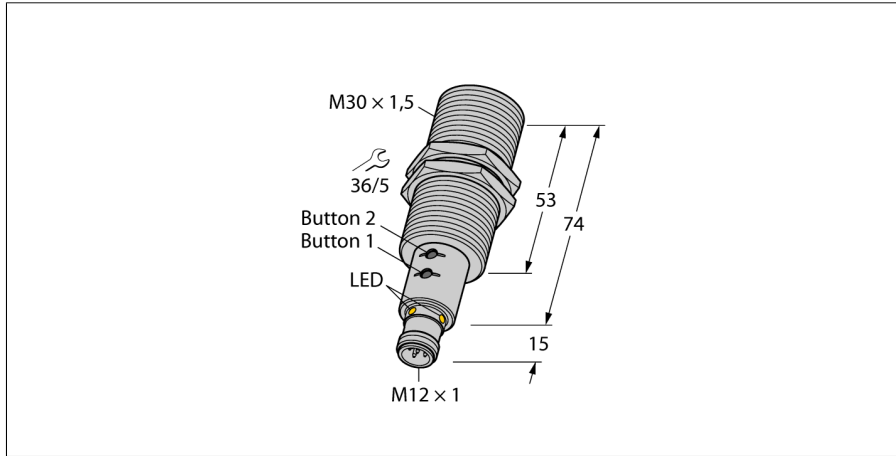


**Ultrasonic sensor
diffuse mode sensor
RU300U-M30E-LIU2PN8X2T-H1151**



- Smooth sonic transducer face
- Cylindrical housing M30
- Connection via male M12 x 1
- Measuring range adjustable via teach button/Easy-Teach
- Temperature compensation
- Blind zone: 40 cm
- Range: 300 cm
- Resolution: 1 mm
- Aperture angle of sonic cone: 7 °
- 1 x switching output, PNP/NPN
- 1 x analog output, 4...20 mA / 0...10V / additional switching output, PNP/NPN
- NO/NC programmable
- Parametrizable via IO-Link

Type code RU300U-M30E-LIU2PN8X2T-H1151
Ident no. 1610048

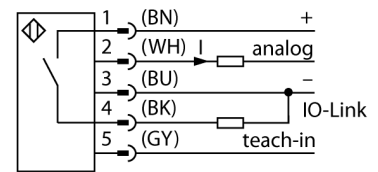
Design cylindrical/threaded, M30
Dimensions Ø30 x 89 mm
Housing material metal, CuZn, nickel-plated
Sonic converter material plastic, PBT
Connection male, M12 x 1, 5-wire
Protection class IP67
Ambient temperature -25...+70 °C
Storage temperature -40...+80 °C
Declaration of conformity EN ISO/IEC EN 60947-5-2
Vibration resistance IEC 60068-2
MTTF 195 years
MTTF note acc. to SN 29500 (Ed. 99) 40 °C

Switching state LED green / yellow

Residual ripple 10 % U_s
Operating voltage 15...30VDC
DC rated operational current ≤ 150 mA
No-load current I₀ ≤ 50 mA
Load resistance ≤ 1000 Ω
Readiness delay 300 ms
Output function NO/NC , PNP/NPN
Output 1 analog output
Output 2 switching output or IO-Link mode
Current output 4...20mA
Voltage output 0...10V
Switching frequency 2 Hz
Hysteresis ≤ 5 % of full scale
Voltage drop at I₀ ≤ 2.5 V
Short-circuit protection yes/ cyclic
Reverse polarity protection yes
Wire breakage protection yes

Operating mode diffuse mode ultrasonic sensor
Range 40...300 cm
Resolution 1 mm
Ultrasound frequency 200 kHz
Repeatability 0.15 % of full scale
Temperature drift 1.5% of full scale
Linearity error ≤ ± 0.5 %
Edge lengths of the nominal actuator 100 mm
Approach speed ≤ 8 m/s
Pass speed ≤ 1.5 m/s

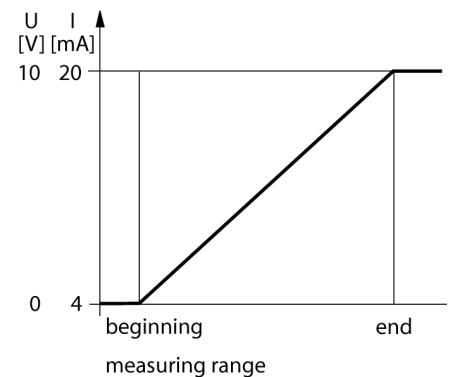
Wiring diagram



Functional principle

Ultrasonic sensors use ultrasonic waves for non-contact and wear-free detection of many objects. Regardless of whether the object is transparent or opaque, metallic or non-metallic, or of liquid, solid or powdery consistency. Even environmental conditions such as spray, dust or rain hardly affect their function.

