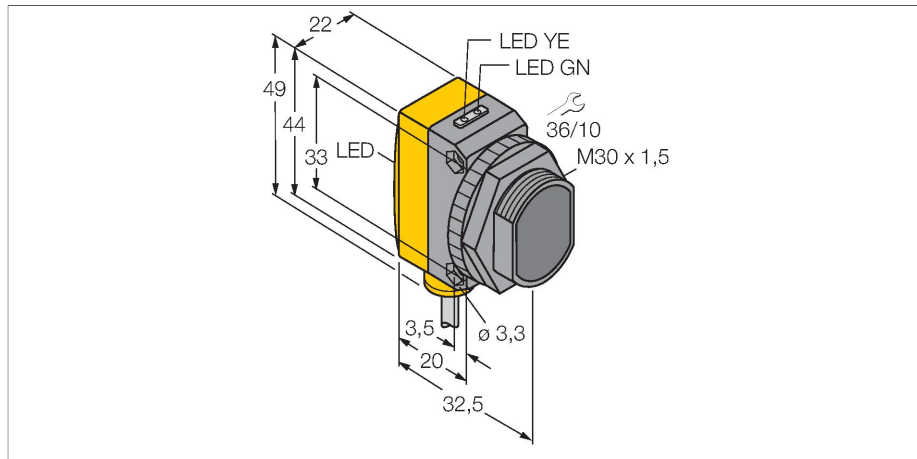


# QS30FF600QPMA

## Photoelectric Sensor – Diffuse Mode Sensor with Fixed-Field Background Suppression



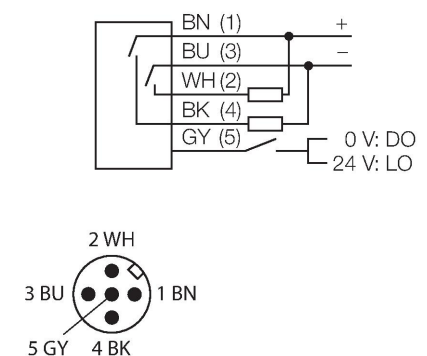
### Technical data

|                              |                                            |
|------------------------------|--------------------------------------------|
| Type                         | QS30FF600QPMA                              |
| ID                           | 3076927                                    |
| <b>Optical data</b>          |                                            |
| Function                     | Proximity switch                           |
| Operating mode               | Background suppression, non-adjustable     |
| Light type                   | Red                                        |
| Wavelength                   | 680 nm                                     |
| Range                        | 0...600 mm                                 |
| <b>Electrical data</b>       |                                            |
| Operating voltage            | 10...30 VDC                                |
| Residual ripple              | < 10 % U <sub>ss</sub>                     |
| DC rated operational current | ≤ 150 mA                                   |
| No-load current              | ≤ 35 mA                                    |
| Short-circuit protection     | yes                                        |
| Reverse polarity protection  | yes                                        |
| Output function              | NO contact, PNP/NPN                        |
| Switching frequency          | ≤ 250 Hz                                   |
| Readiness delay              | ≤ 100 ms                                   |
| Response time typical        | < 2 ms                                     |
| <b>Mechanical data</b>       |                                            |
| Design                       | Rectangular with thread, QS30              |
| Dimensions                   | Ø 30 x 35 x 22 x 49 mm                     |
| Housing material             | Plastic, Thermoplastic material, Yellow    |
| Lens                         | plastic, Acrylic                           |
| Electrical connection        | Cable with connector, M12 × 1, 0.15 m, PUR |

### Features

- Cable with male end M12 × 1, 5-pin, PUR, 150 mm
- Protection class IP67
- LED all-round visible
- Operating voltage: 10...30 VDC
- Switching output, bipolar
- Light or dark operation

### Wiring diagram



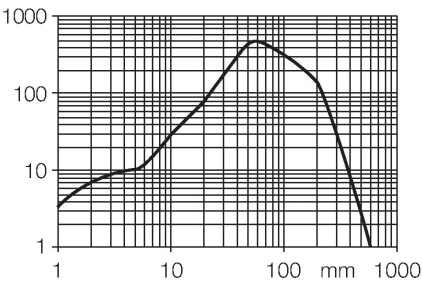
### Functional principle

Diffuse mode sensors with background suppression operate with a single emitter and several receiver elements. The target position and the photoelectric structure of the sensor determine which of the receiving elements receives the most light. The sensor electronics determine whether the reflecting object is within or outside the measuring range. These sensors come with a fixed cut-off point.

Excess gain curve  
Excess gain in relation to the distance

Technical data

|                        |                                           |
|------------------------|-------------------------------------------|
| Number of cores        | 5                                         |
| Ambient temperature    | -20...+70 °C                              |
| Protection class       | IP67                                      |
| Power-on indication    | LED, Green                                |
| Switching state        | LED, Yellow                               |
| Error indication       | LED, green, Flashing                      |
| Excess gain indication | LED, yellow                               |
| Tests/approvals        |                                           |
| MTTF                   | 177 years acc. to SN 29500 (Ed. 99) 40 °C |
| Approvals              | CE                                        |



Accessories

SMB30A3032723

Mounting bracket, rectangular, stainless steel, for sensors with 30mm thread

SMBQS30L3002809

Mounting bracket, stainless steel, for QS30 series

SMB30MM3027162

Mounting bracket, rectangular, stainless steel, for sensors with 30 mm thread, wide holes for accurate alignment

SMB30SC3052521

Mounting bracket, PBT black, for sensors with 30 mm thread, rotatable

Accessories

| Dimension drawing | Type         | ID      |                                                                                                                                                                                                                |
|-------------------|--------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   | WK4.5T-2/TEL | 6625028 | Connection cable, female M12, angled, 5-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> |

| Dimension drawing | Type          | ID      |                                                                                                                                                                                                                  |
|-------------------|---------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   | RKC4.5T-2/TEL | 6625016 | Connection cable, female M12, straight, 5-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> |

