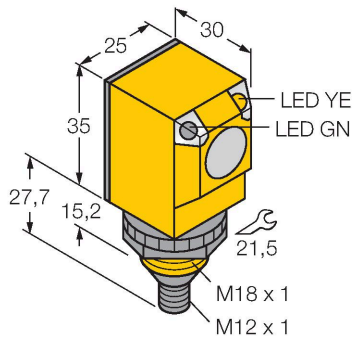


# Q25SN6RQ

## Photoelectric Sensor – Opposed Mode Sensor (Receiver)



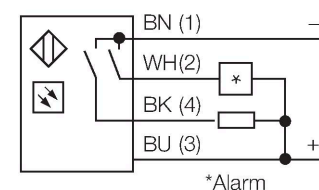
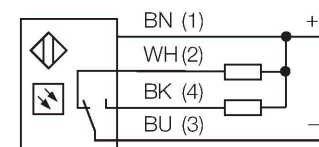
### Technical data

|                             |                                                 |
|-----------------------------|-------------------------------------------------|
| Type                        | Q25SN6RQ                                        |
| ID                          | 3031936                                         |
| <b>Optical data</b>         |                                                 |
| Function                    | Opposed mode sensor                             |
| Operating mode              | Receiver                                        |
| Range                       | 0...20000 mm                                    |
| <b>Electrical data</b>      |                                                 |
| Operating voltage           | 10...30 VDC                                     |
| No-load current             | ≤ 25 mA                                         |
| Short-circuit protection    | yes / Cyclic                                    |
| Reverse polarity protection | yes                                             |
| Output function             | Connection programmable, NPN                    |
| Switching frequency         | ≤ 160 Hz                                        |
| Readiness delay             | ≤ 100 ms                                        |
| Response time typical       | < 3 ms                                          |
| Overcurrent release         | > 220 mA                                        |
| <b>Mechanical data</b>      |                                                 |
| Design                      | Rectangular, Q25                                |
| Dimensions                  | Ø 18 x 30 x 25 x 62.7 mm                        |
| Housing material            | Plastic, Thermoplastic material                 |
| Lens                        | plastic, Polycarbonate                          |
| Electrical connection       | Connector, M12 × 1, PVC                         |
| Number of cores             | 4                                               |
| Ambient temperature         | -40...+70 °C                                    |
| Protection class            | IP69                                            |
| Special features            | Chemical-resistant<br>Encapsulated<br>Wash down |

### Features

- M12 × 1 male connector, 4-pin
- Protection classes IP67/IP69K
- Ambient temperature: -40 °C...+70 °C
- Selectable light/dark operation or light operation with alarm function
- Operating voltage: 10...30 VDC
- NPN switching output, changeover

### Wiring diagram

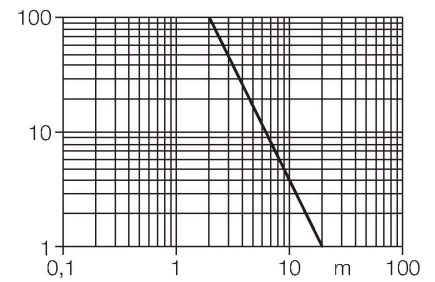


### Functional principle

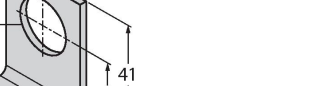
Opposed mode sensors consist of an emitter and receiver. They are installed opposite each other so that the light from the emitter is aimed directly at the receiver. When an object interrupts or weakens the light beam, the sensor switches. Opposed mode sensors are the most reliable photoelectric sensors for detection of opaque targets. An excellent contrast between light and dark conditions and an extremely high excess gain are typical of this sensing mode, thus allowing operation over larger distances and under difficult conditions. Excess gain curve  
Excess gain in relation to the distance

## Technical data

|                        |                      |
|------------------------|----------------------|
| Power-on indication    | LED, Green           |
| Switching state        | LED, Yellow          |
| Error indication       | LED, green, Flashing |
| Excess gain indication | LED                  |
| Alarm display          | LED yellow Flashing  |
| Tests/approvals        |                      |
| Approvals              | CE, UL, CSA          |



## Accessories

|                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| <p><b>SMB18A</b></p>  <p>Technical drawing of the SMB18A mounting bracket. It is an L-shaped bracket made of stainless steel. The dimensions are: overall width 46 mm, overall height 41 mm, flange width 30 mm, flange height 26 mm, mounting hole diameter 18.5 mm, flange hole diameter 4.6 mm, and a 6 mm wide base. A radius of R 24.2 is indicated on the base.</p> | <p><b>3033200</b></p> <p>Mounting bracket, rectangular, stainless steel, for sensors with 18 mm thread</p>   |
| <p><b>SMB18SF</b></p>  <p>Technical drawing of the SMB18SF mounting bracket. It is a rectangular bracket made of black PBT. The dimensions are: overall width 50.8 mm, overall height 43.2 mm, base width 36.1 mm, base height 25.4 mm, and a 11.7 mm wide top flange. It features an M18 x 1 threaded hole and two 5 mm diameter mounting holes.</p>                   | <p><b>3052519</b></p> <p>Mounting bracket, PBT black, for sensors with 18 mm thread, rotatable</p>           |
| <p><b>SMB18AFAM10</b></p>  <p>Technical drawing of the SMB18AFAM10 mounting bracket. It is a rectangular bracket made of material VA 1.4401. The dimensions are: overall width 76 mm, overall height 51 mm, base width 34 mm, base height 16 mm, and a 19.8 mm diameter hole. It features an M10 threaded hole and two 4 mm wide mounting holes.</p>                    | <p><b>3012558</b></p> <p>Mounting bracket, material VA 1.4401, for M10 x 1.5 thread, thread length 18 mm</p> |

## 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>   |