

# Q45AD9LV W/30

## Photoelectric Sensor – Retroreflective Sensor



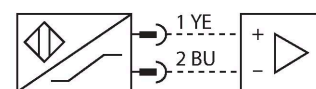
### Technical data

Type	Q45AD9LV W/30
ID no.	3040815
<b>Optical data</b>	
Function	Retroreflective Sensor
Operating mode	Unpolarized
Reflector included in delivery	yes
Light type	Red
Wavelength	680 nm
Range	80...9000 mm
<b>Electrical data</b>	
Operating voltage	5...15 VDC
Voltage	Nom. 8.2 VDC
Current consumption non-actuated	$\leq 1$ mA
Actuated current consumption	$\geq 2.1$ mA
No-load current	$\leq 2.1$ mA
Output function	Light operation, NAMUR
Switching frequency	$\leq 100$ Hz
Readiness delay	$\leq 0$ ms
Response time typical	$< 5$ ms
Setting option	Potentiometer
<b>Mechanical data</b>	
Design	Rectangular, Q45
Dimensions	$\varnothing 30 \times 56.4 \times 44.5 \times 87.6$ mm
Housing material	Plastic, Thermoplastic material
Lens	plastic, Acrylic
Electrical connection	Cable, 9 m, PVC
Number of cores	2

### Features

- Cable, PVC, 2 m
- Protection class IP67
- Sensitivity adjusted via potentiometer
- Operating voltage: 5...15 VDC
- NAMUR output: dark  $\leq 1.2$  mA ; light  $\geq 2.1$  mA
- Acc. to EN 60947-5-6 (NAMUR)

### Wiring diagram



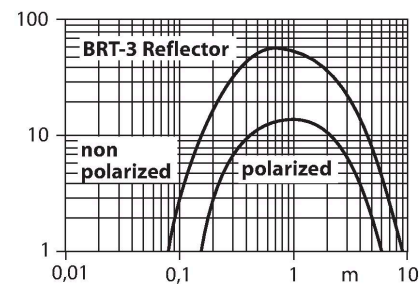
### Functional principle

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

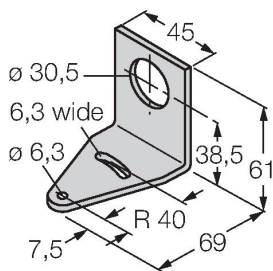
Core cross-section	0.34 mm <sup>2</sup>
Ambient temperature	-40...+70 °C
Protection class	IP67
Switching state	LED, Red
Excess gain indication	LED, flashing
<b>Tests/approvals</b>	
MTTF	67 years acc. to SN 29500 (Ed. 99) 40 °C
Approvals	CE, FM, CSA
Ignition protection category	Ex ia IIC T5 Ga
Ex approval acc. to conformity certificate	FM12ATEX0094X



## Accessories

SMB30A

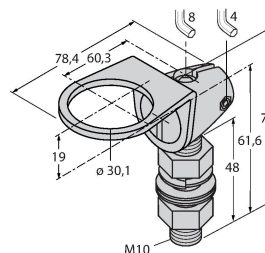
3032723



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

SMB30FAM10

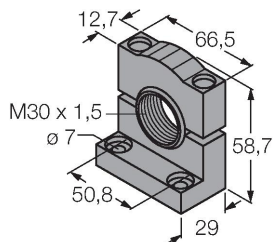
3011185



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

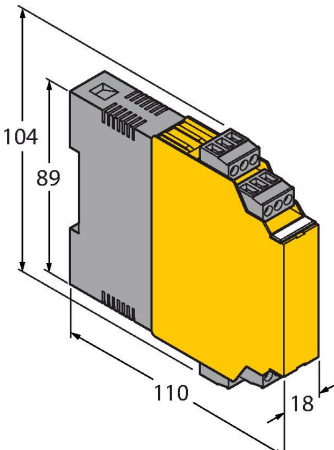
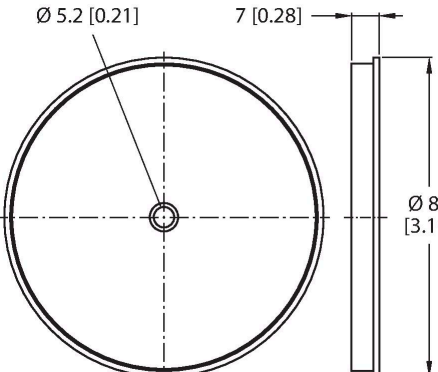
SMB30SC

3052521



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

## Accessories

Dimension drawing	Type	ID no.	
	IM1-22EX-R	7541231	Isolating switching amplifier, 2-channel; 2 relay outputs; input NAMUR signal; selectable ON/OFF mode for wire-break and short-circuit monitoring; adjustable output mode (NO / NC mode); removable terminal blocks; width 18 mm; universal power supply unit
	BRT-3	3016164	Round reflector, reflection coefficient 1.0, material acrylic, ambient temperature -20...+60 °C