no.	3077194
Operating mode	diffuse mode sensor with fixed-field background suppression
Light type	red
Wavelength	680 nm
Range	0...50 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	changeover 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 with fixed-field background suppression
M12PFF50**

Accessories

Type code	Ident no.	Description	Dimension drawing
SMB12FAM10	3011221	Mounting bracket, stainless steel, for M12, M10 x 1.5 thread	 <p>Technical drawing of the SMB12FAM10 mounting bracket. It shows a side view of a stainless steel bracket with an M12 hole and an M10 threaded section. Dimensions include: 65 (total width), 31.5 (width to hole center), 19 (hole offset), 12 (hole diameter), 4 (hole depth), 42.6 (thread length), 55.6 (total height), and 68.9 (total height including top flange).</p>
SMB12MM SMBQS12PD	3027635 3059606	Mounting bracket, stainless steel, for M12 Mounting bracket; material VA 1.4401, for Q12 & M12 series	 <p>Technical drawing of the SMB12MM/SMBQS12PD mounting bracket. It shows a side view of a stainless steel bracket with an M12 hole. Dimensions include: 13 (hole diameter), 22 (hole offset), 3.5 (width), 3.5 (hole diameter), 16 (hole depth), 27 (total height), 4 (hole offset), and R14 (radius).</p>