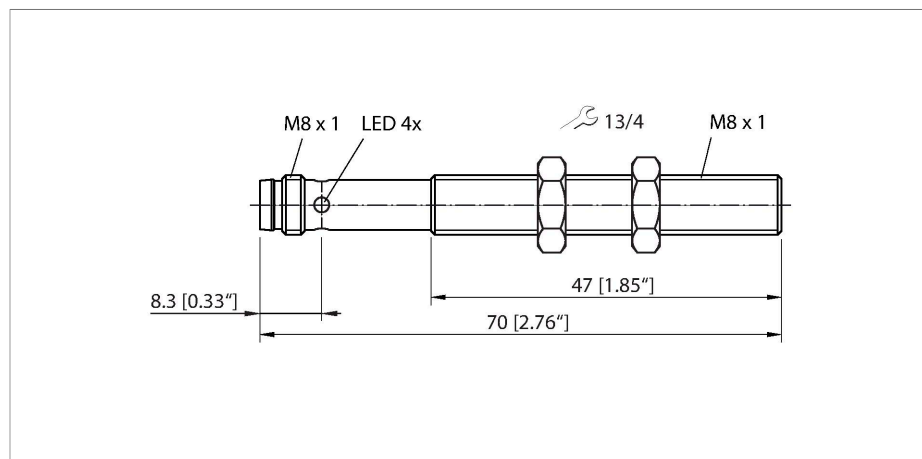


RU10U-M08-UN8X-V1141

Ultrasonic Sensor – Diffuse Mode Sensor



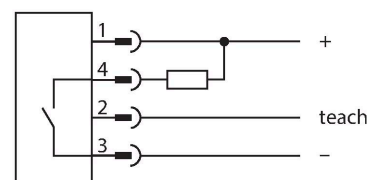
Features

- Smooth sonic transducer face
- Cylindrical housing M08, potted
- Connection via M8 × 1 male connector
- Teach range adjustable via connection cable
- Blind zone: 2 cm
- Range: 10 cm
- Resolution: 0.2 mm
- Aperture angle of sonic cone: $\pm 9^\circ$
- 1 × switching output, NPN
- Teachable settings
- NO/NC programmable
- IO-Link

Technical data

Type	RU10U-M08-UN8X-V1141
ID no.	100003158
Ultrasonic data	
Function	Proximity
Range	20...100 mm
Resolution	0.2 mm
Minimum switching range	5 mm
Ultrasound frequency	484 kHz
Temperature drift	$\leq 0.2\%$ of full scale/K
Approach speed	≤ 1 m/s
Pass speed	≤ 1 m/s
Electrical data	
Operating voltage	15...30 VDC
No-load current	≤ 50 mA
Load resistance	$\leq 1000 \Omega$
Residual current	≤ 0.1 mA
Response time typical	< 50 ms
Readiness delay	≤ 300 ms
Communication protocol	IO-Link
Output function	NO/NC, NPN
Output 1	Switching output or IO-Link mode
Switching frequency	≤ 20 Hz
Hysteresis	≤ 5 mm

Wiring diagram



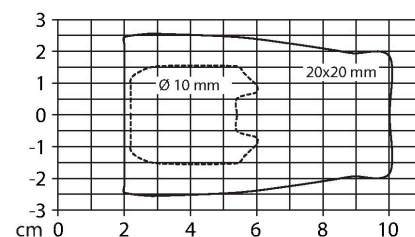
Functional principle

Ultrasonic sensors capture a multitude of objects contactlessly and wear-free with ultrasonic waves. It does not matter whether the object is transparent or opaque, metallic or non-metallic, firm, liquid or powdery. Even environmental conditions such as spray, dust or rain hardly affect their function. The sonic cone diagram indicates the detection range of the sensor. In accordance with standard EN 60947-5-2, quadratic targets in a range of sizes (20 × 20 mm, 100 × 100 mm) and a round rod with a diameter of 27 mm are used. Important: The detection ranges for other targets may differ from those for standard targets due to the different reflection properties and geometries.

