Your Global Automation Partner

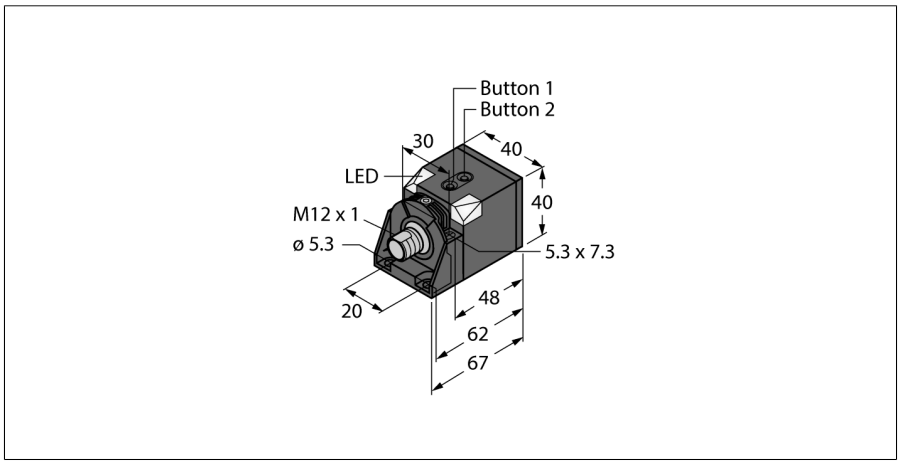
CP40 and CK40 Ultrasonic Sensors with New Housing

Turck updated the housing on its CP40 sensors to include highly-visible LEDs and sealed programming buttons. The housing maintains its limit-switch style mounting with a two-piece design that features a sensing head that can be moved and oriented as needed. The sensor is ideal for wide areas of coverage, with a 60-degree cone angle and range of 2 meters. The CK40 is a new design for this line that builds on the CP40 technology with a more compact housing and an M12 connector.

Please see the following pages for the data sheets for the product included in this extension.

Part Number	ID Number	Standard	High End	Teach By Wire	Teach by Button	Teach via IO-Link	Sensing Range	Housing	Output
RU200-CK40-2UP8X2T-H1151	M1610051	X		X	X		200cm	CK40	PNP
RU200-CK40-LIU2P8X2T-H1151	M1610053	X		X	X		200cm	CK40	PNP, Analog
RU200-CK40-2UN8X2T-H1151	M1610057	X		X	X		200cm	CK40	NPN
RU200-CK40-LIU2N8X2T-H1151	M1610058	X		X	X		200cm	CK40	NPN, Analog
RU200-CP40-2UP8X2T	M1610052	X			X		200cm	CP40	PNP
RU200-CP40-LIU2P8X2T	M1610054	X			X		200cm	CP40	PNP, Analog
RU200-CP40-2UP8X2T/S10	M1610092	X			X		200cm	CP40	PNP
RU200-CP40-LIU2P8X2T/S10	M1610093	X			X		200cm	CP40	PNP, Analog
RU200-CP40-2UN8X2T	M1610055	X			X		200cm	CP40	NPN
RU200-CP40-LIU2N8X2T	M1610056	X			X		200cm	CP40	NPN, Analog
RU200-CP40-2UN8X2T/S10	M1610090	X			X		200cm	CP40	NPN
RU200-CP40-LIU2NP8X2T/S10	M1610091	X			X		200cm	CP40	NPN, Analog

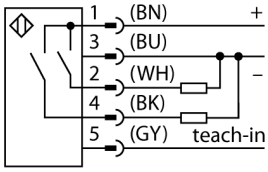
Ultrasonic sensor
diffuse mode sensor
RU200-CK40-2UP8X2T-H1151



- **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, PNP**
- **NO/NC programmable**

Type code	RU200-CK40-2UP8X2T-H1151
Ident-No.	1610051
Pass speed	≤ 2 m/s
Repeatability	≤ 0.25 % of full scale
Edge lengths of the nominal actuator	100 mm
Hysteresis	≤ 20 mm
Ambient temperature	0…+70 °C
Operating voltage	15… 30VDC
Residual ripple	≤ 10 % U_{ss}
DC rated operational current	≤ 150 mA
No-load current I_0	≤ 50 mA
Short-circuit protection	yes/ cyclic
Voltage drop at I_e	≤ 2.5 V
Wire breakage / Reverse polarity protection	yes/ yes
Output function	5-wire, NO/NC , PNP
Output 1	Switching output
Readiness delay	≤ 300 ms
Construction	Rectangular, CK40
Dimensions	67 x 40 x 40 mm
Housing material	Plastic, PBT-GF30-V0
Electrical connection	Flange connector, M12 x 1
Protection class	IP40
Switching state	LED yellow

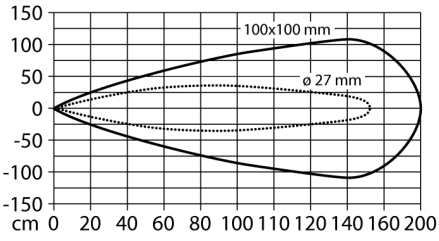
Wiring Diagram



Functional principle

Ultrasonic sensors capture a multitude of objects contactless 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.

