Q45VR3R
Photoelectric Sensor – Opposed Mode Sensor (Emitter/Receiver)


LED-Display
LED YE
LED RD
LED GN
44,5
56,4
69
87,6
ø 5
6,4
7,1
M30 x 1,5
30
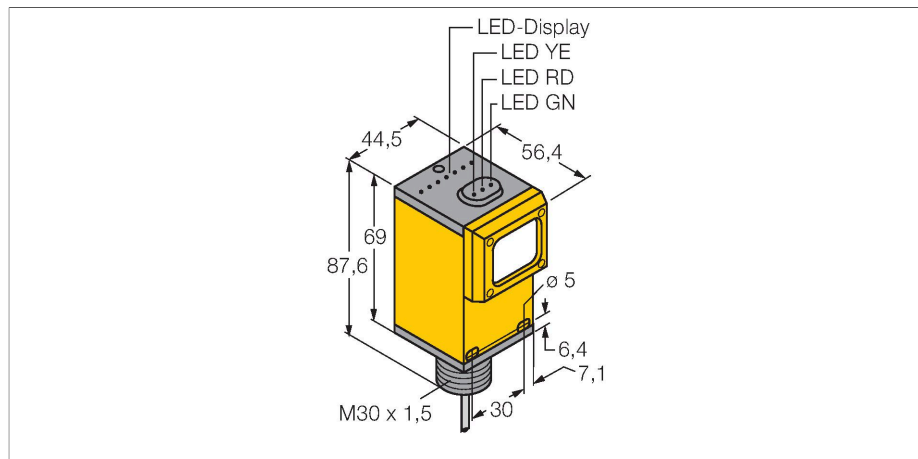
Technical data

Type	Q45VR3R
ID no.	3053982
Optical data	
Function	Opposed mode sensor
Operating mode	Receiver
Light type	IR
Wavelength	880 nm
Range	0…60000 mm
Electrical data	
Operating voltage	12…250 VDC
Operating voltage	24…250 VAC
DC rated operational current	≤ 5000 mA
Output function	Complementary contact, Relay output
Switching frequency	0.033 kHz
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 87.6 x 56.4 x 44.5 mm
Housing material	Plastic, Thermoplastic material
Lens	acrylic, Acrylic
Electrical connection	Cable, 2 m, PVC
Number of cores	5
Core cross-section	0.34 mm^2

Features

- 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

BN ~
BK NO
WH NC
YE C
BU ~
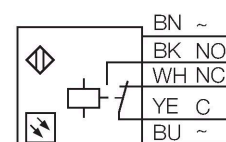
Functional principle

Opposed mode sensors consist of an emitter and receiver. They are installed opposite each other so that the light from the emitter is aimed directly at the receiver. When an object interrupts or weakens the light beam, the sensor switches. Opposed mode sensors are the most reliable photoelectric sensors for detection of opaque targets. An excellent contrast between light and dark conditions and an extremly high excess gain are typical of this sensing mode, thus allowing operation over larger distances and under difficult conditions.
Excess gain curve
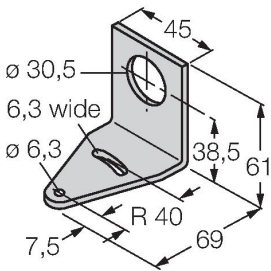Excess gain in relation to the distance

Technical data

Ambient temperature	-40…+70 °C
Protection class	IP67
Special features	keep/defer
Power-on indication	LED, Green
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
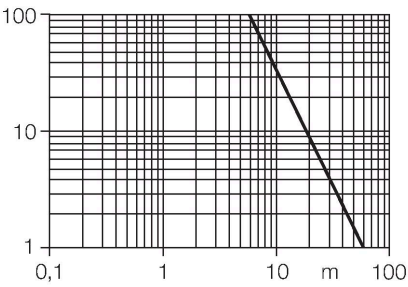
Accessories

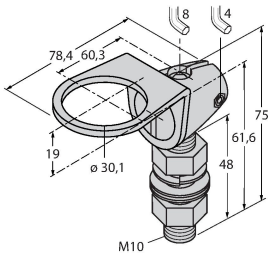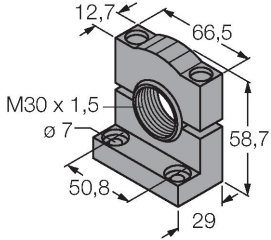| SMB30A	3032723

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

SMB30FAM10	3011185

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

SMB30SC	3052521

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