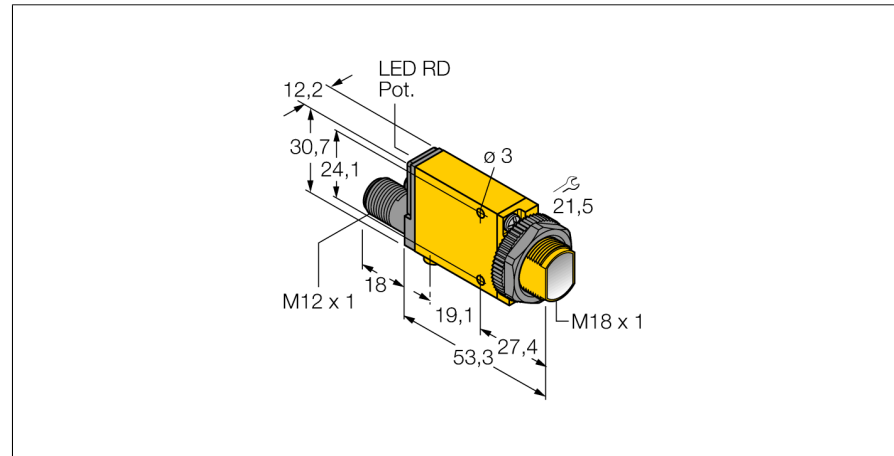
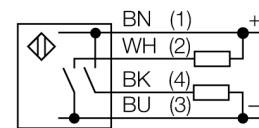


**Photoelectric sensor
diffuse mode sensor
SM312DQD**



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

Wiring diagram



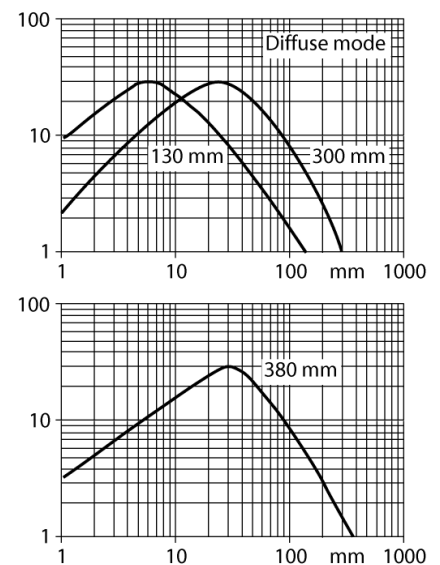
Type code	SM312DQD
Ident no.	3026834
Operating mode	
Light type	diffuse mode sensor
Wavelength	IR
Range	880 nm
Ambient temperature	0...380 mm
	-20...+70 °C
Operating voltage	
Residual ripple	10...30VDC
DC rated operational current	< 10 % U _s
No-load current I ₀	≤ 150 mA
Output function	≤ 25 mA
Switching frequency	NO contact, PNP/NPN
Readiness delay	≤ 500 Hz
Overcurrent release	≤ 100 ms
	> 220 mA
Design	
Dimensions	rectangular, Mini Beam
Housing material	71.3 x 12.3 x 30.7 mm
Lens	plastic, PBT, yellow
Connection	plastic, acrylic
Protection class	male, M12 x 1
	IP67
Switching state	
Excess gain indication	LED red
	LED red flashing

Functional principle

Diffuse mode sensors incorporate the emitter and receiver in a single housing. However, diffuse mode sensors do not detect the interruption of the light beam like opposed mode sensors, 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

Excess gain in relation to the distance

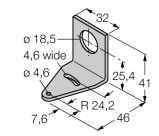
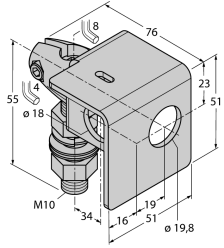
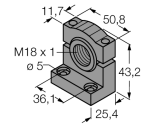
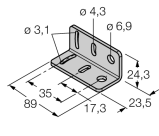
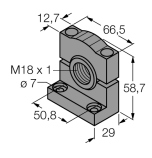


Photoelectric sensor
diffuse mode sensor
SM312DQD

TURCK

Industrial
Automation

Accessories

Type code	Ident no.	Description	Dimension drawing
SMB18A	3033200	Mounting bracket, 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, PTB black steel, for sensors with 18 mm thread	
SMB312B	3025519	Mounting bracket, stainless steel, for MINI-BEAM NAMUR	
SMB3018SC	3053952	Mounting bracket, PTB black, for sensors with 18 mm thread	

**Photoelectric sensor
diffuse mode sensor
SM312DQD**

TURCK

Industrial
Automation

Wiring accessories

Type code	Ident no.	Description	Dimension drawing
RKC4.4T-2/TEL	6625013	Connection cable, female M12, straight, 4-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see www.turck.com	
WKC4.4T-2/TEL	6625025	Connection cable, female M12, angled, 4-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see www.turck.com	
WKC4.5T-2/TEL	6625028	Connection cable, female M12, angled, 5-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see www.turck.com	
RKC4.5T-2/TEL	6625016	Connection cable, female M12, straight, 5-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see www.turck.com	