Sonic Cone



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Ultrasonic sensor
diffuse mode sensor
RU200-CK40-2UP8X2T-H1151

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

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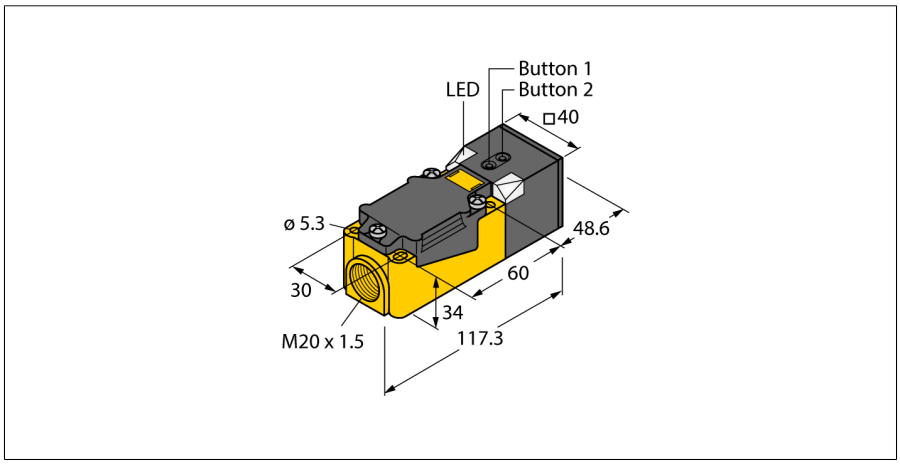
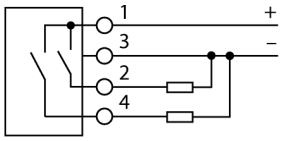
Ultrasonic sensor
diffuse mode sensor
RU200-CP40-2UP8X2T



- **Separate transducers for transmitter and receiver**
- **Rectangular housing 40 x 40 x 166 mm**
- **Connection via screw terminals**
- **Terminal chamber for M20 x 1.5 cable gland**
- **Teach range adjustable via button**
- **Blind zone: 5 cm**
- **Range: 200 cm**
- **Resolution: 1 mm**
- **Sonic cone angle: 60°**
- **2 x switching outputs, PNP**
- **NO/NC programmable**

Type code	RU200-CP40-2UP8X2T
Ident-No.	1610052
Pass speed	≤ 2 m/s
Repeatability	≤ 0.25 % of full scale
Edge lengths of the nominal actuator	100 mm
Hysteresis	≤ 20 mm
Ambient temperature	0…+70 °C
Operating voltage	15… 30VDC
Residual ripple	≤ 10 % U_{ss}
DC rated operational current	≤ 150 mA
No-load current I_0	≤ 50 mA
Short-circuit protection	yes/ cyclic
Voltage drop at I_e	≤ 2.5 V
Wire breakage / Reverse polarity protection	yes/ yes
Output function	4-wire, NO/NC , PNP
Output 1	Switching output
Readiness delay	≤ 300 ms
Construction	Rectangular, CP40
Dimensions	166 x 40 x 40 mm
Housing material	Plastic, PBT-GF30-V0
Electrical connection	terminal chamber, Terminal box with cable gland
Protection class	IP40
Switching state	LED yellow

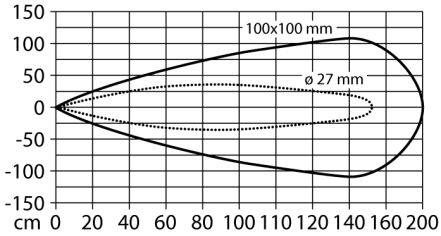
Wiring Diagram



Functional principle

Ultrasonic sensors capture a multitude of objects contactless 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.

Sonic Cone



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Ultrasonic sensor
diffuse mode sensor
RU200-CP40-2UP8X2T

Setting the limits

The ultrasonic sensor features two switching outputs with teachable switching range. Teaching via 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.

- 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

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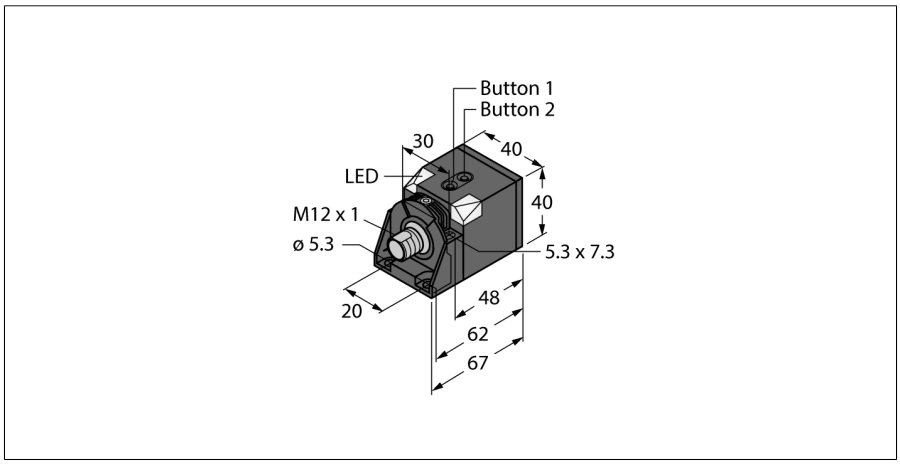
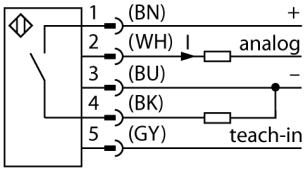
Ultrasonic sensor
diffuse mode sensor
RU200-CK40-LIU2P8X2T-H1151



- **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°**
- **1 x switching output, PNP**
- **NO/NC programmable**
- **1 x analog output, 4..20mA/ 0..10 V**

Type code	RU200-CK40-LIU2P8X2T-H1151
Ident-No.	1610053
Pass speed	≤ 2 m/s
Repeatability	≤ 0.25 % of full scale
Edge lengths of the nominal actuator	100 mm
Hysteresis	≤ 20 mm
Ambient temperature	0…+70 °C
Operating voltage	15… 30VDC
Residual ripple	≤ 10 % U_{ss}
DC rated operational current	≤ 150 mA
No-load current I_0	≤ 50 mA
Short-circuit protection	yes/ cyclic
Voltage drop at I_e	≤ 2.5 V
Wire breakage / Reverse polarity protection	yes/ yes
Output function	5-wire, NO/NC , PNP
Output 1	Switching output
Voltage output	0…10VDC
Current output	4…20mA
Readiness delay	≤ 300 ms
Construction	Rectangular, CK40
Dimensions	67 x 40 x 40 mm
Housing material	Plastic, PBT-GF30-V0
Electrical connection	Flange connector, M12 x 1
Protection class	IP40
Switching state	LED yellow

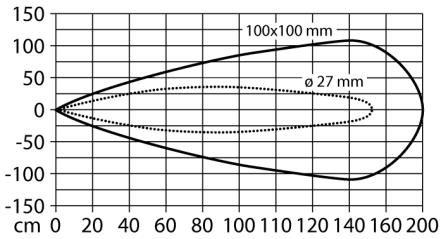
Wiring Diagram



Functional principle

Ultrasonic sensors capture a multitude of objects contactless 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.

