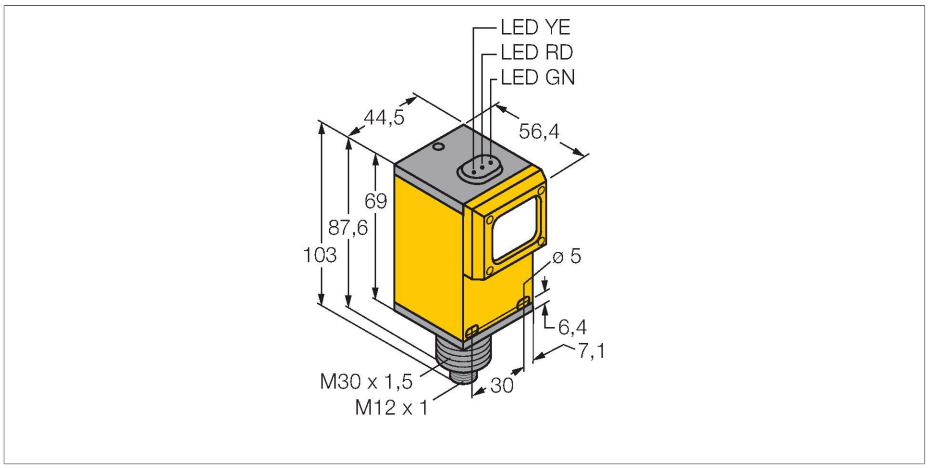
Q45BB6LLPQ6
Photoelectric Sensor – Retroreflective Sensor with Polarizing Filter



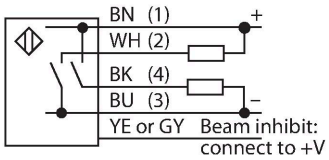
Technical data

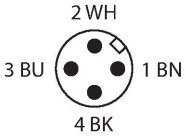
Type	Q45BB6LLPQ6
ID	3041033
Optical data	
Function	Retroreflective Sensor
Operating mode	Polarized
Reflector included in delivery	yes
Light type	Red polarized
Wavelength	655 nm
Laser class	⚠ 2
Beam diameter	(elliptic) 2.5 mm
Range	150…40000 mm
Electrical data	
Operating voltage	10…30 VDC
Residual ripple	< 10 % U_{ss}
DC rated operational current	≤ 250 mA
No-load current	≤ 50 mA
Short-circuit protection	yes / Cyclic
Reverse polarity protection	yes
Output function	NO contact, PNP/NPN
Switching frequency	≤ 250 Hz
Readiness delay	≤ 100 ms
Response time typical	< 2 ms
Overcurrent release	> 220 mA
Setting option	Potentiometer
Mechanical data	
Design	Rectangular, Q45

Features

- Retroreflective laser sensor with polarizing filter
- Laser class 2
- Reflector BRT-2X2 included in delivery
- Sensitivity adjusted via potentiometer
- Operating voltage: 10…30 VDC
- Switching output, bipolar
- Light or dark operation, adjusted via switch

Wiring diagram



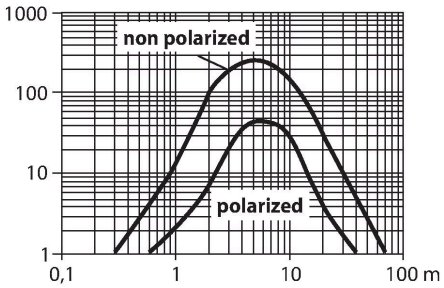


Functional principle

Retro-reflective sensors incorporate emitter and receiver in a single compact housing. The light beam of the emitter is directed towards a reflector which returns the light back to the receiver. An object is detected when it interrupts this beam. Retro-reflective sensors incorporate some of the advantages of opposed mode sensors (good contrast and high excess gain). Further it is merely required to install and wire a single device. A smaller sensing range and susceptibility of devices without polarisation filter can be of disadvantage when shiny objects have to be detected.
Excess gain curve
Excess gain in relation to the distance

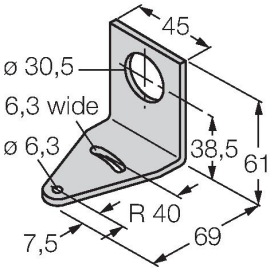
Technical data

Dimensions	Ø 30 x 56.4 x 44.5 x 102.6 mm
Housing material	Plastic, Thermoplastic material
Lens	acrylic, Acrylic
Electrical connection	Connector, M12 × 1, PVC
Number of cores	5
Ambient temperature	-10…+40 °C
Protection class	IP67
Special features	keep/defer
Power-on indication	LED, Green
Switching state	LED, Yellow
Error indication	LED, green, Flashing
Excess gain indication	LED, red
Tests/approvals	
MTTF	20 years acc. to SN 29500 (Ed. 99) 40 °C
Approvals	CE, ETL



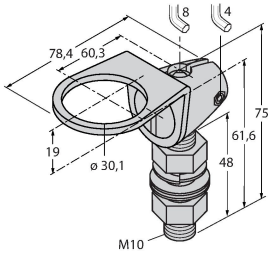
Accessories

SMB30A 3032723



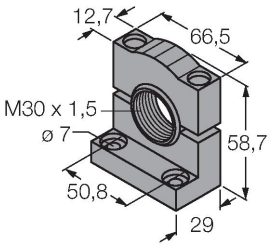
Mounting bracket, rectangular, stainless steel, for sensors with 30mm thread

SMB30FAM10 3011185



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

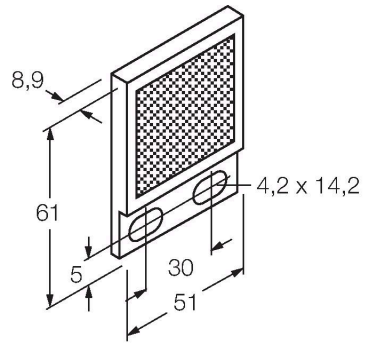
SMB30SC 3052521



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

Accessories

Dimension drawing	Type	ID	
	BRT-2X2	3040071	Rectangular reflector, reflection coefficient 1.8, material acrylic, ambient temperature max. 50 °C



	BRT-3	3016164	Round reflector, reflection coefficient 1.0, material acrylic, ambient temperature -20…+60 °C