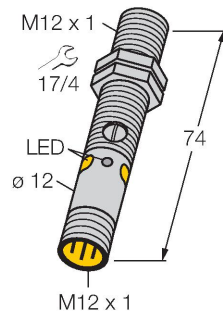


# M12NLVQ8

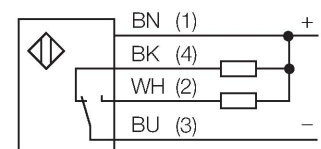
## Photoelectric Sensor – Retroreflective Sensor



### Features

- Male M12 × 1, 4-pin
- Protection classes IP67 / IP68
- Metal housing
- LED all-round visible
- Indication of insufficient excess gain
- Sensitivity adjustable via potentiometer
- Operating voltage: 10...30 VDC
- NPN switching output, changeover

### Wiring diagram



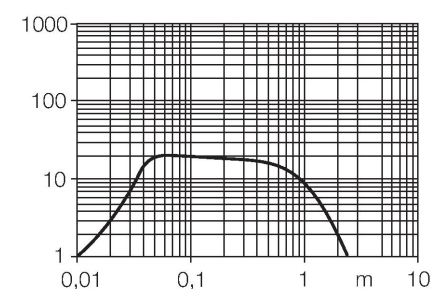
### Technical data

|                                |                                           |
|--------------------------------|-------------------------------------------|
| Type                           | M12NLVQ8                                  |
| ID                             | 3077189                                   |
| <b>Optical data</b>            |                                           |
| Function                       | Retroreflective Sensor                    |
| Operating mode                 | Unpolarized                               |
| Reflector included in delivery | no                                        |
| Light type                     | Red                                       |
| Wavelength                     | 660 nm                                    |
| Range                          | 0...2500 mm                               |
| <b>Electrical data</b>         |                                           |
| Operating voltage              | 10...30 VDC                               |
| Residual ripple                | < 10 % U <sub>ss</sub>                    |
| DC rated operational current   | ≤ 100 mA                                  |
| No-load current                | ≤ 20 mA                                   |
| Short-circuit protection       | yes                                       |
| Reverse polarity protection    | yes                                       |
| Output function                | Complementary contact, NPN                |
| Switching frequency            | ≤ 1000 Hz                                 |
| Readiness delay                | ≤ 100 ms                                  |
| Response time typical          | < 0.5 ms                                  |
| Setting option                 | Potentiometer                             |
| <b>Mechanical data</b>         |                                           |
| Design                         | Tube, M12                                 |
| Dimensions                     | Ø 12 x 74 mm                              |
| Housing material               | Metal, Nickel-plated brass, Nickel Plated |
| Lens                           | plastic, PMMA                             |
| Electrical connection          | Connector, M12 × 1, PVC                   |

### 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 disadvantage when shiny objects have to be detected.

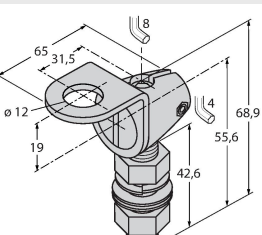
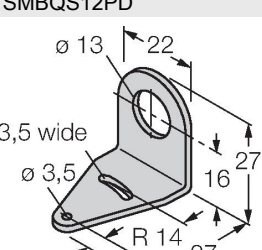
### Excess Gain Curve



## Technical data

|                        |                                          |
|------------------------|------------------------------------------|
| Number of cores        | 4                                        |
| Ambient temperature    | -20...+60 °C                             |
| Protection class       | IP67<br>IP68                             |
| Special features       | Encapsulated<br>Wash down                |
| Power-on indication    | LED, Green                               |
| Switching state        | LED, Yellow                              |
| Error indication       | LED, green, Flashing                     |
| Excess gain indication | LED, yellow, flashing                    |
| <b>Tests/approvals</b> |                                          |
| MTTF                   | 46 years acc. to SN 29500 (Ed. 99) 40 °C |
| Approvals              | CE                                       |

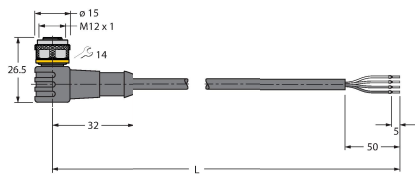
## Accessories

|                                                                                                                                                           |         |         |                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------|---------------------------------------------------|
| SMB12FAM10                                                                                                                                                | 3011221 | SMB12MM | 3027635                                           |
|  <p>Mounting bracket, stainless steel, for M12, M10 x 1.5 thread</p>   |         |         | <p>Mounting bracket, stainless steel, for M12</p> |
| SMBQS12PD                                                                                                                                                 | 3059606 |         |                                                   |
|  <p>Mounting bracket; material VA 1.4401, for Q12 &amp; M12 series</p> |         |         |                                                   |

## Accessories

| Dimension drawing | Type          | ID      |                                                                                                                                                                                                                         |
|-------------------|---------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   | RKC4.4T-2/TEL | 6625013 | <p>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></p> |

| Dimension drawing | Type          | ID      |                                                                                                                                                                                                                |
|-------------------|---------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   | 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-84 | 3058979 | Round reflector, reflection coefficient 1.4, material acrylic, ambient temperature -20 ... +60 °C |