Sonic Cone



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Ultrasonic sensor
diffuse mode sensor
RU200-CK40-LIU2P8X2T-H1151

Setting the limits

The ultrasonic sensor has an analog and a switching output with teachable measuring and switching range. Teaching is possible via Easy-Teach adapter or with the buttons at the sensor. 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

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 detection range or signal loss

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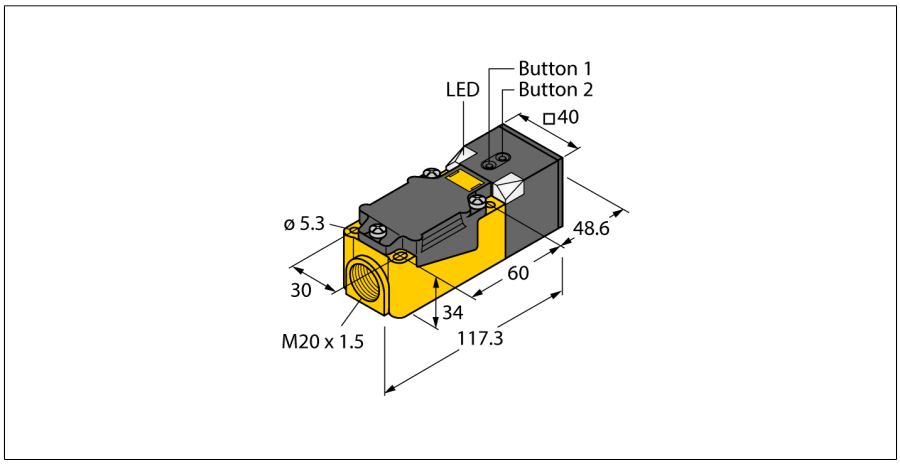
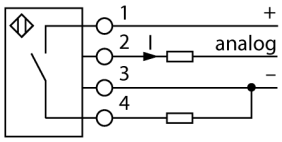
Ultrasonic sensor
diffuse mode sensor
RU200-CP40-LIU2P8X2T



- **Separate transducers for transmitter and receiver**
- **Rectangular housing 40 x 40 x 166 mm**
- **Connection via screw terminals**
- **Terminal chamber for M20 x 1.5 cable gland**
- **Teach range adjustable via button**
- **Blind zone: 5 cm**
- **Range: 200 cm**
- **Resolution: 1 mm**
- **Sonic cone angle: 60°**
- **1 x switching output, PNP**
- **NO/NC programmable**
- **1 x analog output, 4..20mA/ 0..10 V**

Type code	RU200-CP40-LIU2P8X2T
Ident-No.	1610054
Pass speed	≤ 2 m/s
Repeatability	≤ 0.25 % of full scale
Edge lengths of the nominal actuator	100 mm
Hysteresis	≤ 20 mm
Ambient temperature	0…+70 °C
Operating voltage	15… 30VDC
Residual ripple	≤ 10 % U_{ss}
DC rated operational current	≤ 150 mA
No-load current I_0	≤ 50 mA
Short-circuit protection	yes/ cyclic
Voltage drop at I_e	≤ 2.5 V
Wire breakage / Reverse polarity protection	yes/ yes
Output function	4-wire, NO/NC , PNP
Output 1	Switching output
Voltage output	0…10VDC
Current output	4…20mA
Readiness delay	≤ 300 ms
Construction	Rectangular, CP40
Dimensions	166 x 40 x 40 mm
Housing material	Plastic, PBT-GF30-V0
Electrical connection	terminal chamber, Terminal box with cable gland
Protection class	IP40
Switching state	LED yellow

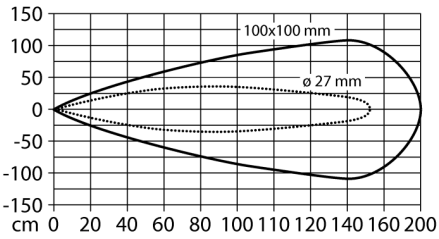
Wiring Diagram



Functional principle

Ultrasonic sensors capture a multitude of objects contactless 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.

Sonic Cone



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Ultrasonic sensor
diffuse mode sensor
RU200-CP40-LIU2P8X2T

Setting the limits

The ultrasonic sensor has an analog and a switching output with teachable measuring and switching range. Teaching via 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.

