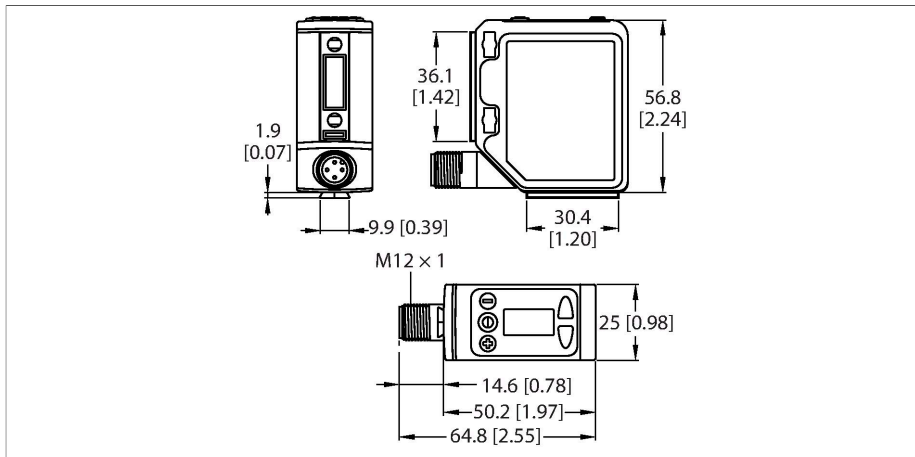


Q5XKLAF2000-Q8

Photoelectric Sensor – Laser Diffuse Mode Sensor with Adjustable Background Suppression



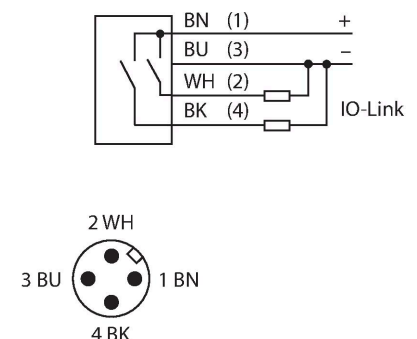
Technical data

Type	Q5XKLAF2000-Q8
ID no.	3803693
Optical data	
Function	Proximity switch
Operating mode	Background/foreground suppression
Light type	Red
Wavelength	650 nm
Laser class	▲ 2
Repeatability	0.5 mm
Range	95...2000 mm
Ambient light immunity	bis zu 5000 Lux bei 1000 mm und bis zu 2000 Lux bei 2000 mm lux
Electrical data	
Operating voltage	10...30 VDC
Residual ripple	< 10 % U _{ss}
Short-circuit protection	yes
Reverse polarity protection	yes
Communication protocol	IO-Link
Output function	NO contact, PNP/NPN
Readiness delay	≤ 2500 ms
Response time typical	< 3 ms
IO-Link	
IO-Link specification	V 1.1
IO-Link port type	Class A
Communication mode	COM 2 (38.4 kBaud)
Process data width	16 bit

Features

- 4-digit 7-segment display
- Adjustable via pushbutton on the housing or IO-Link
- Protection class IP67
- M12 × 1 male connector, 4-pin, rotatable
- Laser class 2, 650 nm, acc. to IEC 60825-1:2007
- Range: 95...2000 mm
- Adjustable response time: 3, 5, 15, 25 or 50 ms
- Operating voltage: 10...30 VDC
- Output 1: PNP/NPN switching output with IO-Link communication
- Output 2: PNP/NPN switching output; teach-in input, laser control, synchronization or pulse frequency modulation (PFM)

Wiring diagram



Functional principle


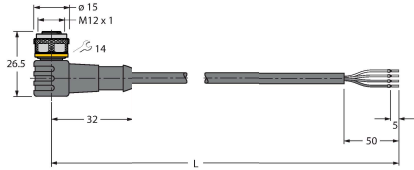
Diffuse mode sensors with background suppression operate with a single emitter and several receiver elements. The target's position and the optical structure of the

Technical data

sensor determine which receiver element gets the most light. The sensor electronics then determines whether the reflecting target is in or outside the measuring range. The sensors are available with adjustable or fixed cut-off point.

Frame type	Type_2_2
Minimum cycle time	2 ms
Function Pin 4	IO-Link
Function Pin 2	DI
Maximum cable length	20 m
Profile support	Smart Sensor Profil
Included in the SIDI GSDML	Yes
Mechanical data	
Design	Rectangular, Q5X
Dimensions	52 x 25 x 59.6 mm
Housing material	Plastic, ABS, Black
Lens	plastic, PMMA acrylic
Electrical connection	Connectors, M12 × 1, PVC
Number of cores	4
Ambient temperature	-10...+50 °C
Storage temperature	-25...+70 °C
Relative humidity	95 %
Protection class	IP67
Special features	Clear object detection Pump function keep/defer
Power-on indication	LED, Green
Switching state	LED, Yellow
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-axes), sensor operating
Shock test	MIL-STD-202G, Method 213B Condition I (100G6x along the x, y and z-axes, 18 impacts), sensor operating
Approvals	CE cULus

Accessories

Dimension drawing	Type	ID no.	
	RKC4.4T-2/TEL	6625013	Connection cable, female M12, straight, 4-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see www.turck.com
	WKC4.4T-2/TEL	6625025	Connection cable, female M12, angled, 4-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see www.turck.com