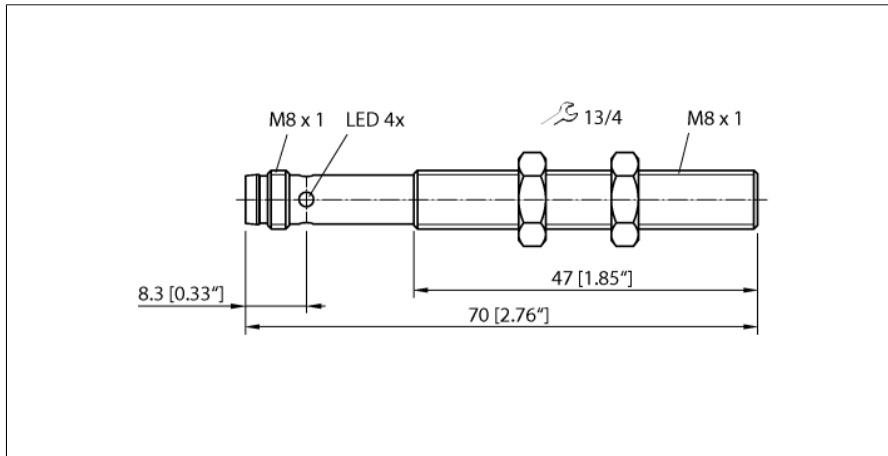


Ultrasonic Sensor Diffuse Mode Sensor RU10U-M08-UN8X-V1141



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

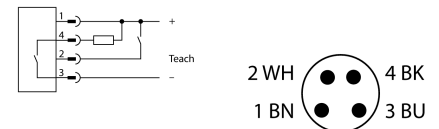
Type designation RU10U-M08-UN8X-V1141
Ident-No. 100003158

Function Ultrasonic diffuse mode sensor
Range 20...100 mm
Resolution 0.2 mm
minimum switching range 5 mm
Ultrasound frequency 484 kHz
Approach speed ≤ 1 m/s
Pass speed ≤ 1 m/s

Operating voltage 15...30 VDC
No-load current I_0 ≤ 50 mA
Load resistance ≤ 1000 Ω
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
Voltage drop at I_0 ≤ 2.5 V
Short-circuit protection yes
Reverse polarity protection yes

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

Wiring Diagram



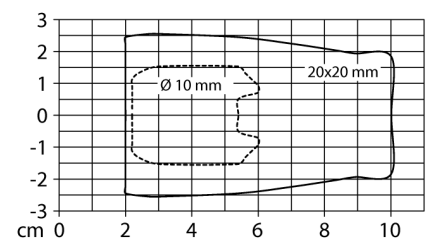
Functional principle

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 x 20 mm, 100 x 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.

Sonic Cone



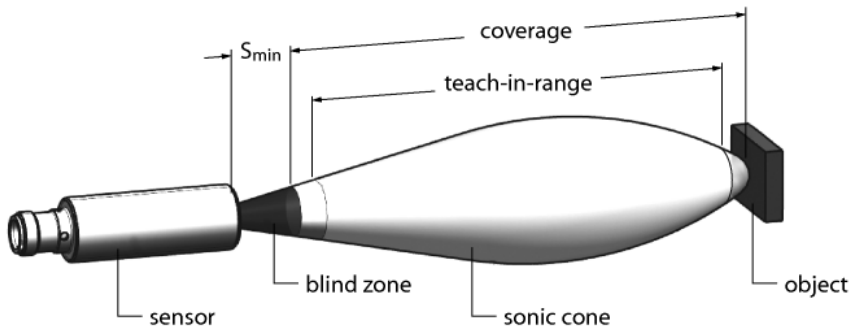
Ultrasonic Sensor Diffuse Mode Sensor RU10U-M08-UN8X-V1141

Design	Threaded barrel, M08
Dimensions	70 x Ø 8 mm
Housing material	Metal, CuZn, Nickel-plated
Transducer material	Plastic, Epoxyd resin and PU foam
Electrical connection	Connector, M8 × 1, 4-wire
Protection class	IP67
Ambient temperature	0...+50 °C
Storage temperature	0...+50 °C
Declaration of conformity EN ISO/IEC	EN 60947-5-2
MTTF	103 years
MTTF note	acc. to SN 29500 (Ed. 99) 40 °C
Switching state	LED, Yellow

Ultrasonic Sensor

Diffuse Mode Sensor

RU10U-M08-UN8X-V1141



Setting the switchpoint

The ultrasonic sensor features a switching output with adjustable switchpoint. The green and yellow LEDs indicate whether the sensor has detected the object.

One switchpoint is taught. This must be within the sensing range. In this operating mode the background is suppressed.

Teach

- Connect the teach adapter TX1-Q20L60 between sensor and connection cable
- Position the object at the beginning of the protection area
- Press the button for 2 - 7 sec against Ub
- Place object at the end of the switching range
- Press the button for 8 - 11 sec against Ub

After successful teaching, the green LED flashes at 2Hz and the sensor runs automatically in normal mode.

LED response

In standard operating mode both LEDs signal the switching state of the sensor.

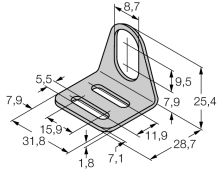
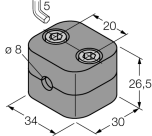
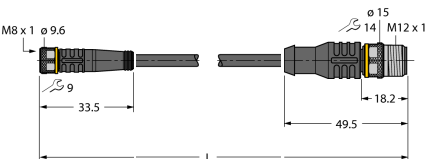
- green: Object within detection range but not in switching range
- yellow: object is in the switching range
- off: Object outside the detection range or signal loss

Ultrasonic Sensor

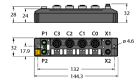
Diffuse Mode Sensor

RU10U-M08-UN8X-V1141

Accessories

Type code	Ident-No.	Description	Dimension drawing
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	
PKG4M-1-RSC4.4T/TEL	6626466	Connection cable, M8 female, straight, 4-pin to M12 male, straight, 4-pin; cable length: 1m, jacket material: PVC, black; cULus approval; other cable lengths and qualities available, see www.turck.com	

Function accessories

Type code	Ident-No.	Description	Dimension drawing
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	