- 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

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 detection range or signal loss

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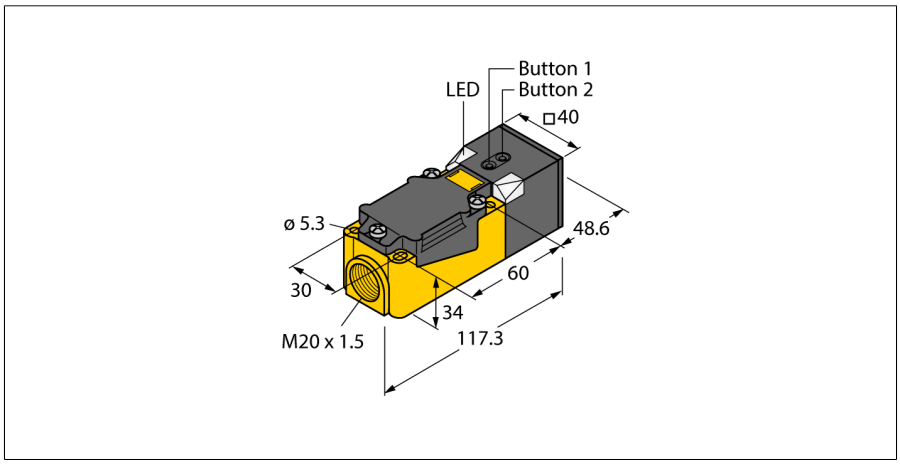
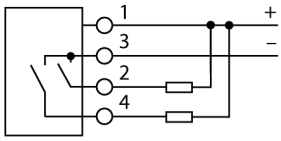
Ultrasonic sensor
diffuse mode sensor
RU200-CP40-2UN8X2T



- **Separate transducers for transmitter and receiver**
- **Rectangular housing 40 x 40 x 166 mm**
- **Connection via screw terminals**
- **Terminal chamber for M20 x 1.5 cable gland**
- **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**

Type code	RU200-CP40-2UN8X2T
Ident-No.	1610055
Pass speed	≤ 2 m/s
Repeatability	≤ 0.25 % of full scale
Edge lengths of the nominal actuator	100 mm
Hysteresis	≤ 20 mm
Ambient temperature	0…+70 °C
Operating voltage	15… 30VDC
Residual ripple	≤ 10 % U_{ss}
DC rated operational current	≤ 150 mA
No-load current I_0	≤ 50 mA
Short-circuit protection	yes/ cyclic
Voltage drop at I_e	≤ 2.5 V
Wire breakage / Reverse polarity protection	yes/ yes
Output function	4-wire, NO/NC , NPN
Output 1	Switching output
Readiness delay	≤ 300 ms
Construction	Rectangular, CP40
Dimensions	166 x 40 x 40 mm
Housing material	Plastic, PBT-GF30-V0
Electrical connection	terminal chamber, Terminal box with cable gland
Protection class	IP40
Switching state	LED yellow

Wiring Diagram



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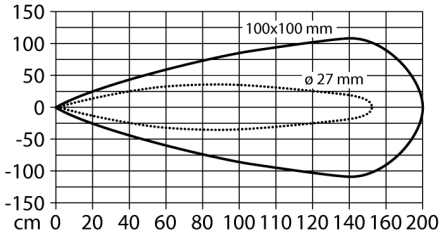
Sonic Cone



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Ultrasonic sensor
diffuse mode sensor
RU200-CP40-2UN8X2T

Setting the limits

The ultrasonic sensor features two switching outputs with teachable switching range. Teaching via 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.

- 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

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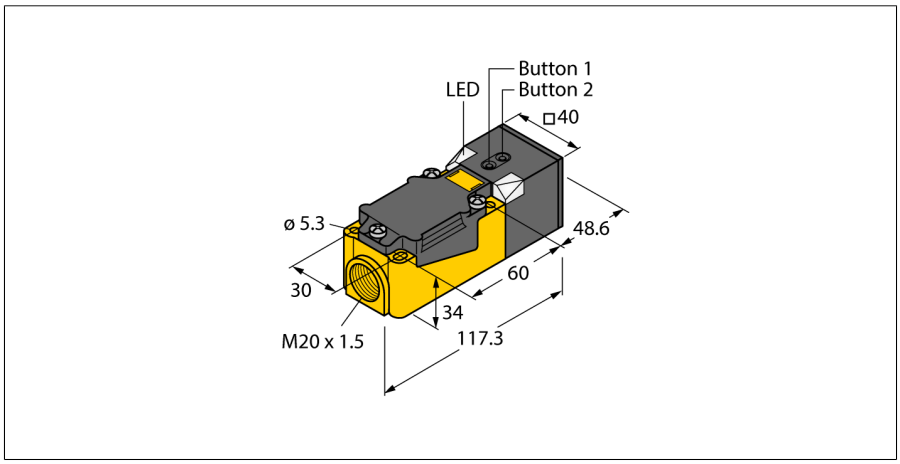
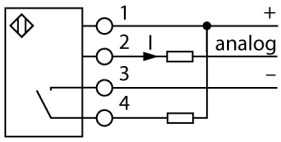
Ultrasonic sensor
diffuse mode sensor
RU200-CP40-LIU2N8X2T



- **Separate transducers for transmitter and receiver**
- **Rectangular housing 40 x 40 x 166 mm**
- **Connection via screw terminals**
- **Terminal chamber for M20 x 1.5 cable gland**
- **Teach range adjustable via button**
- **Blind zone: 5 cm**
- **Range: 200 cm**
- **Resolution: 1 mm**
- **Sonic cone angle: 60°**
- **1 x switching output, NPN**
- **NO/NC programmable**
- **1 x analog output, 4..20mA/ 0..10 V**

Type code	RU200-CP40-LIU2N8X2T
Ident-No.	1610056
Pass speed	≤ 2 m/s
Repeatability	≤ 0.25 % of full scale
Edge lengths of the nominal actuator	100 mm
Hysteresis	≤ 20 mm
Ambient temperature	0…+70 °C
Operating voltage	15… 30VDC
Residual ripple	≤ 10 % U_{ss}
DC rated operational current	≤ 150 mA
No-load current I_0	≤ 50 mA
Short-circuit protection	yes/ cyclic
Voltage drop at I_e	≤ 2.5 V
Wire breakage / Reverse polarity protection	yes/ yes
Output function	4-wire, NO/NC , NPN
Output 1	Switching output
Voltage output	0…10VDC
Current output	4…20mA
Readiness delay	≤ 300 ms
Construction	Rectangular, CP40
Dimensions	166 x 40 x 40 mm
Housing material	Plastic, PBT-GF30-V0
Electrical connection	terminal chamber, Terminal box with cable gland
Protection class	IP40
Switching state	LED yellow

Wiring Diagram



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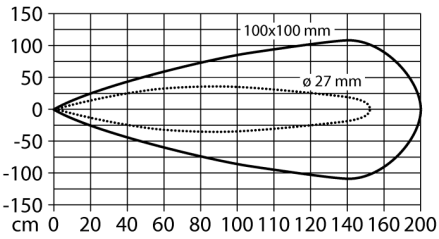
Sonic Cone



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Ultrasonic sensor
diffuse mode sensor
RU200-CP40-LIU2N8X2T

Setting the limits

The ultrasonic sensor has an analog and a switching output with teachable measuring and switching range. Teaching via 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.

