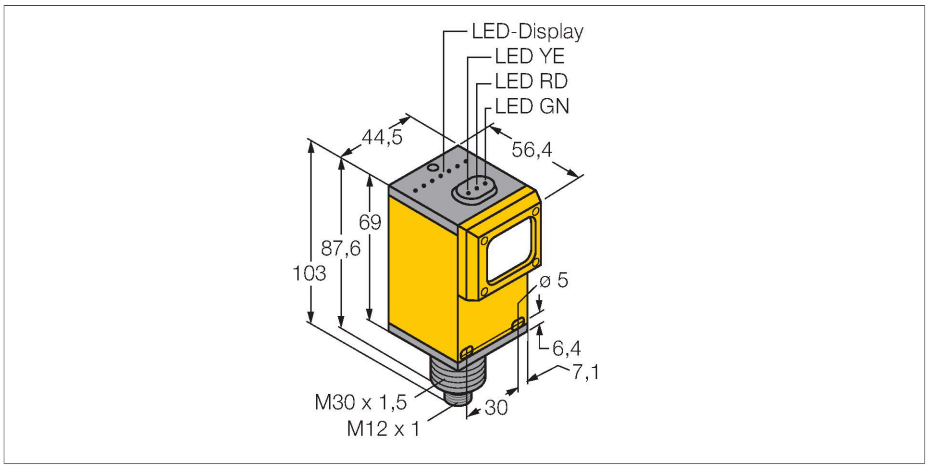
Q45BW22CV4Q1
Photoelectric Sensor – Convergent Mode Sensor



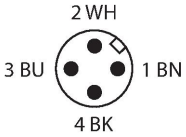
Technical data

Type	Q45BW22CV4Q1
ID	3040220
Optical data	
Function	Proximity switch
Operating mode	Convergent
Light type	Red
Wavelength	680 nm
Focal distance	100 mm
Range	100 mm
Electrical data	
Operating voltage	90…250 VAC
No-load current	≤ 50 mA
Output function	NO contact, Relay output
Readiness delay	≤ 100 ms
Response time typical	< 2 ms
Setting option	Potentiometer
Mechanical data	
Design	Rectangular, Q45
Dimensions	Ø 30 x 56.4 x 44.5 x 102.6 mm
Housing material	Plastic, Thermoplastic material
Lens	plastic, Acrylic
Electrical connection	Connector, 1/2", PVC
Number of cores	4
Ambient temperature	-40…+70 °C
Protection class	IP67
Special features	keep/defer
Power-on indication	LED, Green

Features

- M12 × 1 male connector
- Protection class IP67
- Sensitivity adjusted via potentiometer
- Operating voltage: 90…250 VAC
- Relay output, NO (SPST)
- Light or dark operation, adjusted via selector switch

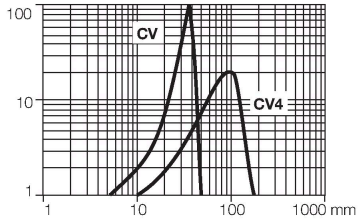
Wiring diagram



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



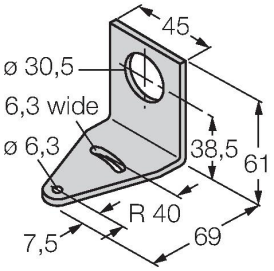
Q45BW22CV4Q1 | 19-01-2022 01-31 | Technical modifications reserved

Technical data

Switching state	LED, Yellow
Error indication	LED, green
Excess gain indication	LED, red
Tests/approvals	
MTTF	67 years acc. to SN 29500 (Ed. 99) 40 °C
Approvals	CE, cURus, CSA

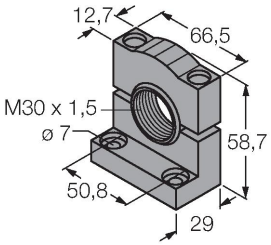
Accessories

SMB30A 3032723



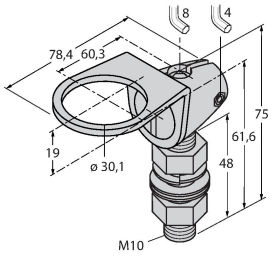
Mounting bracket, rectangular, stainless steel, for sensors with 30mm thread

SMB30SC 3052521



Mounting bracket, PBT black, for sensors with 30 mm thread, rotatable

SMB30FAM10 3011185



Mounting bracket, stainless steel, for M10 x 1.5 thread, thread length 30 mm

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