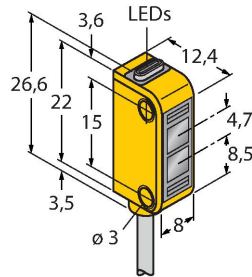


# Q12AB6LV

## Photoelectric Sensor – Retroreflective Sensor Miniature Sensor



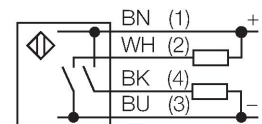
### Technical data

|                                |                                         |
|--------------------------------|-----------------------------------------|
| Type                           | Q12AB6LV                                |
| ID                             | 3072122                                 |
| <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, light operation, 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                  |
| Electrical connection          | Cable, 2 m, PVC                         |

### Features

- Cable, PVC, 2 m
- Protection class IP67
- LED all-round visible
- Indication of insufficient excess gain
- Operating voltage: 10...30 VDC
- Switching output, bipolar, light operation

### Wiring diagram



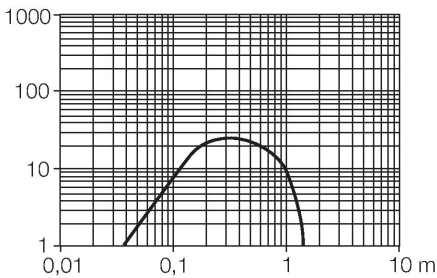
### Functional principle

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 disadvantage when shiny objects have to be detected.

Excess gain curve  
Excess gain in relation to the distance

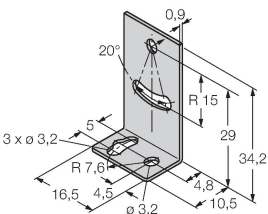
Technical data

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



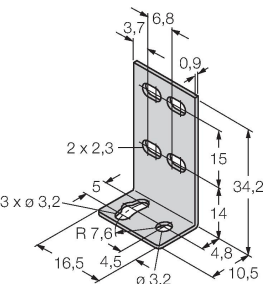
Accessories

SMBQ12A 3074341



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

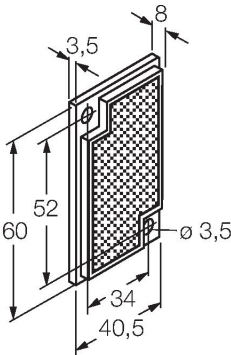
SMBQ12T 3073722



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

Accessories

| Dimension drawing | Type       | ID      |  |
|-------------------|------------|---------|--|
|                   | BRT-60X40C | 3044997 |  |



Rectangular reflector, reflection coefficient 1.48, material: acrylic, ambient temperature -20...+60 °C