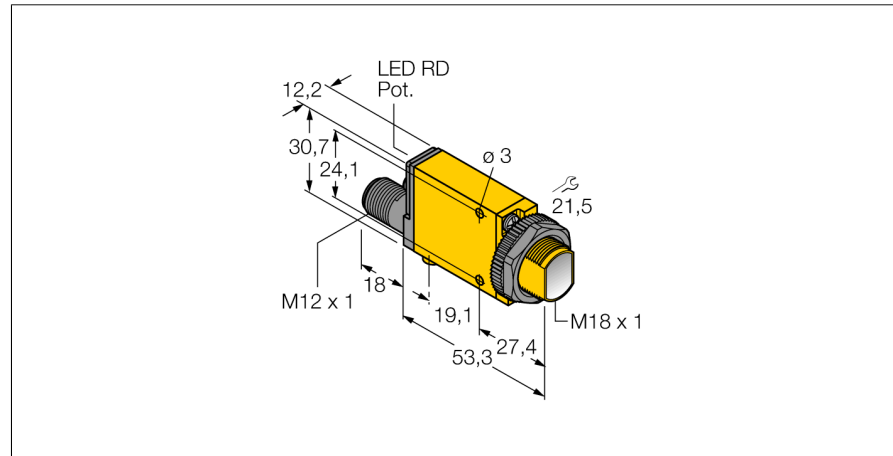
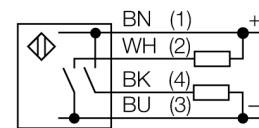


**Photoelectric sensor
convergent mode sensor
SM312CVQD**



- 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



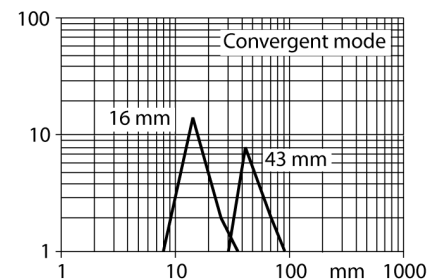
Type code	SM312CVQD
Ident no.	3026832
Operating mode	
Light type	convergent mode sensor
Wavelength	red
Focal distance	650 nm
Ambient temperature	16 mm
	-20...+70 °C
Operating voltage	
Residual ripple	10...30VDC
DC rated operational current	< 10 % U _s
No-load current I ₀	≤ 150 mA
Output function	≤ 25 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

Convergent mode sensors are equipped with a lens in front of the emitter diode that produces a small and intense focal point at a defined distance from the sensor. Similar to diffuse mode sensors, the light reflected by the target is evaluated. Convergent mode sensors are ideal for detection of small targets or colour marks and edge guiding or positioning control of transparent materials. The targets must always be within the focal depth of the sensors. The focal depth is defined as the area in front of or behind the focal point within which the object can be detected. Based on the intense light concentration in the focal point, convergent mode sensors are capable of detecting targets with a low reflectivity.

Excess gain curve

Excess gain in relation to the distance



Photoelectric sensor
convergent mode sensor
SM312CVQD

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
convergent mode sensor
SM312CVQD**

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	