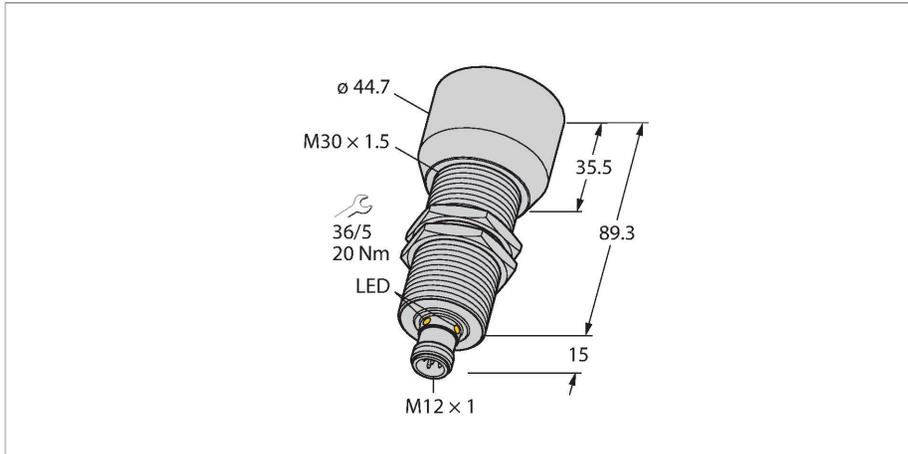


# RU600U-M30E-LU8X2-H1151

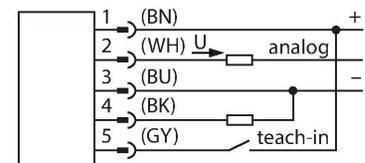
## Ultrasonic Sensor – Diffuse Mode Sensor



### Features

- Smooth sonic transducer face
- Cylindrical housing M30, potted
- Connection via M12 x 1 male
- Measuring range adjustable via Easy-Teach
- Temperature compensation
- Blind zone: 60 cm
- Range: 600 cm
- Resolution: 1 mm
- Aperture angle of sonic cone:  $\pm 15^\circ$
- 1 x analog output, 0...10 V/additional switching output, PNP

### 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 60947-5-7, 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.

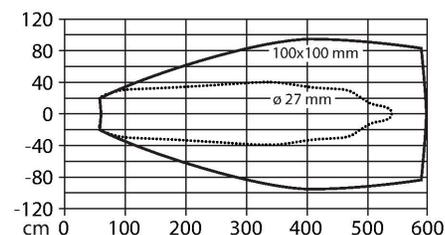
### Technical data

Type	RU600U-M30E-LU8X2-H1151
ID	1610114
<b>Ultrasonic data</b>	
Function	Proximity
Range	600...6000 mm
Resolution	1 mm
Minimum measuring range	500 mm
Minimum switching range	500 mm
Ultrasound frequency	75 kHz
Repeat accuracy	$\leq 0.15\%$ of full scale
Temperature drift	$\pm 1.5\%$ of full scale
Linearity error	$\leq \pm 0.5\%$
Edge lengths of the nominal actuator	100 mm
Approach speed	$\leq 11$ m/s
Pass speed	$\leq 3.7$ m/s
<b>Electrical data</b>	
Operating voltage $U_B$	15...30 VDC
Residual ripple	10 % $U_{ss}$
DC rated operating current $I_o$	$\leq 150$ mA
No-load current	$\leq 50$ mA
Load resistance	$\leq 1000 \Omega$
Response time typical	$< 380$ ms
Readiness delay	$\leq 300$ ms

## Technical data

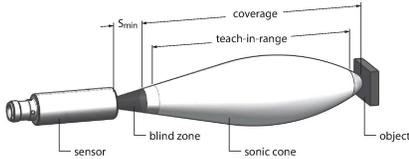
Output function	Analog output
Output 1	Analog output
Voltage output	0...10 V
Load resistance voltage output	$\geq 1 \text{ k}\Omega$
Switching frequency	$\leq 1.6 \text{ Hz}$
Short-circuit protection	yes/Cyclic
Reverse polarity protection	yes
Wire breakage protection	yes
Setting option	Remote Teach
<b>Mechanical data</b>	
Design	Threaded barrel, M30
Radiation direction	straight
Dimensions	$\varnothing 44.7 \times 104.3 \text{ mm}$
Housing material	Metal, CuZn, Nickel Plated
Max. tightening torque of housing nut	75 Nm
Transducer material	Plastic, Epoxyd resin and PU foam
Electrical connection	Connector, M12 $\times$ 1, 5-wire
Ambient temperature	-25...+50 °C
Storage temperature	-40...+80 °C
Pressure resistance	0.5...5 bar
Protection class	IP67
Switching state	LED, Yellow
Object detected	LED, Green
<b>Tests/approvals</b>	
MTTF	193 years acc. to SN 29500 (Ed. 99) 40 °C
Declaration of conformity EN ISO/IEC	EN 60947-5-7
Vibration resistance	20 g, 10...55 Hz, sine, 3 axes, 30 min/axis according to IEC 60068-2-6
Shock test	30 g, 11 ms, half sine, 3 axes according to IEC 60068-2-27
Approvals	CE cULus

## Sonic Cone



## Mounting instructions

### Mounting instructions/Description



#### Setting the limit values

The ultrasonic sensor has an analog output with teachable measuring range. Teaching is implemented via the teach adapter. The green and yellow LEDs indicate whether the sensor has detected the object.

#### Teach

Connect the TX1-Q20L60 teach adapter between the sensor and connection cable

- Position object for remote limit value
- Press the button against Ub for 2 - 7 seconds
- Position object for close limit value
- Press the button against Ub for 8 - 11 seconds

Optional: Inversion of analog output

- Press the button for 12 - 17 seconds

#### LED response

Successful teaching is displayed with a fast flashing LED. Thereafter, the sensor automatically runs in normal operating mode. Unsuccessful teaching is indicated by the LED flashing alternately green and yellow. In normal operation, the two LEDs indicate the status of the sensor.

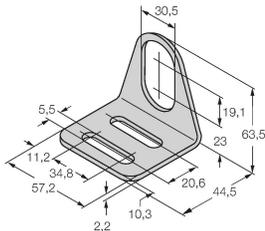
- Green: Object within the detection range, but not in the measuring range
- Yellow: Object is within the measuring range
- Off: Object outside the detection range or signal loss

## Accessories

MW30

6945005

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



## Wiring accessories

### Dimension drawing

### Type

### ID

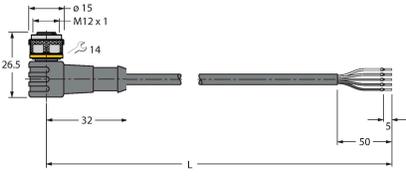
RKC4.5T-2/TEL

6625016

Connection cable, M12 female connector, straight, 5-pin, cable length: 2 m, jacket material: PVC, black; cULus approval



Dimension drawing	Type	ID	
	WKC4.5T-2/TEL	6625028	Connection cable, M12 female connector, angled, 5-pin, cable length: 2 m, jacket material: PVC, black; cULus approval



**Accessories**

Dimension drawing	Type	ID	
	TX1-Q20L60	6967114	Teach adapter for inductive encoders, linear position, angle, ultrasonic and capacitive sensors