- 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

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 detection range or signal loss

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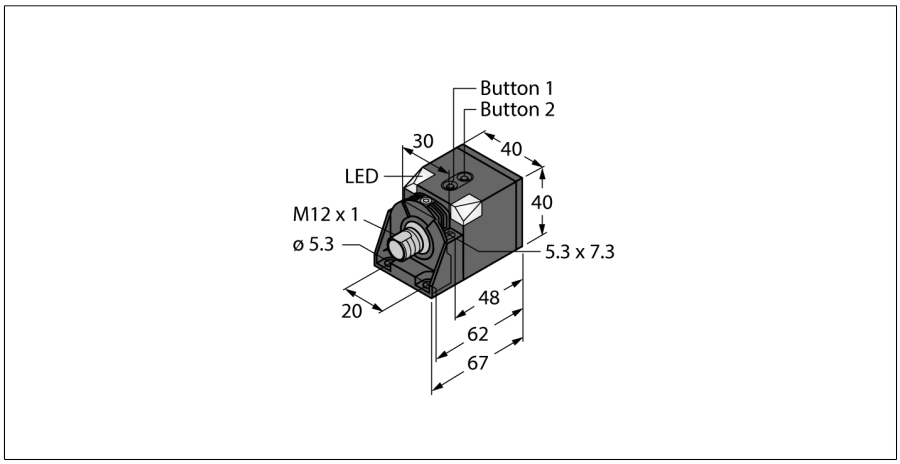
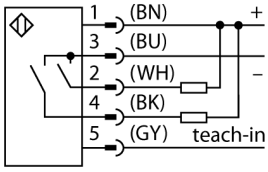
Ultrasonic sensor
diffuse mode sensor
RU200-CK40-2UN8X2T-H1151



- **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**

Type code	RU200-CK40-2UN8X2T-H1151
Ident-No.	1610057
Pass speed	≤ 2 m/s
Repeatability	≤ 0.25 % of full scale
Edge lengths of the nominal actuator	100 mm
Hysteresis	≤ 20 mm
Ambient temperature	0…+70 °C
Operating voltage	15… 30VDC
Residual ripple	≤ 10 % U_{ss}
DC rated operational current	≤ 150 mA
No-load current I_0	≤ 50 mA
Short-circuit protection	yes/ cyclic
Voltage drop at I_e	≤ 2.5 V
Wire breakage / Reverse polarity protection	yes/ yes
Output function	5-wire, NO/NC , NPN
Output 1	Switching output
Readiness delay	≤ 300 ms
Construction	Rectangular, CK40
Dimensions	67 x 40 x 40 mm
Housing material	Plastic, PBT-GF30-V0
Electrical connection	Flange connector, M12 x 1
Protection class	IP40
Switching state	LED yellow

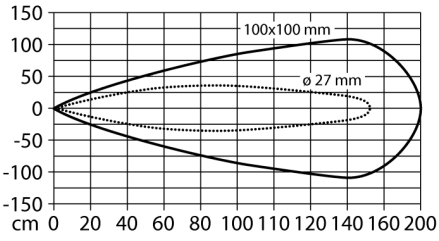
Wiring Diagram



Functional principle

Ultrasonic sensors capture a multitude of objects contactless 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.

Sonic Cone



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Ultrasonic sensor
diffuse mode sensor
RU200-CK40-2UN8X2T-H1151

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

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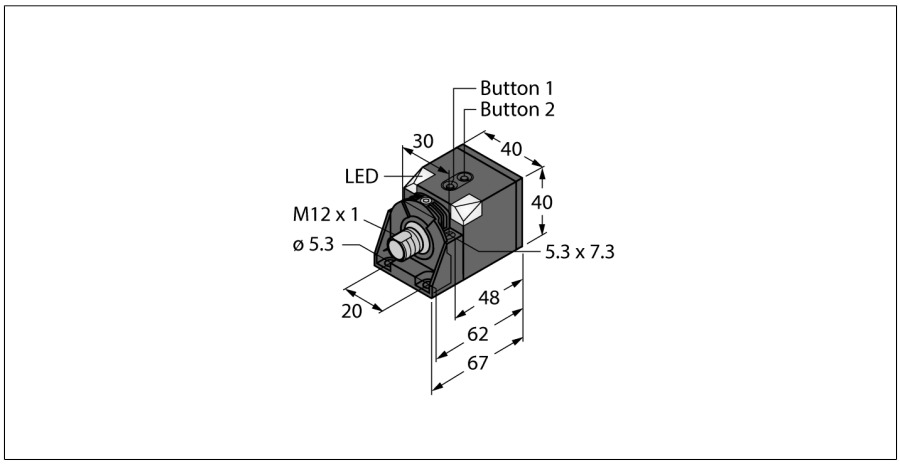
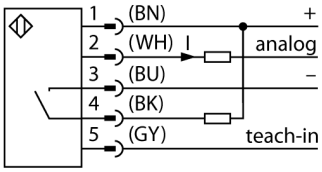
Ultrasonic sensor
diffuse mode sensor
RU200-CK40-LIU2N8X2T-H1151



