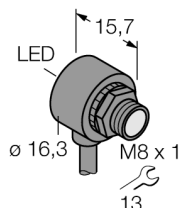


# Photoelectric Sensor Diffuse Mode Sensor Miniature Sensor T8RN6D50 W/30



|      |               |
|------|---------------|
| Type | T8RN6D50 W/30 |
| ID   | 3070265       |

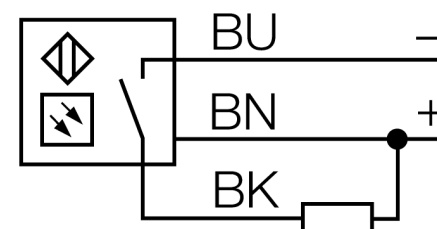
|                |                  |
|----------------|------------------|
| Optical data   |                  |
| Function       | Proximity switch |
| Operating mode | Diffuse          |
| Light type     | Red              |
| Wavelength     | 680 nm           |
| Range          | 0...50 mm      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

|                                  |                                 |
|----------------------------------|---------------------------------|
| 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, 9 m, PVC                        |
| Number of cores       | 3                                      |
| Core cross-section    | 0.1 mm <sup>2</sup>                    |
| Ambient temperature   | -20...+55 °C                           |
| Protection class      | IP67                                   |

- Cable, PVC, 9 m
- Protection class IP67
- Ambient temperature: -20...+55 °C
- Ideal for confined spaces
- Operating voltage: 10...30 VDC
- NPN switching output, dark operation

## Wiring Diagram



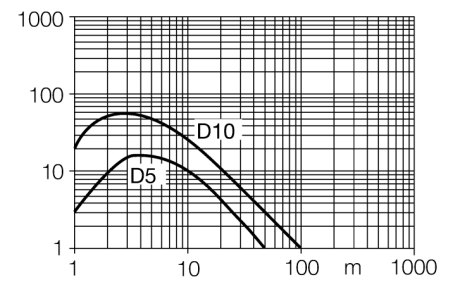
## Functional principle

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 reflection 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).

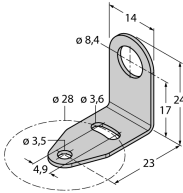
## Excess gain curve

Excess gain in relation to the distance

|                        |                      |
|------------------------|----------------------|
| 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                   |



Accessories

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