Characteristic

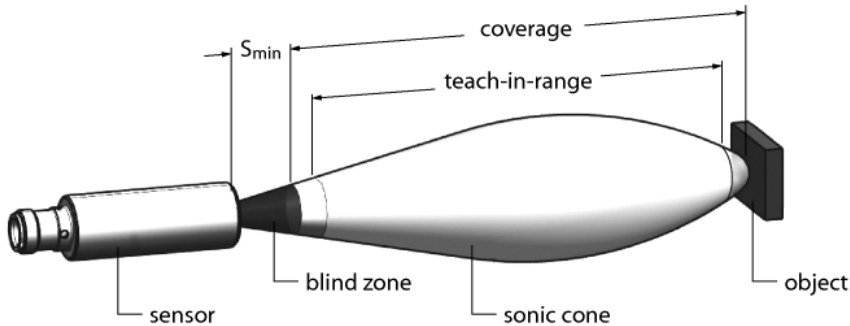


**Ultrasonic sensor
diffuse mode sensor
RU300U-M30E-LIU2PN8X2T-H1151**

TURCK

Industrial
Automation

Mounting instructions / Description



Settings

The ultrasonic sensor can be parametrized in such a way that you can either set a measuring range via an analog and a switching output, or a switching range via two switching outputs. These settings are done with the Easy-Teach adapter or with the buttons at the sensor. Object presence is signalled by the green and yellow LED.

Two limiting values are taught. They mark the end-points of a measuring window and may be selected freely within the overall detection range.

Via Easy-Teach adapter

- Connect the teach adapter TX1-Q20L60 between sensor and connection cable
- For the first limit value, place object accordingly
- Press and hold button for at least 2 to 7 s against Ub
- For the second limit value, place object accordingly
- Press and hold button for at least 2 to 7 s against Gnd

Via buttons

- For the first limit value, place object accordingly
- Press and hold button 1 for at least 2 to 7 s
- For the second limit value, place object accordingly
- Press and hold button 2 for at least 2 to 7 s

After successful teach-in the sensor starts running automatically in standard operating mode. Unsuccessful teach-in is signalled by the LED flashing slowly at a frequency of 5 Hz.

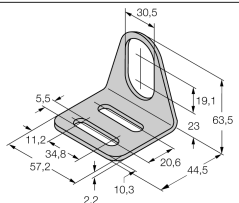
LED response

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

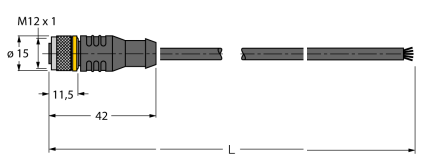
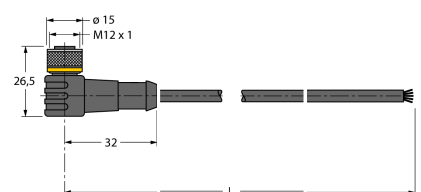
- green: Object is in the detection range but not in the measuring range
- yellow: Object is in the measuring range
- off: Object is outside the detection range

**Ultrasonic sensor
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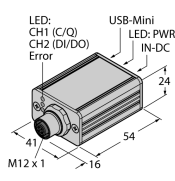
Accessories

Type code	Ident no.	Description	Dimension drawing
MW-30	6945005	Mounting bracket for threaded barrel devices; material: Stainless steel A2 1.4301 (AISI 304)	

Wiring accessories

Type code	Ident no.	Description	Dimension drawing
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	
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	

Function accessories

Type code	Ident no.	Description	Dimension drawing
USB-2-IOL-0002	6825482	IO-Link master with integrated USB port	

Ultrasonic sensor
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Function accessories

Type code	Ident no.	Description	Dimension drawing
TX1-Q20L60	6967114	Teach adapter for inductive encoders, linear position, angle and ultrasonic sensors	