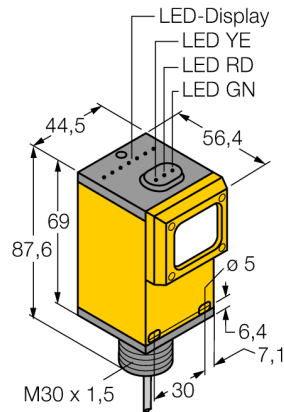


Photoelectric Sensor

Diffuse Mode Sensor

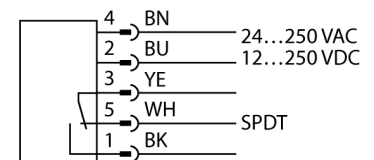
Q45VR3D W/30



Type	Q45VR3D W/30
ID	3002732
Optical data	
Function	Proximity switch
Operating mode	Diffuse
Light type	IR
Wavelength	880 nm
Range	0...450 mm
Electrical data	
Operating voltage U_s	12...250 VDC
Operating voltage U_a	24...250VAC
Output function	Complementary contact, Relay output
Switching frequency	≤ 33 Hz
Readiness delay	≤ 100 ms
Response time typical	< 15 ms
Setting option	Potentiometer
Mechanical data	
Design	Rectangular, Q45
Dimensions	Ø 30 x 56.4 x 44.5 x 87.6 mm
Housing material	Plastic, Thermoplastic material
Lens	plastic, Acrylic
Electrical connection	Cable, 9 m, PVC
Number of cores	5
Core cross-section	0.34 mm ²
Ambient temperature	-25...+55 °C
Protection class	IP67
Special features	
Power-on indication	LED, Green
Switching state	LED, Yellow
Error indication	LED, green
Excess gain indication	LED, red

- Cable, PVC, 2 m
- Protection class IP67
- Sensitivity adjusted via potentiometer
- Operating voltage: 12...250 VDC or 24...250 VAC
- Relay output, changeover (SPDT)
- Light or dark operation, adjusted via selector switch

Wiring Diagram



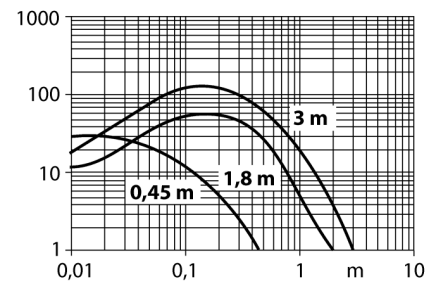
Functional principle

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).

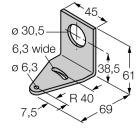
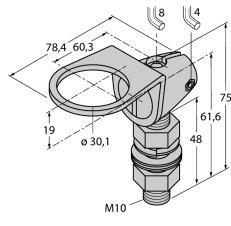
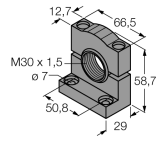
Excess gain curve

Excess gain in relation to distance

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



Accessories

Type code	Ident no.		Dimension drawing
SMB30A	3032723	Mounting bracket, rectangular, stainless steel, for sensors with 30mm thread	 Technical drawing of the SMB30A mounting bracket. It is a rectangular stainless steel bracket for sensors with a 30mm thread. Dimensions include: top width 45, top hole diameter $\varnothing 30,5$, top hole offset 6,3 wide, bottom hole diameter $\varnothing 6,3$, bottom hole offset 38,5, bottom hole offset 6,1, bottom width 69, bottom hole diameter $\varnothing 7,5$, and a radius R 40.
SMB30FAM10	3011185	Mounting bracket, stainless steel, for M10 x 1.5 thread, thread length 30 mm	 Technical drawing of the SMB30FAM10 mounting bracket. It is a stainless steel bracket for M10 x 1.5 thread, with a thread length of 30 mm. Dimensions include: top width 78,4, top hole diameter $\varnothing 60,3$, top hole offset 1, top hole offset 19, top hole diameter $\varnothing 30,1$, top hole offset 48, top hole offset 61,6, top hole offset 75, top hole diameter $\varnothing 8$, top hole offset 4, and a bottom hole diameter $\varnothing 10$.
SMB30SC	3052521	Mounting bracket, PBT black, for sensors with 30 mm thread, rotatable	 Technical drawing of the SMB30SC mounting bracket. It is a PBT black, rotatable bracket for sensors with a 30 mm thread. Dimensions include: top width 12,7, top hole diameter $\varnothing 66,5$, top hole offset 58,7, top hole diameter $\varnothing 7$, top hole offset 50,8, top hole offset 29, and a bottom hole diameter $\varnothing 10$.