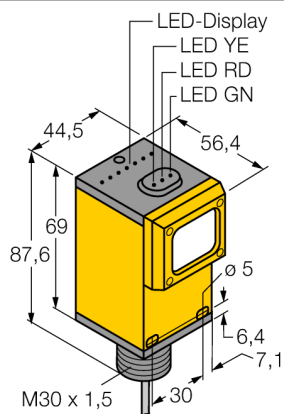


Photoelectric Sensor Diffuse Mode Sensor Q45AD9DL W/30



Type	Q45AD9DL W/30
ID	3040818

Optical data	
Function	Proximity switch
Operating mode	Diffuse
Light type	IR
Wavelength	880 nm
Range	0...1000 mm

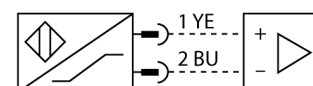
Electrical data	
Operating voltage U_o	5...15 VDC
Voltage	Nom. 8.2 VDC
Current consumption non-actuated	≤ 1 mA
Actuated current consumption	≥ 2.1 mA
No-load current I_o	≤ 2.1 mA
Output function	Light operation, NAMUR
Switching frequency	≤ 100 Hz
Readiness delay	≤ 0 ms
Response time typical	< 5 ms
Setting option	Potentiometer

Mechanical data	
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
Core cross-section	0.34 mm^2
Ambient temperature	$-40...+70$ °C
Protection class	IP67

Switching state	LED, Red
Excess gain indication	LED, flashing

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

Wiring Diagram



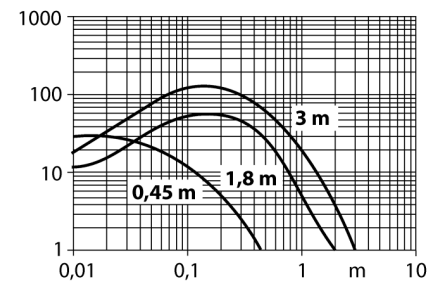
Functional principle

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).

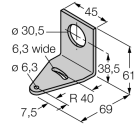
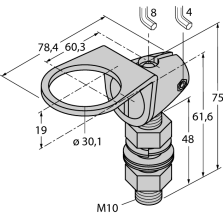
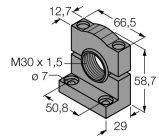
Excess gain curve

Excess gain in relation to distance

Tests/approvals	
MTTF	67 years acc. to SN 29500 (Ed. 99) 40 °C
Approvals	CE, FM, CSA
Ignition protection category	Ex ia IIC T5
Ex approval acc. to conformity certificate	FM12ATEX0094X



Accessories

Type code	Ident no.		Dimension drawing
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	

Function accessories

Type code	Ident no.		Dimension drawing
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	