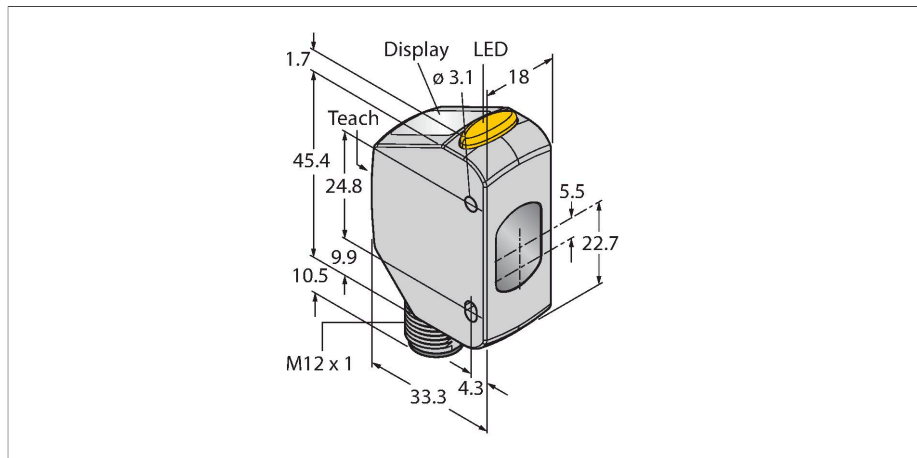


Q4XFILAF310-Q8

Photoelectric Sensor – Laser Distance Sensor (Triangulation)



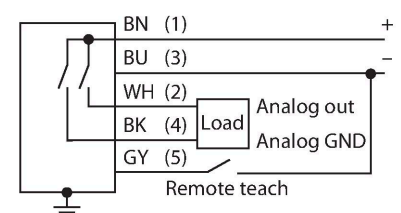
Technical data

| | |
|------------------------------|-----------------------------------|
| Type | Q4XFILAF310-Q8 |
| ID | 3097543 |
| Optical data | |
| Function | Proximity switch |
| Operating mode | Background/foreground suppression |
| Light type | Red |
| Wavelength | 655 nm |
| Laser class | ▲ 1 |
| Optical resolution | 1 mm |
| Repeatability | 0.5 mm |
| Range | 35...310 mm |
| Ambient light immunity | 5000 lux |
| Electrical data | |
| Operating voltage | 10...30 VDC |
| DC rated operational current | ≤ 28 mA |
| Short-circuit protection | yes |
| Reverse polarity protection | yes |
| Output function | Analog output |
| Type of analog output | 4...20 mA |
| Current output | 4...20 mA |
| Load resistance | ≤ 1000 Ω |
| Readiness delay | ≤ 750 ms |
| Response time typical | < 0.5 ms |
| Mechanical data | |
| Design | Rectangular, Q4X |
| Dimensions | 33.5 x 18 x 57.5 mm |
| Housing material | Metal, Stainless steel |

Features

- 4-digit 7-segment LED display
- 3 buttons
- Output indicator (yellow)
- IP67/69K
- ECOLAB-certified
- Range: 35...310 mm
- Laser class 1, red, 655 nm, acc. to IEC 60825-1:2007
- Operating voltage: 12...30 VDC
- Analog output: 4 ... 20 mA
- Rectangular design
- Stainless steel housing (1.4404)

Wiring diagram



Functional principle

The Q4X is a laser-distance sensor working on the principle of laser triangulation. It has a range of 35...310 mm, a resolution of up to 0.3 mm and an analog laser class 1 current output (4...20 mA).

With the dual mode functionality, the Q4X captures not only distances but also the light intensity that is reflected by an object. This unique feature allows lasers to be used for applications that would have been inconceivable before this.

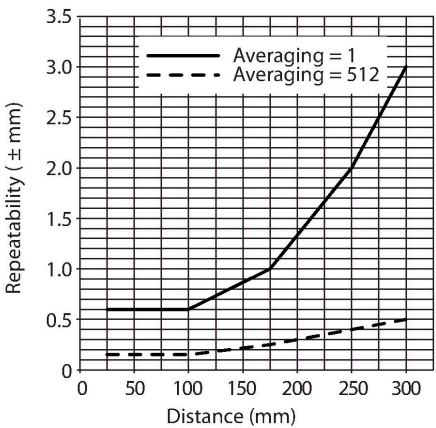
In RUN mode, you can change the switchpoint, adjust light and dark-switching and teach the sensor accordingly. In SETUP mode, you can select teach, all standard

Technical data

| | |
|-----------------------|--|
| Lens | acrylic, PMMA |
| Electrical connection | Connector, M12 × 1, PVC |
| Number of cores | 5 |
| Ambient temperature | -10...+50 °C |
| Storage temperature | -25...+75 °C |
| Relative humidity | 35...95 % |
| Protection class | IP67 IP68 IP69 |
| Special features | Chemical-resistant Wash down Resistant to chemicals |
| Switching state | LED, Yellow |
| Display | 4-digit 7-segment LED display |
| Tests/approvals | |
| Vibration resistance | MIL-STD-202G, Method 201A (10 to 60 Hz, 1.52 mm peak to peak amplitude, for 2 hours along the x, y and z-axis), sensor operating |
| Shock test | MIL-STD-202G, Method 213B Condition I (100G 6x along the XYZ-axis, 18 impacts), sensor in operation |
| Approvals | CE, cULus, ECOLAB |

operating parameters and also return to the factory defaults.

Excess Gain Curve



Accessories

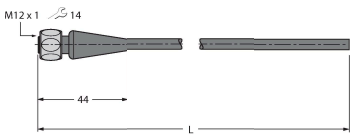

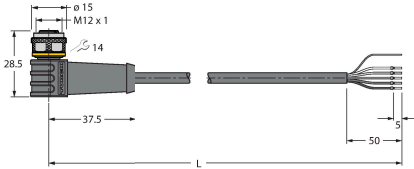
SMBQ4XFAM10

3091513

Mounting bracket, rotatable, stainless steel, for sensors of the Q4X/Q3X series, M10 x 1.5 thread

Accessories

| 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 www.turck.com |

| Dimension drawing | Type | ID | |
|---|---------------|---------|--|
|  | RKH4.5-2/TFG | 6933455 | Connection cable, M12 female, straight, 5-pin, stainless steel coupling nut, cable length: 2 m, jacket material: TPE, gray, temperature range -40...+105 °C; other cable lengths and designs available, see www.turck.com |
|  | RKS4.5T-2/TEL | 6626361 | Connection cable, M12 female connector, straight, 5-pin, cable length: 2 m, sheath material: PVC, black; shielded; cULus approval; other cable lengths and qualities available, see www.turck.com |
|  | WKS4.5T-2/TEL | 6626364 | Connection cable, M12 female connector, angled, 5-pin, cable length: 2 m, sheath material: PVC, black; shielded; cULus approval; other cable lengths and qualities available, see www.turck.com |