

Q45VR2D

Photoelectric Sensor – Diffuse Mode Sensor



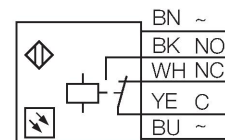
Technical data

Type	Q45VR2D
ID	3000343
Optical data	
Function	Proximity switch
Operating mode	Diffuse
Light type	IR
Wavelength	880 nm
Range	0...450 mm
Electrical data	
Operating voltage	90...250 VAC
No-load current	≤ 50 mA
Output function	Complementary contact, Relay output
Readiness delay	≤ 100 ms
Mechanical data	
Design	Rectangular, Q45
Dimensions	56.4 x 44.5 x 87.6 mm
Housing material	Plastic, PBT
Lens	plastic, Acrylic
Electrical connection	Cable, 2 m, PVC
Number of cores	4
Core cross-section	0.34 mm ²
Ambient temperature	-40...+70 °C
Protection class	IP67
Power-on indication	LED, Green
Switching state	LED, Yellow
Error indication	LED, green
Excess gain indication	LED, red

Features

- Cable, PVC, 2 m
- Protection class IP67
- Sensitivity adjusted via potentiometer
- Operating voltage: 90...250 VAC
- Relay output, changeover (SPDT)
- Light or dark operation, adjusted via selector switch

Wiring diagram



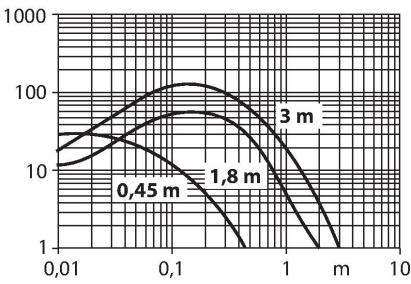
Functional principle

Like retroreflective sensors, diffuse mode sensors also contain emitter and receiver circuitry in the same housing. However, diffuse mode sensors do not detect the interruption of the light beam but the reflection of the object. An object is detected if it reflects sufficient light back to the receiver. The switching distance of diffuse mode sensors thus largely depends on the object's reflectivity. This type of sensor is especially suited for detection of transparent objects (diffuse mode sensor with or without background suppression or convergent mode sensors).

Excess gain curve
Excess gain in relation to distance

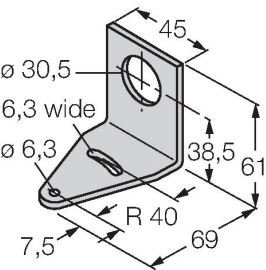
Technical data

Tests/approvals	
MTTF	67 years acc. to SN 29500 (Ed. 99) 40 °C
Approvals	CE, cURus, CSA



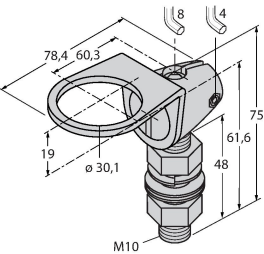
Accessories

SMB30A	3032723
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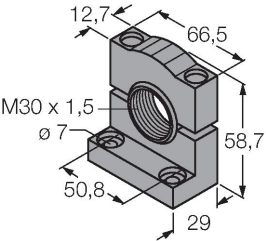
Mounting bracket, rectangular, stainless steel, for sensors with 30mm thread

SMB30FAM10	3011185
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Mounting bracket, stainless steel, for M10 x 1.5 thread, thread length 30 mm

SMB30SC	3052521
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Mounting bracket, PBT black, for sensors with 30 mm thread, rotatable