- **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°**
- **1 x switching output, NPN**
- **NO/NC programmable**
- **1 x analog output, 4..20mA/ 0..10 V**

Type code	RU200-CK40-LIU2N8X2T-H1151
Ident-No.	1610058
Pass speed	≤ 2 m/s
Repeatability	≤ 0.25 % of full scale
Edge lengths of the nominal actuator	100 mm
Hysteresis	≤ 20 mm
Ambient temperature	0…+70 °C
Operating voltage	15… 30VDC
Residual ripple	≤ 10 % U_{ss}
DC rated operational current	≤ 150 mA
No-load current I_0	≤ 50 mA
Short-circuit protection	yes/ cyclic
Voltage drop at I_e	≤ 2.5 V
Wire breakage / Reverse polarity protection	yes/ yes
Output function	5-wire, NO/NC , NPN
Output 1	Switching output
Voltage output	0…10VDC
Current output	4…20mA
Readiness delay	≤ 300 ms
Construction	Rectangular, CK40
Dimensions	67 x 40 x 40 mm
Housing material	Plastic, PBT-GF30-V0
Electrical connection	Flange connector, M12 x 1
Protection class	IP40
Switching state	LED yellow

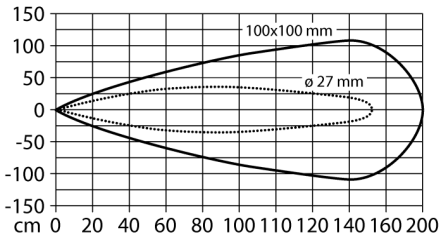
Wiring Diagram



Functional principle

Ultrasonic sensors capture a multitude of objects contactless 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.

Sonic Cone



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Ultrasonic sensor
diffuse mode sensor
RU200-CK40-LIU2N8X2T-H1151

Setting the limits
The ultrasonic sensor has an analog and a switching output with teachable measuring and switching range. Teaching is possible via Easy-Teach adapter or with the buttons at the sensor. 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

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 detection range or signal loss

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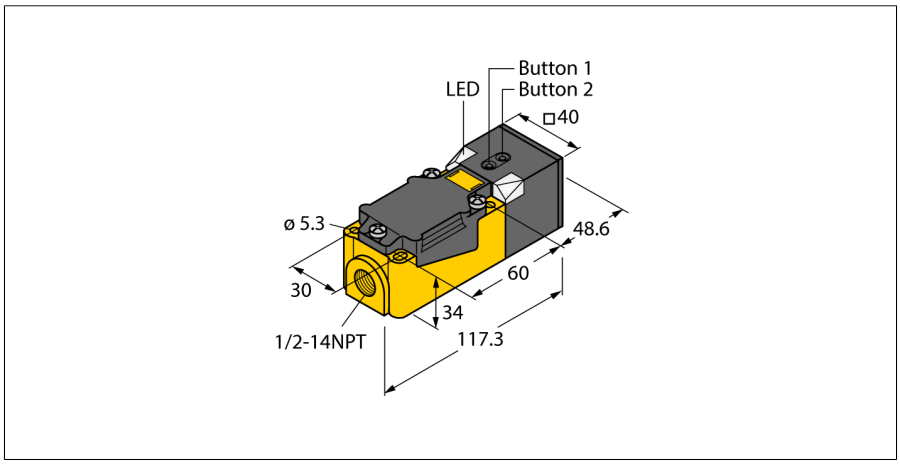
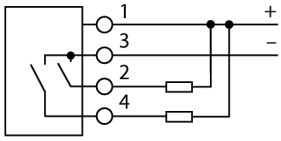
Ultrasonic sensor
diffuse mode sensor
RU200-CP40-2UN8X2T/S10



- **Separate transducers for transmitter and receiver**
- **Rectangular housing 40 x 40 x 166 mm**
- **Connection via screw terminals**
- **Terminal chamber for cable gland NPT**
- **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**

Type code	RU200-CP40-2UN8X2T/S10
Ident-No.	1610090
Pass speed	≤ 2 m/s
Repeatability	≤ 0.25 % of full scale
Edge lengths of the nominal actuator	100 mm
Hysteresis	≤ 20 mm
Ambient temperature	0…+70 °C
Operating voltage	15… 30VDC
Residual ripple	≤ 10 % U_{ss}
DC rated operational current	≤ 150 mA
No-load current I_0	≤ 50 mA
Short-circuit protection	yes/ cyclic
Voltage drop at I_e	≤ 2.5 V
Wire breakage / Reverse polarity protection	yes/ yes
Output function	4-wire, NO/NC , NPN
Output 1	Switching output
Readiness delay	≤ 300 ms
Construction	Rectangular, CP40
Dimensions	166 x 40 x 40 mm
Housing material	Plastic, PBT-GF30-V0
Electrical connection	terminal chamber, Terminal box with cable gland
Protection class	IP40
Switching state	LED yellow

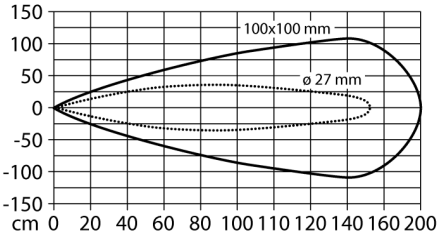
Wiring Diagram



Functional principle

Ultrasonic sensors capture a multitude of objects contactless 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.

Sonic Cone



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Ultrasonic sensor
diffuse mode sensor
RU200-CP40-2UN8X2T/S10

Setting the limits

The ultrasonic sensor features two switching outputs with teachable switching range. Teaching via 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.

