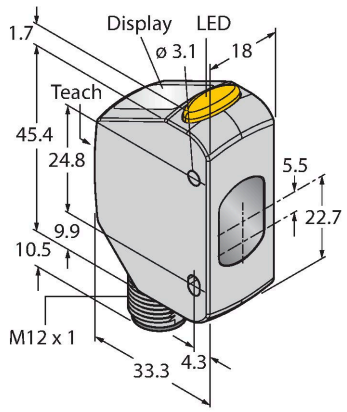
Q4XFNLAF110-Q8
Photoelectric Sensor – Laser Distance Sensor (Triangulation)



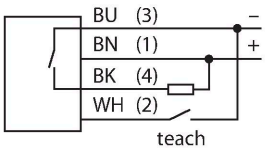
Technical data

Type	Q4XFNLAF110-Q8
ID no.	3097631
Optical data	
Function	Proximity switch
Operating mode	Background/foreground suppression
Light type	Red
Wavelength	655 nm
Laser class	⚠ 1
Optical resolution	0.15 mm
Repeatability	0.075 mm
Range	35…110 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	NO/NC, NPN
Readiness delay	≤ 750 ms
Response time typical	< 1.5 ms
Mechanical data	
Design	Rectangular, Q4X
Dimensions	33.5 x 18 x 57.5 mm
Housing material	Metal, Stainless steel
Lens	acrylic, PMMA
Electrical connection	Connectors, M12 × 1, PVC
Number of cores	4

Features

- 4-digit 7-segment LED display
- 3 buttons
- Output indicator (yellow)
- IP67/69K
- ECOLAB-certified
- Range: 35…110 mm
- Laser class 1, red, 655 nm, acc. to IEC 60825-1:2007
- Operating voltage: 12…30 VDC
- 1 × NPN switching output
- Rectangular design
- Stainless steel housing (1.4404)

Wiring diagram



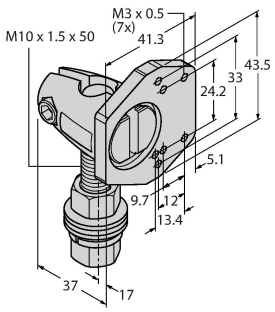
Functional principle

The Q4X is a laser-distance sensor working on the principle of laser triangulation. It has a range of 110 mm and an NPN class 1 switching output.
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 operating parameters and also return to the factory defaults.

Technical data

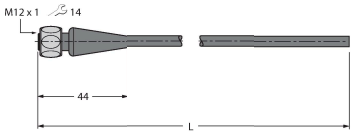
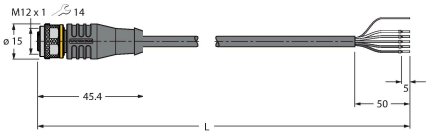
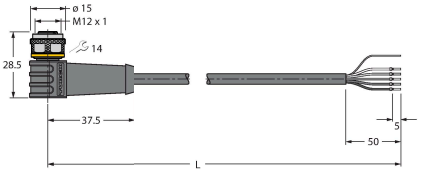
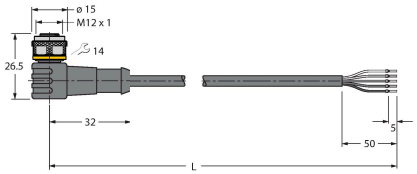
Ambient temperature	-10…+50 °C
Storage temperature	-25…+75 °C
Relative humidity	35…95 %
Protection class	IP67 IP68 IP69
Special features	Chemical-resistant Clear object detection keep/defer Wash down Resistant to chemicals
Switching state	LED, Yellow
Display	4-digit 7-segment LED display
Tests/approvals	
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

Accessories

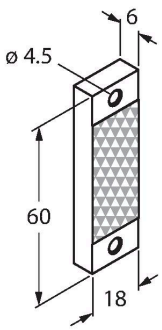
SMBQ4XFAM10	3091513
	Mounting bracket, rotatable, stainless steel, for sensors of the Q4X/Q3X series, M10 x 1.5 thread

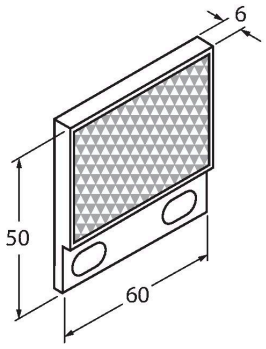
Q4XFNLAF110-Q8| 05-05-2021 21-06 | Technical modifications reserved

Accessories

Dimension drawing	Type	ID no.	
	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
	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
	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 www.turck.com

Accessories

Dimension drawing	Type	ID no.	
	BRT-Q4X-60X18	3095776	Reflector for Q4X laser sensors for clear object detection or dual-mode applications, rectangular housing: 60 mm x 18 mm

Dimension drawing	Type	ID no.	
	BRT-Q4X-60X50	3095777	Reflector for Q4X laser sensors, for clear object detection or dual-mode applications, rectangular housing: 60 mm x 50 mm