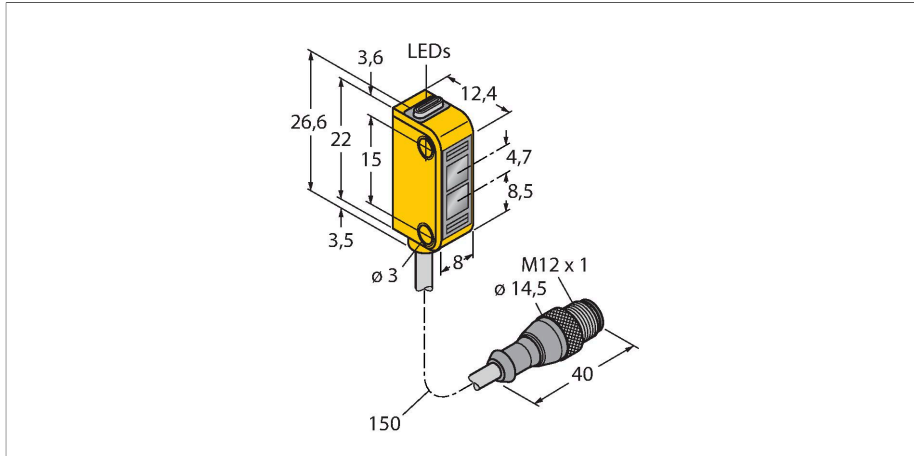


# Q12RB6LVQ5

## Photoelectric Sensor – Retroreflective Sensor

### Miniature Sensor



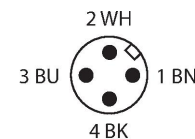
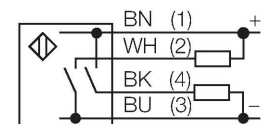
#### Technical data

|                                |                                         |
|--------------------------------|-----------------------------------------|
| Type                           | Q12RB6LVQ5                              |
| ID                             | 3074148                                 |
| <b>Optical data</b>            |                                         |
| Function                       | Retroreflective Sensor                  |
| Operating mode                 | Unpolarized                             |
| Reflector included in delivery | no                                      |
| Light type                     | Red                                     |
| Wavelength                     | 640 nm                                  |
| Range                          | 40...1500 mm                            |
| <b>Electrical data</b>         |                                         |
| Operating voltage              | 10...30 VDC                             |
| Residual ripple                | < 10 % U <sub>ss</sub>                  |
| DC rated operational current   | ≤ 50 mA                                 |
| No-load current                | ≤ 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          | < 0.7 ms                                |
| <b>Mechanical data</b>         |                                         |
| Design                         | Rectangular, Q12                        |
| Dimensions                     | 12.4 x 8 x 26.6 mm                      |
| Housing material               | Plastic, Thermoplastic material, Yellow |
| Lens                           | plastic, Polycarbonate                  |

#### Features

- Cable, PVC, 150 mm, with M12 × 1 male end, 4-pin
- 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

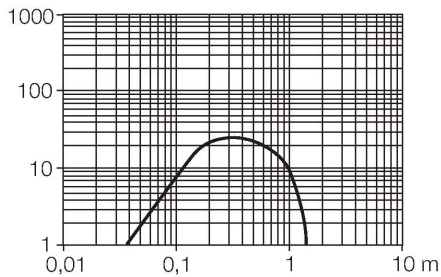
Retro-reflective sensors incorporate emitter and receiver in a single compact housing. The light beam of the emitter is directed towards a reflector which returns the light back to the receiver. An object is detected when it interrupts this beam. Retro-reflective sensors incorporate some of the advantages of opposed mode sensors (good contrast and high excess gain). Further it is merely required to install and wire a single device. A smaller sensing range and susceptibility of devices without polarisation filter can be of

Technical data

|                        |                                            |
|------------------------|--------------------------------------------|
| Electrical connection  | Cable with connector, M12 × 1, 0.15 m, PVC |
| Number of cores        | 4                                          |
| 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                      |
| Tests/approvals        |                                            |
| MTTF                   | 135 years acc. to SN 29500 (Ed. 99) 40 °C  |
| Approvals              | CE, cURus                                  |

disadvantage when shiny objects have to be detected.

Excess gain curve  
Excess gain in relation to the distance



Accessories

SMBQ12A3074341

Mounting bracket; material VA 1.4401, for photoelectric sensor, Q12 series

SMBQ12T3073722

Mounting bracket; material VA 1.4401, for photoelectric sensor, Q12 series

Accessories

| Dimension drawing | Type          | ID      |                                                                                                                                                                                                                  |
|-------------------|---------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   | RKC4.4T-2/TEL | 6625013 | Connection cable, female M12, straight, 4-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see <a href="http://www.turck.com">www.turck.com</a> |
|                   | WKC4.4T-2/TEL | 6625025 | Connection cable, female M12, angled, 4-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see <a href="http://www.turck.com">www.turck.com</a>   |

Accessories

| Dimension drawing | Type       | ID      |                                                                                                         |
|-------------------|------------|---------|---------------------------------------------------------------------------------------------------------|
|                   | BRT-60X40C | 3044997 | Rectangular reflector, reflection coefficient 1.48, material: acrylic, ambient temperature -20...+60 °C |

