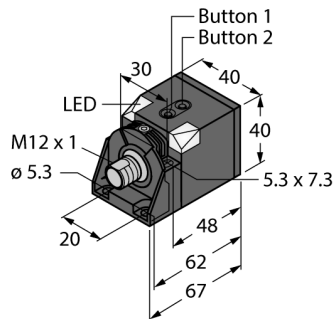
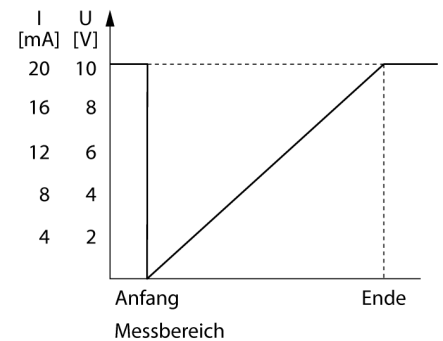
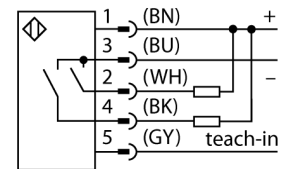


Ultrasonic Sensor Diffuse Mode Sensor RU200-CK40-2UN8X2T-H1151



- Separate transducers for transmitter and receiver
- Rectangular housing 40 x 40 mm
- Connection via M12 x 1 male
- Teach range adjustable via button
- Blind zone: 5 cm
- Range: 200 cm
- Resolution: 1 mm
- Sonic cone angle: 60°
- 2 x switching outputs, NPN
- NO/NC programmable

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

Type designation RU200-CK40-2UN8X2T-H1151
Ident-No. 1610057

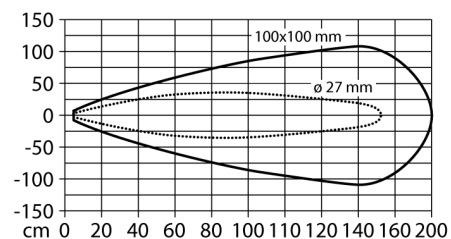
Function Ultrasonic diffuse mode sensor
Range 50...2000 mm
Resolution 1 mm
minimum switching range 20 mm
Ultrasound frequency 120 kHz
Repeat accuracy 0.25 % of full scale
Edge lengths of the nominal actuator 100 mm
Approach speed ≤ 3 m/s
Pass speed ≤ 3 m/s

Operating voltage 15...30 VDC
Residual ripple 10 % U_n
DC rated operational current ≤ 150 mA
No-load current I_0 ≤ 50 mA
Load resistance ≤ 1000 Ω
Residual current ≤ 0.1 mA
Response time typical 160 ms
Readiness delay 300 ms
Output function NO/NC, NPN
Output 1 Switching output
Output 2 Switching output
Switching frequency 3 Hz
Hysteresis ≤ 20 mm
Voltage drop at I_L ≤ 2.5 V
Short-circuit protection yes/ Latching
Reverse polarity protection yes
Wire breakage protection yes

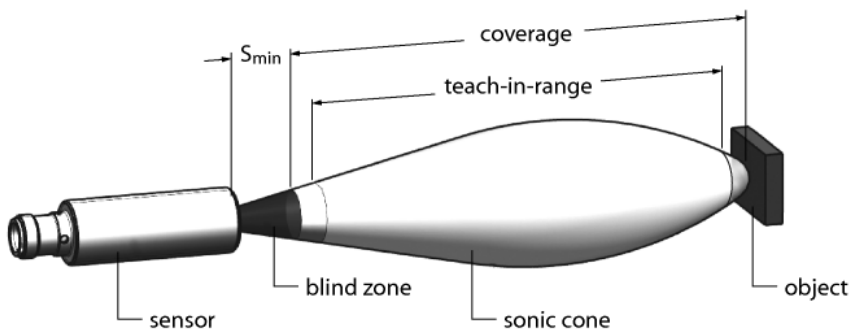
Design Rectangular, CK40
Radiation direction straight
Dimensions 67 x 40 x 40 mm
Housing material Plastic, PBT-GF30-V0
Electrical connection Connector, M12 x 1, 5-wire
Protection class IP40
Ambient temperature 0...+70 °C
Declaration of conformity EN ISO/IEC EN 60947-5-2

Switching state LED, Yellow
Object detected LED, Green

Ultrasonic Sensor
Diffuse Mode Sensor
RU200-CK40-2UN8X2T-H1151



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Setting the limits

The ultrasonic sensor features two switching outputs with teachable switching range. The range is either set via Easy-Teach or via the buttons on the housing. The green and yellow LED indicate whether the sensor has detected an object.

Various functions such as single switchpoint, window mode or reflection mode to a fixed target can be taught. Further information is described in the operating instructions. How to set the window mode is described below. The limits of the window may be selected freely within the detection range.

Easy-Teach

- Connect teach adapter TX1-Q20L60 between sensor and connection cable
- For the first limit value, place object accordingly
- Press and hold the select button for output 1 or 2 for 2 or 8 s against Gnd
- Press and hold the select button for 8 s against Gnd to teach the first limit value.
- For the second limit value, place object accordingly
- Press and hold button for at least 2 s against Gnd

Teach-Button

- For the first limit value, place object accordingly
- Press and hold button 1 to select output 1 or 2 for 2 or 8 s against Gnd
- Press and hold button 1 for at least 8 s
- For the second limit value, place object accordingly
- Press and hold button 1 for at least 2 s

After successful teaching, the sensor automatically runs in normal operating mode. Unsuccessful teach-in is signalled by the LED flashing slowly at a frequency of 5Hz.

LED response

Successful teaching is indicated by a fast flashing green LED. Thereafter, the sensor automatically runs in normal operating mode. Unsuccessful teaching is indicated by the LED flashing alternately green and yellow. In normal operating mode both LEDs signal the switching state of output 1.

- green: object is in the detection range but not in the switching range
- yellow: object is in the switching range
- off: object is outside the switching range

Ultrasonic Sensor
Diffuse Mode Sensor
RU200-CK40-2UN8X2T-H1151

Function accessories

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