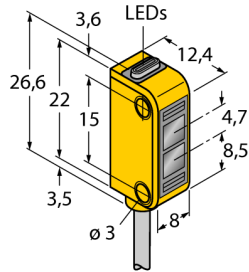


**Photoelectric sensor**  
**diffuse mode sensor with fixed-field background suppression**  
**miniature sensor**  
**Q12RB6FF50**



- Cable, PVC, 2 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**

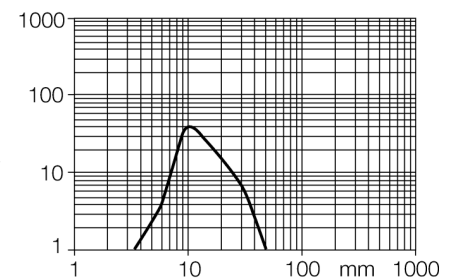


**Functional principle**

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



|                                |   |
|--------------------------------|---|
| <b>Type code</b>               | Q12RB6FF50  |
| Ident no.                      | 3072119   |
| <b>Operating mode</b>          | diffuse mode sensor with fixed-field background suppression |
| Light type                     | red   |
| Wavelength                     | 640 nm  |
| Range                          | 3...50 mm   |
| Ambient temperature            | -20...+55 °C  |
| <b>Operating voltage</b>       | 10...30VDC  |
| Residual ripple                | < 10 % U <sub>s</sub>                                       |
| DC rated operational current   | ≤ 50 mA   |
| No-load current I <sub>0</sub> | ≤ 20 mA   |
| Short-circuit protection       | yes   |
| Reverse polarity protection    | yes   |
| Output function                | NO, dark operation, PNP/NPN                                 |
| Switching frequency            | ≤ 700 Hz  |
| Readiness delay                | ≤ 120 ms  |
| <b>Design</b>                  | rectangular, Q12  |
| Dimensions                     | 12.4 x 8 x 26.6 mm  |
| Housing material               | plastic, Elastomere, yellow                                 |
| Lens                           | plastic, polycarbonate                                      |
| Connection                     | cable, PVC  |
| Cable length                   | 2 m   |
| Cable cross section            | 4 x 0.34 mm <sup>2</sup>                                    |
| Protection class               | IP67  |
| MTTF                           | 135 years acc. to SN 29500 (Ed. 99) 40 °C                   |
| <b>Power-on indication</b>     | LED green   |
| Switching state                | LED yellow  |
| Error indication               | LED green   |
| Excess gain indication         | LED yellow flashing   |

**Photoelectric sensor  
diffuse mode sensor with fixed-field background suppression  
miniature sensor  
Q12RB6FF50**

**Accessories**

| Type code | Ident no. | Description  | 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 |                   |