- 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

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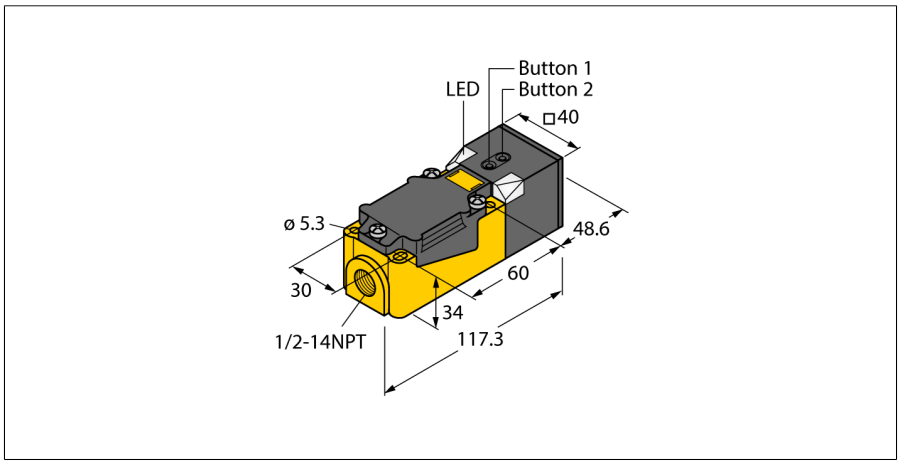
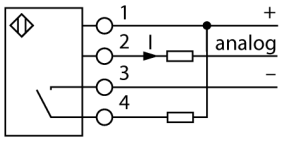
Ultrasonic sensor
diffuse mode sensor
RU200-CP40-LIU2N8X2T/S10



- **Separate transducers for transmitter and receiver**
- **Rectangular housing 40 x 40 x 166 mm**
- **Connection via screw terminals**
- **Terminal chamber for cable gland NPT**
- **Teach range adjustable via button**
- **Blind zone: 5 cm**
- **Range: 200 cm**
- **Resolution: 1 mm**
- **Sonic cone angle: 60°**
- **1 x switching output, NPN**
- **NO/NC programmable**
- **1 x analog output, 4..20mA/ 0..10 V**

Type code	RU200-CP40-LIU2N8X2T/S10
Ident-No.	1610091
Pass speed	≤ 2 m/s
Repeatability	≤ 0.25 % of full scale
Edge lengths of the nominal actuator	100 mm
Hysteresis	≤ 20 mm
Ambient temperature	0…+70 °C
Operating voltage	15… 30VDC
Residual ripple	≤ 10 % U_{ss}
DC rated operational current	≤ 150 mA
No-load current I_0	≤ 50 mA
Short-circuit protection	yes/ cyclic
Voltage drop at I_e	≤ 2.5 V
Wire breakage / Reverse polarity protection	yes/ yes
Output function	4-wire, NO/NC , NPN
Output 1	Switching output
Voltage output	0…10VDC
Current output	4…20mA
Readiness delay	≤ 300 ms
Construction	Rectangular, CP40
Dimensions	166 x 40 x 40 mm
Housing material	Plastic, PBT-GF30-V0
Electrical connection	terminal chamber, Terminal box with cable gland
Protection class	IP40
Switching state	LED yellow

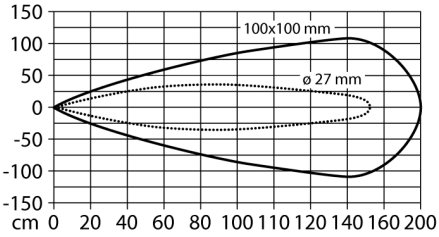
Wiring Diagram



Functional principle

Ultrasonic sensors capture a multitude of objects contactless 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.

Sonic Cone



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Ultrasonic sensor
diffuse mode sensor
RU200-CP40-LIU2N8X2T/S10

Setting the limits

The ultrasonic sensor has an analog and a switching output with teachable measuring and switching range. Teaching via 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.

- 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

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 detection range or signal loss

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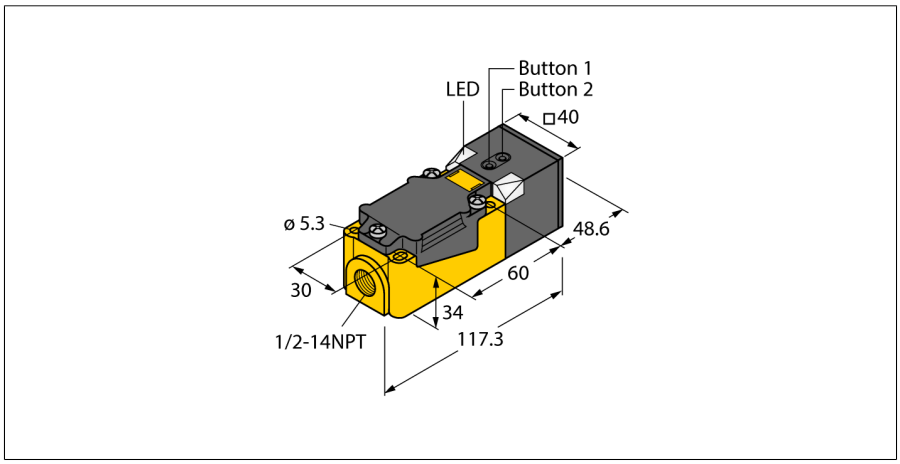
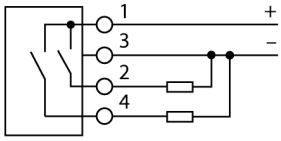
Ultrasonic sensor
diffuse mode sensor
RU200-CP40-2UP8X2T/S10



- **Separate transducers for transmitter and receiver**
- **Rectangular housing 40 x 40 x 166 mm**
- **Connection via screw terminals**
- **Terminal chamber for cable gland NPT**
- **Teach range adjustable via button**
- **Blind zone: 5 cm**
- **Range: 200 cm**
- **Resolution: 1 mm**
- **Sonic cone angle: 60°**
- **2 x switching outputs, PNP**
- **NO/NC programmable**

