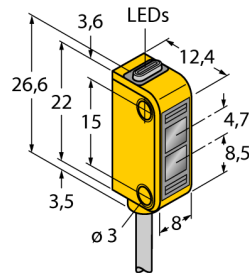


# Photoelectric Sensor

## Diffuse Mode Sensor with Fixed-Field Background Suppression

### Miniature Sensor

#### Q12RB6FF15 W/30



|      |                 |
|------|-----------------|
| Type | Q12RB6FF15 W/30 |
| ID   | 3072109         |

|                |                                        |
|----------------|----------------------------------------|
| Optical data   |                                        |
| Function       | Proximity switch                       |
| Operating mode | Background suppression, non-adjustable |
| Light type     | Red                                    |
| Wavelength     | 640 nm                                 |
| Range          | 3...15 mm                              |

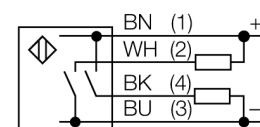
|                                  |                     |
|----------------------------------|---------------------|
| Electrical data                  |                     |
| Operating voltage $U_s$          | 10...30 VDC         |
| Residual ripple                  | < 10 % $U_s$        |
| DC rated operating current $I_s$ | ≤ 50 mA             |
| No-load current $I_0$            | ≤ 20 mA             |
| Short-circuit protection         | yes                 |
| Reverse polarity protection      | yes                 |
| Output function                  | NO contact, PNP/NPN |
| Switching frequency              | ≤ 700 Hz            |
| Readiness delay                  | ≤ 120 ms            |
| Response time typical            | < 0.85 ms           |

|                       |                                         |
|-----------------------|-----------------------------------------|
| Mechanical data       |                                         |
| Design                | Rectangular, Q12                        |
| Housing material      | Plastic, Thermoplastic material, Yellow |
| Lens                  | plastic, Polycarbonate                  |
| Electrical connection | Cable, 9 m, PVC                         |
| Number of cores       | 3                                       |
| Core cross-section    | 0.34 mm <sup>2</sup>                    |
| Ambient temperature   | -20...+55 °C                            |
| Protection class      | IP67                                    |

|                        |                       |
|------------------------|-----------------------|
| Power-on indication    | LED, Green            |
| Switching state        | LED, Yellow           |
| Error indication       | LED, green            |
| Excess gain indication | LED, yellow, flashing |

- Cable, PVC, 9 m
- Protection class IP67
- LED all-round visible
- Indication of insufficient excess gain
- Operating voltage: 10...30 VDC
- Switching output, bipolar, dark operation

#### Wiring Diagram

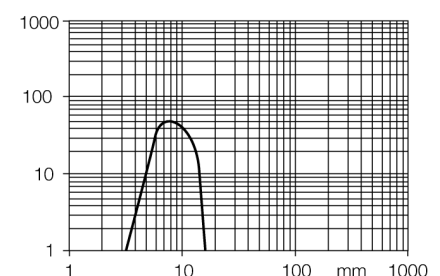


#### Functional principle

The emitter and receiver are incorporated in a single housing. The light reflection of the target is detected and triggers the sensor to switch. Thus the switching distance largely depends on the reflectivity of the target.

#### Excess gain curve

Excess gain in relation to the distance



| Tests/approvals |                                           |
|-----------------|-------------------------------------------|
| MTTF            | 135 years acc. to SN 29500 (Ed. 99) 40 °C |
| Approvals       | CE, cURus                                 |

Accessories

| Type code | Ident no. |                                                                            | Dimension drawing |
|-----------|-----------|----------------------------------------------------------------------------|-------------------|
| SMBQ12A   | 3074341   | Mounting bracket; material VA 1.4401, for photoelectric sensor, Q12 series |                   |
| SMBQ12T   | 3073722   | Mounting bracket; material VA 1.4401, for photoelectric sensor, Q12 series |                   |