Technical data

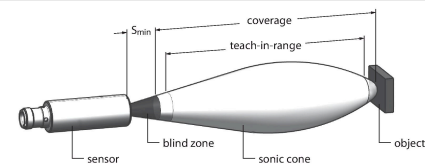
Voltage drop at I_a	$\leq 2.5 \text{ V}$
Short-circuit protection	yes
Reverse polarity protection	yes
Setting option	Remote Teach IO-Link
IO-Link	
IO-Link specification	V 1.1
IO-Link port type	Class A
Communication mode	COM 2 (38.4 kBaud)
Process data width	16 bit
Measured value information	15 bit
Switchpoint information	1 bit
Frame type	2.2
Minimum cycle time	2 ms
Function Pin 4	IO-Link
Maximum cable length	20 m
Profile support	Smart Sensor Profil
Included in the SIDI GSDML	Yes
Mechanical data	
Design	Threaded barrel, M08
Dimensions	$\varnothing 8 \times 70 \text{ mm}$
Housing material	Metal, CuZn, Nickel Plated
Transducer material	Plastic, Epoxyd resin and PU foam
Electrical connection	Connector, M8 \times 1, 4-wire
Ambient temperature	0...+50 °C
Storage temperature	0...+50 °C
Protection class	IP67
Switching state	LED, Yellow
Tests/approvals	
MTTF	103 years acc. to SN 29500 (Ed. 99) 40 °C
Declaration of conformity EN ISO/IEC	EN 60947-5-2

Sonic Cone



Mounting instructions

Mounting instructions/Description



Setting the switching point
The ultrasonic sensor features a switching output with a teachable switching point. The yellow LED indicates whether the sensor has detected an object in the taught window.

One switching point is taught. This must be within the detection range. In this operating mode the background is suppressed.

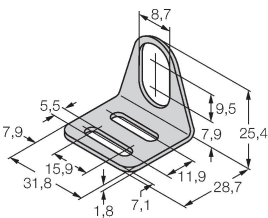
- Teach**
- Position the object at the desired switching point
 - Bridge pin 2 with the Ub for 2–7 seconds
- After a successful teach-in, the yellow LED flashes at 2 Hz and the sensor runs automatically in normal operating mode.

LED response
In normal operating mode, the yellow LED indicates the switching status of the sensor.

- Yellow: Object within the switching range
- Off: Object outside the detection range or signal loss

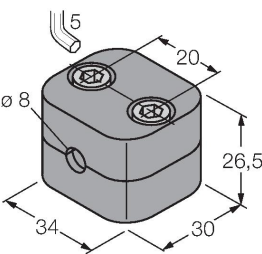
Accessories

MW-08 6945008



Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)

BSS-08 6901322



Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene

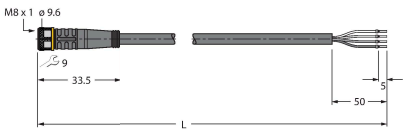
Wiring accessories

Dimension drawing Type ID no.

PKG4M-2/TEL

6625061

Connection cable, female M8, straight, 4-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see www.turck.com



PKW4M-2/TEL

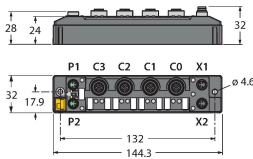
6625067

Connection cable, female M8, angled, 4-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 no.	
	PKG4M-2-RSC4.4T/TXL	6627063	Extension cable, M8 female, straight, 4-pin to M12 male, straight, 4-pin, cable length: 2 m, jacket material: PUR, black; cULus approval; other cable lengths and qualities available, see www.turck.com

Accessories

Dimension drawing	Type	ID no.	
	TBEN-S2-4IOL	6814024	Compact multiprotocol I/O module, 4 IO-Link Master 1.1 Class A, 4 universal PNP digital channels 0.5 A

USB-2-IOL-0002	6825482	IO-Link Master with integrated USB port
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