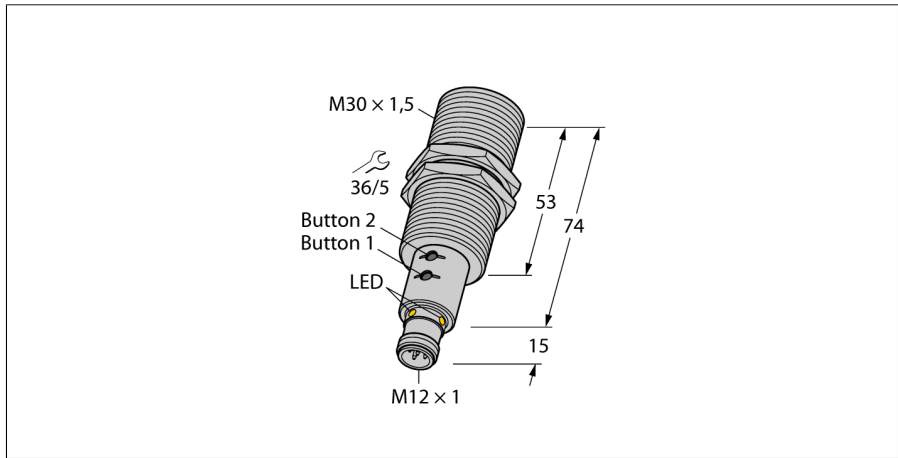


**Ultrasonic sensor
diffuse mode sensor
RU130U-M30E-LIU2PN8X2T-H1151**



- 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: 15 cm
- Range: 130 cm
- Resolution: 1 mm
- Aperture angle of sonic cone: 16 °
- 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	RU130U-M30E-LIU2PN8X2T-H1151
Ident no.	1610046

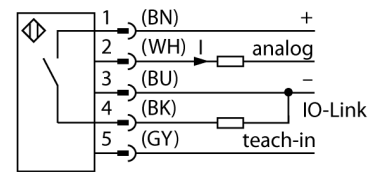
Design	cylindrical/threaded, M30
Dimensions	Ø30 x 89 mm
Housing material	metal, CuZn, nickel-plated
Sonic converter material	plastic, PBT
Connection	male, M12 x 1, 5-wire
Protection class	IP67
Ambient temperature	-25...+70 °C
Storage temperature	-40...+80 °C
Declaration of conformity EN ISO/IEC	EN 60947-5-2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

Switching state	LED green / yellow
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Residual ripple	10 % U _s
Operating voltage	15...30VDC
DC rated operational current	≤ 150 mA
No-load current I ₀	≤ 50 mA
Load resistance	≤ 1000 Ω
Response time	65 ms
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	8 Hz
Hysteresis	≤ 5 % of full scale
Voltage drop at I ₀	≤ 2.5 V
Short-circuit protection	yes/ cyclic
Reverse polarity protection	yes
Wire breakage protection	yes

Operating mode	diffuse mode ultrasonic sensor
Range	15...130 cm
Resolution	1 mm
minimum measuring range	100 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

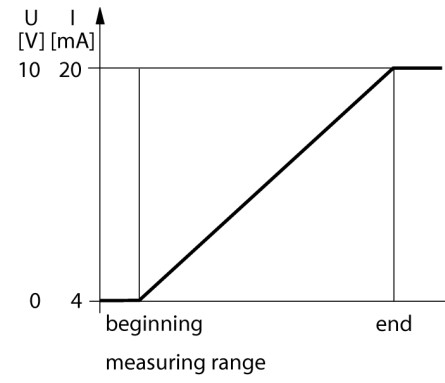
Wiring diagram



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
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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.

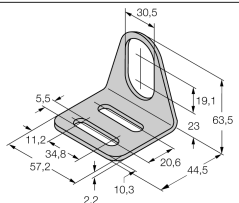
LED response

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

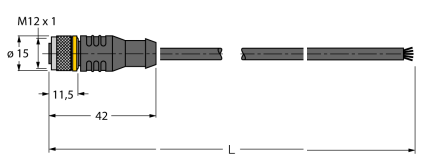
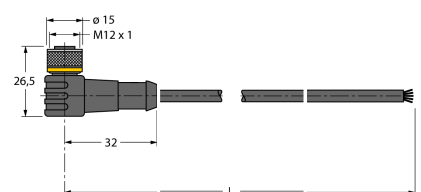
- green: Object is in the detection range but not in the measuring range
- yellow: Object is in the measuring range
- off: Object is outside the detection range

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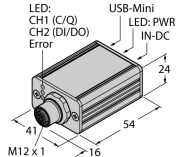
Accessories

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	

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Industrial
Automation

Function accessories

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