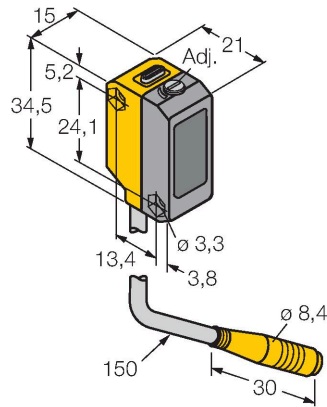


# QS18VN6LAF250Q

## Photoelectric Sensor – Laser Sensor, Diffuse Mode, with Adjustable Background Suppression



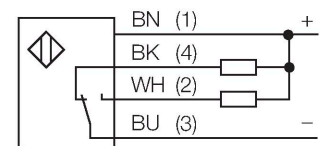
### Technical data

|                              |                                    |
|------------------------------|------------------------------------|
| Type                         | QS18VN6LAF250Q                     |
| ID no.                       | 3075736                            |
| <b>Optical data</b>          |                                    |
| Function                     | Proximity switch                   |
| Operating mode               | Background suppression, adjustable |
| Light type                   | Red                                |
| Wavelength                   | 658 nm                             |
| Laser class                  | ▲ 2                                |
| Beam diameter                | 1 mm                               |
| Range                        | 1...250 mm                         |
| <b>Electrical data</b>       |                                    |
| Operating voltage            | 10...30 VDC                        |
| Residual ripple              | < 10 % U <sub>ss</sub>             |
| DC rated operational current | ≤ 100 mA                           |
| Short-circuit protection     | yes                                |
| Reverse polarity protection  | yes                                |
| Output function              | NO/NC, NPN                         |
| Current output               | 100 mA                             |
| Switching frequency          | ≤ 700 Hz                           |
| Readiness delay              | ≤ 200 ms                           |
| Response time typical        | < 0.7 ms                           |
| Setting option               | Mechanical Screw                   |
| <b>Mechanical data</b>       |                                    |
| Design                       | Rectangular, QS18                  |
| Dimensions                   | 21.1 x 15 x 34.5 mm                |
| Housing material             | Plastic, ABS                       |

### Features

- Cable with male end, 4-pin, PVC, 150 mm, 8 mm
- Protection class IP67
- LED all-round visible
- Cut-off point adjusted via potentiometer
- Operating voltage: 10...30 VDC
- NPN switching output, changeover

### Wiring diagram



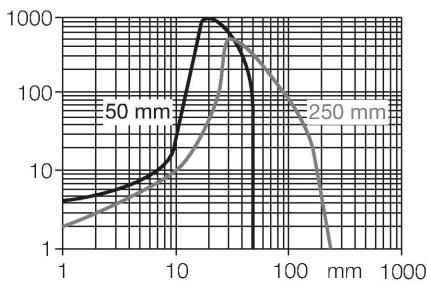
### Functional principle

Diffuse mode sensors with background suppression operate with a single emitter and several receiver elements, one for close range and one for long-range. The target position and the photoelectric structure of the sensor determine which of the receiving elements receives the most light. The optics before the receiver is modified with the adjusting screw until the boundary between close and long-range is shifted. This operation determines whether the reflecting object is within or outside the measuring range.

Technical data

|                        |   |
|------------------------|---|
| Lens                   | plastic, Acrylic                          |
| Electrical connection  | Cable with connector, M8 × 1, 0.15 m, PVC |
| Number of cores        | 4   |
| Ambient temperature    | -10...+50 °C                              |
| Protection class       | IP67                                      |
| Power-on indication    | LED, Green                                |
| Switching state        | LED, Yellow                               |
| Error indication       | LED, green, Flashing                      |
| Excess gain indication | LED, yellow, flashing                     |
| Tests/approvals        |   |
| MTTF                   | 268 years acc. to SN 29500 (Ed. 99) 40 °C |
| Approvals              | CE, cURus                                 |

Excess gain curves relating to the nearest and farthest cut-off point



Accessories

SMBQS18A3069721

Mounting bracket, stainless steel, for 18 mm thread

Technical drawing of the SMBQS18A mounting bracket. Dimensions: 41 mm height, 21 mm width, M18 x 1 thread, 24.9 mm base width, 19.4 mm base depth.

SMBQS18AF3067467

Mounting bracket, stainless steel, for 18 mm thread

Technical drawing of the SMBQS18AF mounting bracket. Dimensions: 27.6 mm height, 12.7 mm width, Ø 3 hole, Ø 4.32 hole, 20.3 mm base width, 31.8 mm base depth, 15.2 mm base depth.

Accessories

| Dimension drawing  | Type        | ID no.  |   |
|--|-------------|---------|---|
| <p>Technical drawing of the PKG4M-2/TEL cable. Dimensions: M8 x 1 connector, Ø 9.5, 33.5 mm length, 50 mm length, 5 mm length.</p>                 | PKG4M-2/TEL | 6625061 | Connection cable, female M8, 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>Technical drawing of the PKW4M-2/TEL cable. Dimensions: M8 x 1 connector, Ø 9.5, 16.5 mm length, 23.5 mm length, 50 mm length, 5 mm length.</p> | PKW4M-2/TEL | 6625067 | Connection cable, female M8, 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>   |