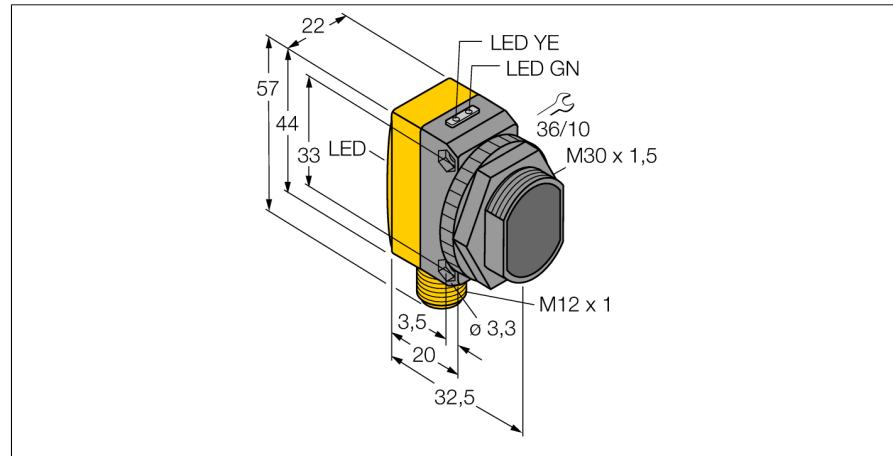
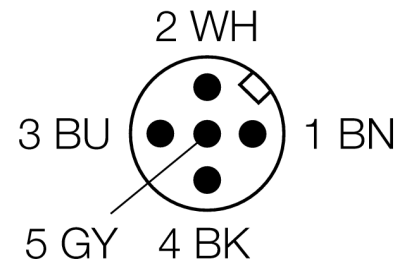
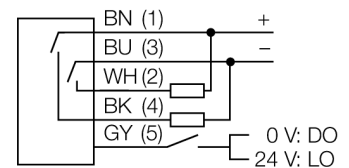


**Photoelectric sensor**  
**diffuse mode sensor with fixed-field background suppression**  
**QS30FF400Q**



- Male M12 x 1, 5-pin
- Protection class IP67
- LED all-round visible
- Operating voltage: 10...30 VDC
- Switching output, bipolar
- Light or dark operation

**Wiring diagram**



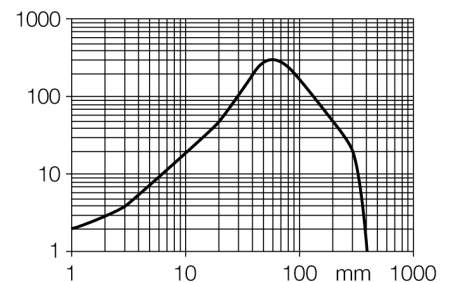
|                                |   |
|--------------------------------|---|
| <b>Type code</b>               | QS30FF400Q  |
| Ident no.                      | 3073089   |
| <b>Operating mode</b>          | diffuse mode sensor with fixed-field background suppression |
| Light type                     | red   |
| Wavelength                     | 680 nm  |
| Range                          | 0...400 mm  |
| Ambient temperature            | -20...+70 °C  |
| <b>Operating voltage</b>       | 10...30VDC  |
| Residual ripple                | < 10 % U <sub>s</sub>                                       |
| DC rated operational current   | ≤ 150 mA  |
| No-load current I <sub>0</sub> | ≤ 35 mA   |
| Short-circuit protection       | yes   |
| Reverse polarity protection    | yes   |
| Output function                | NO contact, PNP/NPN   |
| Switching frequency            | ≤ 250 Hz  |
| Readiness delay                | ≤ 100 ms  |
| <b>Design</b>                  | rectangular, QS30   |
| Dimensions                     | 35 x 22 x 57 mm   |
| Housing material               | plastic, ABS, yellow  |
| Lens                           | plastic, acrylic  |
| Connection                     | male, M12 x 1   |
| Protection class               | IP67  |
| MTTF                           | 177 years acc. to SN 29500 (Ed. 99) 40 °C                   |
| <b>Power-on indication</b>     | LED green   |
| Switching state                | LED yellow  |
| Error indication               | LED green flashing  |
| Excess gain indication         | LED yellow  |

**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.

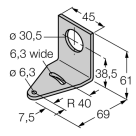
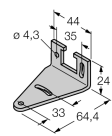
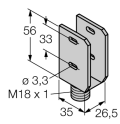
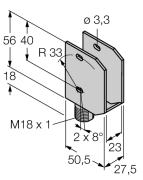
**Excess gain curve**

Excess gain in relation to the distance

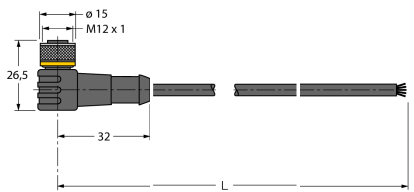


**Photoelectric sensor  
diffuse mode sensor with fixed-field background suppression  
QS30FF400Q**

**Accessories**

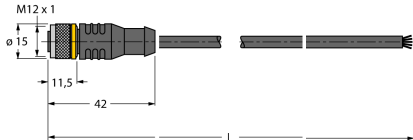
| Type code | Ident no. | Description  | Dimension drawing   |
|-----------|-----------|--|---|
| SMB30A    | 3032723   | Mounting bracket, stainless steel, for sensors with 30 mm thread             |    |
| SMBQS30L  | 3002809   | Mounting bracket, stainless steel, for QS30 series                           |    |
| SMBQS30Y  | 3002811   | Protective housing, stainless steel, for QS30 series                         |  |
| SMBQS30YL | 3072741   | Protective housing with safety glass panel, stainless steel, for QS30 series |  |

**Wiring accessories**

| Type code     | Ident no. | Description  | Dimension drawing   |
|---------------|-----------|--|---|
| WKC4.5T-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> |  |

**Photoelectric sensor  
diffuse mode sensor with fixed-field background suppression  
QS30FF400Q**

**Wiring accessories**

| Type code     | Ident no. | Description  | Dimension drawing   |
|---------------|-----------|--|---|
| 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> |  |