Type code	RU200-CP40-2UP8X2T/S10
Ident-No.	1610092
Pass speed	≤ 2 m/s
Repeatability	≤ 0.25 % of full scale
Edge lengths of the nominal actuator	100 mm
Hysteresis	≤ 20 mm
Ambient temperature	0…+70 °C
Operating voltage	15… 30VDC
Residual ripple	≤ 10 % U_{ss}
DC rated operational current	≤ 150 mA
No-load current I_0	≤ 50 mA
Short-circuit protection	yes/ cyclic
Voltage drop at I_e	≤ 2.5 V
Wire breakage / Reverse polarity protection	yes/ yes
Output function	4-wire, NO/NC , PNP
Output 1	Switching output
Readiness delay	≤ 300 ms
Construction	Rectangular, CP40
Dimensions	166 x 40 x 40 mm
Housing material	Plastic, PBT-GF30-V0
Electrical connection	terminal chamber, Terminal box with cable gland
Protection class	IP40
Switching state	LED yellow

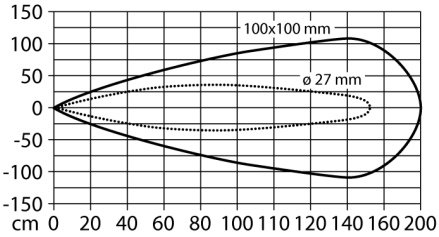
Wiring Diagram



Functional principle

Ultrasonic sensors capture a multitude of objects contactless 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.

Sonic Cone



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Ultrasonic sensor
diffuse mode sensor
RU200-CP40-2UP8X2T/S10

Setting the limits

The ultrasonic sensor features two switching outputs with teachable switching range. Teaching via 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.

- 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

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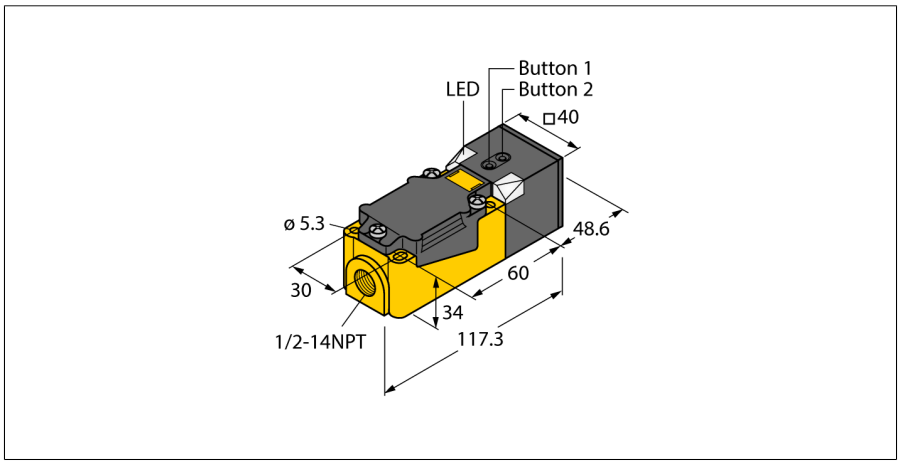
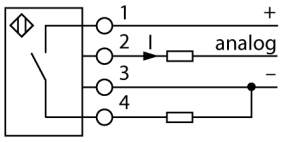
Ultrasonic sensor
diffuse mode sensor
RU200-CP40-LIU2P8X2T/S10



- **Separate transducers for transmitter and receiver**
- **Rectangular housing 40 x 40 x 166 mm**
- **Connection via screw terminals**
- **Terminal chamber for cable gland NPT**
- **Teach range adjustable via button**
- **Blind zone: 5 cm**
- **Range: 200 cm**
- **Resolution: 1 mm**
- **Sonic cone angle: 60°**
- **1 x switching output, PNP**
- **NO/NC programmable**
- **1 x analog output, 4..20mA/ 0..10 V**

Type code	RU200-CP40-LIU2P8X2T/S10
Ident-No.	1610093
Pass speed	≤ 2 m/s
Repeatability	≤ 0.25 % of full scale
Edge lengths of the nominal actuator	100 mm
Hysteresis	≤ 20 mm
Ambient temperature	0…+70 °C
Operating voltage	15… 30VDC
Residual ripple	≤ 10 % U_{ss}
DC rated operational current	≤ 150 mA
No-load current I_0	≤ 50 mA
Short-circuit protection	yes/ cyclic
Voltage drop at I_e	≤ 2.5 V
Wire breakage / Reverse polarity protection	yes/ yes
Output function	4-wire, NO/NC , PNP
Output 1	Switching output
Voltage output	0…10VDC
Current output	4…20mA
Readiness delay	≤ 300 ms
Construction	Rectangular, CP40
Dimensions	166 x 40 x 40 mm
Housing material	Plastic, PBT-GF30-V0
Electrical connection	terminal chamber, Terminal box with cable gland
Protection class	IP40
Switching state	LED yellow

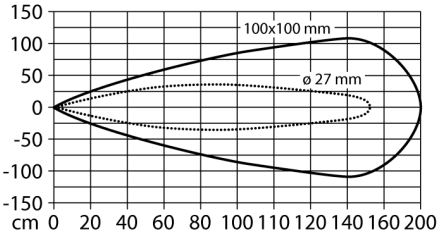
Wiring Diagram



Functional principle

Ultrasonic sensors capture a multitude of objects contactless 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.

Sonic Cone



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Ultrasonic sensor
diffuse mode sensor
RU200-CP40-LIU2P8X2T/S10

Setting the limits

The ultrasonic sensor has an analog and a switching output with teachable measuring and switching range. Teaching via 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.

- 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

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 detection range or signal loss

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