

Photoelectric Sensor Diffuse Mode Sensor Miniature Sensor T8RN6D50Q5



Type	T8RN6D50Q5
ID	3070643

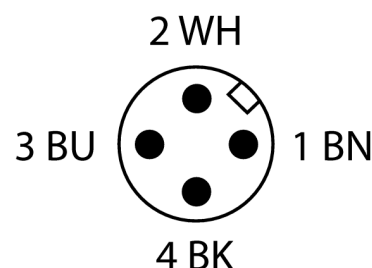
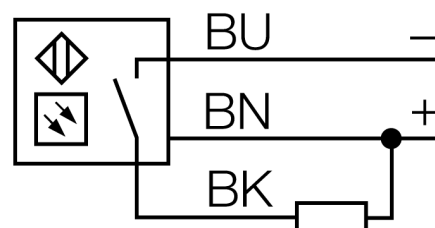
Optical data	
Function	Proximity switch
Operating mode	Diffuse
Light type	Red
Wavelength	680 nm
Range	0...50 mm

Electrical data	
Operating voltage U_s	10...30 VDC
Residual ripple	< 10 % U_s
DC rated operating current I_s	≤ 50 mA
No-load current I_0	≤ 25 mA
Short-circuit protection	yes
Reverse polarity protection	yes
Output function	NO contact, dark operation, NPN
Switching frequency	≤ 500 Hz
Readiness delay	≤ 150 ms
Response time typical	< 1 ms

Mechanical data	
Design	Tube, T8
Dimensions	Ø 8 x 15.8 mm
Housing material	Plastic, Thermoplastic material, Black
Lens	plastic, Acrylic
Electrical connection	Cable with connector, M12 × 1, 0.15 m, PVC
Number of cores	4
Core cross-section	0.1 mm ²
Ambient temperature	-20...+55 °C
Protection class	IP67

- Cable with male end M12 × 1, PVC, 150 mm
- Protection class IP67
- Ambient temperature: -20...+55 °C
- Ideal for confined spaces
- Operating voltage: 10...30 VDC
- NPN switching output, dark operation

Wiring Diagram



Functional principle

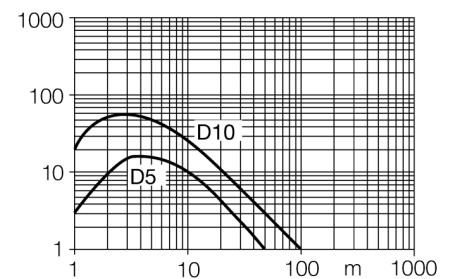
Identical to retro-reflective sensors, emitter and receiver circuitry are incorporated in the same housing of the diffuse mode sensors. However, diffuse mode sensors do not detect the interruption of the light beam but the re-

Power-on indication	LED, Green
Switching state	LED, Red
Error indication	LED, green, Flashing
Excess gain indication	LED
Alarm display	LED red Flashing
Tests/approvals	
Approvals	CE

flection of the target. A target is detected if it reflects a sufficient amount of light back to the receiver. The switching distance of diffuse mode sensors thus largely depends on the reflectivity of the target. 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 the distance



Accessories

Type code	Ident no.		Dimension drawing
SMB8MM	3067363	Mounting bracket, material VA 1.4401, for T8 or T8L series	