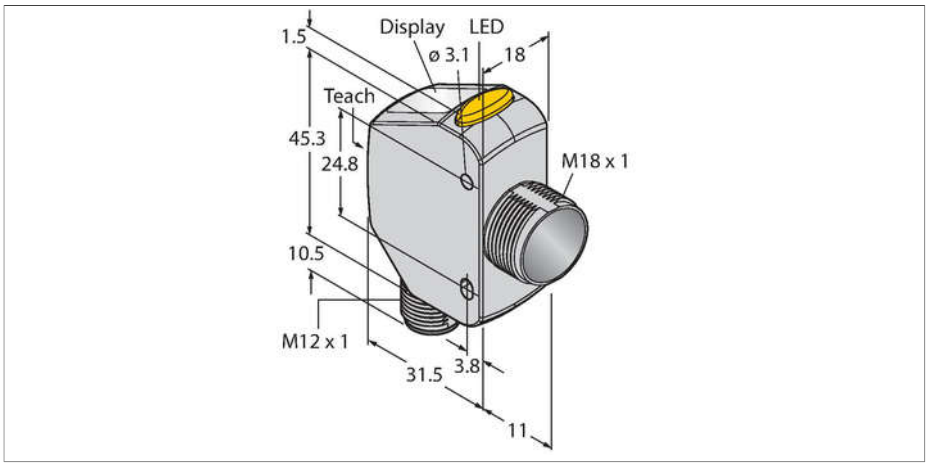
Q4XTBLAF300-Q8
Photoelectric Sensor – Laser Distance Sensor (Triangulation)





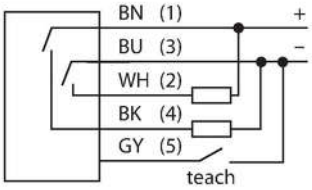
Technical data

Type	Q4XTBLAF300-Q8
ID	3094118
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	25…300 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, PNP/NPN
Readiness delay	≤ 750 ms
Response time typical	< 1.5 ms
Mechanical data	
Design	Rectangular with thread, Q4X
Dimensions	43.5 x 18 x 57.5 mm
Housing material	Metal, Stainless steel
Lens	acrylic, PMMA
Electrical connection	Connector, M12 × 1, PVC
Number of cores	5

Features

- 4-digit 7-segment LED display
- 3 buttons
- Output indicator (yellow)
- IP67/69K
- ECOLAB-certified
- Range: 25…300 mm
- Laser class 1, red, 655 nm, acc. to IEC 60825-1:2007
- Operating voltage: 12…30 VDC
- 1 × PNP, 1 × NPN switching output
- Rectangular model with offset M18 thread
- Stainless steel case (1.4404)

Wiring diagram



Functional principle

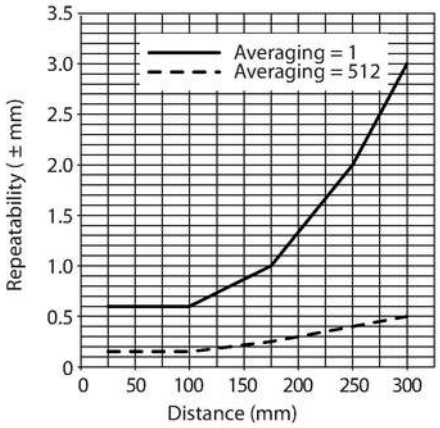
The Q4X is a laser-distance sensor working on the principle of laser triangulation. It has a reach of 300 mm and bipolar laser class 1 switching outputs (1 PNP and 1 NPN).
With the dual mode functionality, the Q4X captures not only distances but also the light intensity that is reflected by an object. 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.

Q4XTBLAF300-Q8 | 20-10-2021 18-15 | Technical modifications reserved

Technical data

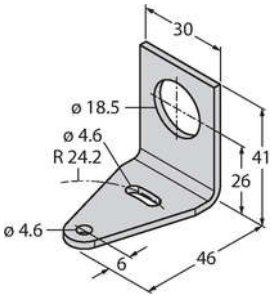
Ambient temperature	-10…+50 °C
Storage temperature	-25…+75 °C
Relative humidity	35…95 %
Protection class	IP67 IP68 IP69
Special features	Chemical-resistant Clear object detection keep/defer Wash down Resistant to chemicals
Switching state	LED, Yellow
Display	4-digit 7-segment LED display
Tests/approvals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

Excess Gain Curve



Accessories

SMB18A 3033200



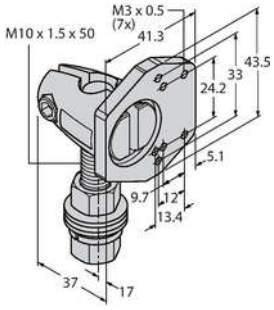
Mounting bracket, rectangular, stainless steel, for sensors with 18 mm thread

SMB18FAM10 3011184



Mounting bracket, material VA 1.4401, for M10 x 1.5 thread, thread length 18 mm

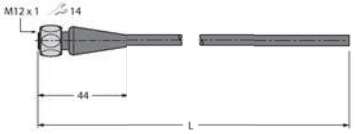
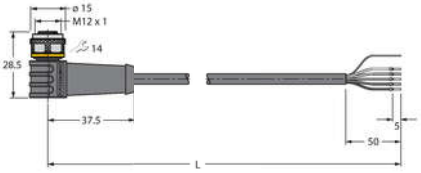
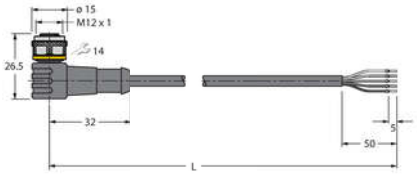
SMBQ4XFAM10 3091513



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

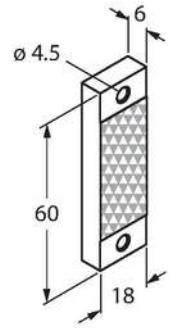
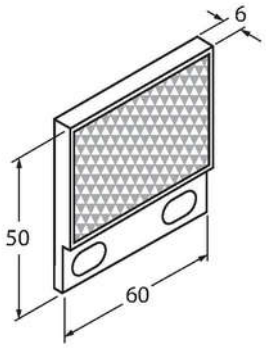
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Accessories

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
	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

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Accessories

Dimension drawing	Type	ID	
	BRT-Q4X-60X18	3095776	Reflector for Q4X laser sensors for clear object detection or dual-mode applications, rectangular housing: 60 mm x 18 mm
	BRT-Q4X-60X50	3095777	Reflector for Q4X laser sensors, for clear object detection or dual-mode applications, rectangular housing: 60 mm x 50 mm

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