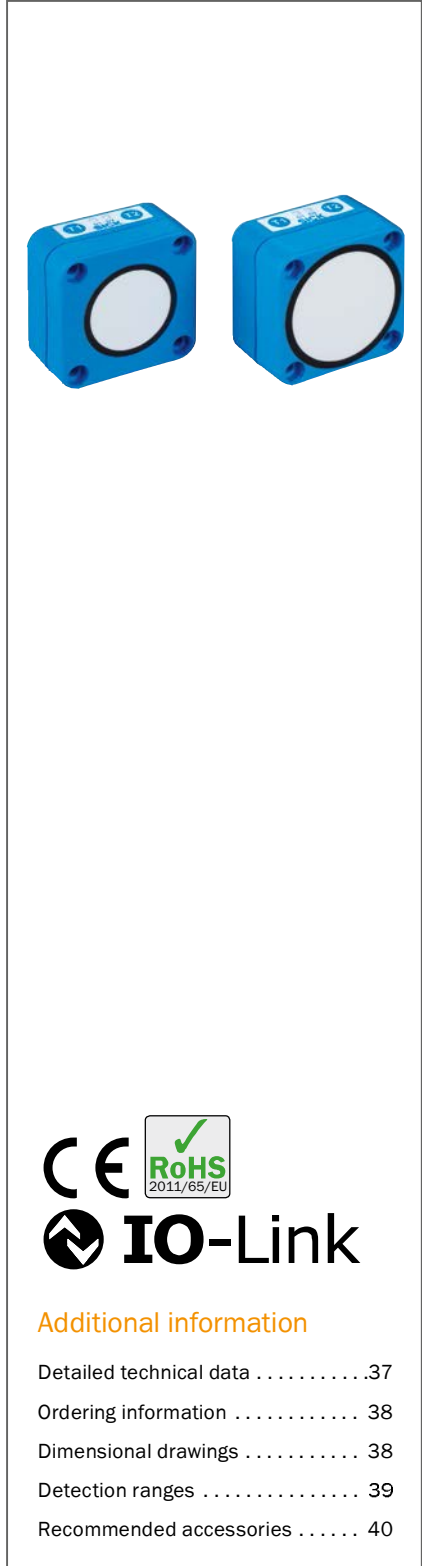


# RUGGED. RELIABLE. RECTANGULAR.



### Product description

The UC30 ultrasonic sensor family impress with outstanding performance within a compact rectangular housing. Due to color-independent measurement, high contamination tolerance, and outstanding background suppression, the UC30 delivers stable measurement results even under the most challenging conditions. A variety of output signals

with sensing ranges of up to 8,000 mm and high measurement accuracy due to integrated temperature compensation ensure that solutions are provided for all applications. The range of diagnostic and parameterization options for these ultrasonic sensors is extended even further by teach-in buttons and IO-Link.

### At a glance

- Reliable operation, regardless of material color, transparency, gloss, and ambient light
- Rugged rectangular housing with teach-in buttons
- Range up to 8,000 mm
- Variants with analog output, push-pull output with IO-Link or two PNP/NPN switching outputs
- Immune to dirt, dust, humidity, and fog
- Detection, measurement, and positioning with ultrasonic technology
- Adjustable sensitivity

### Your benefits

- Compact rectangular housing for straightforward machine integration
- Rugged plastic housing ensures highest machine uptimes
- Various output options provide solutions for complex applications
- IO-Link with advanced diagnostic possibilities for optimized operation and straightforward maintenance
- Teach-in buttons for fast and easy commissioning
- The sensor's immunity to optically difficult environment enables it to take accurate measurements even in dirty, dusty, humid, and foggy conditions
- Integrated temperature compensation ensures high measurement accuracy at all times for optimum process quality



### Additional information

→ [www.mysick.com/en/UC30](http://www.mysick.com/en/UC30)

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



## Detailed technical data

## Performance

<b>Resolution</b>	≥ 0.18 mm
<b>Repeatability</b> <sup>1)</sup>	± 0.15 %
<b>Accuracy</b> <sup>1) 2)</sup>	± 1 %
<b>Temperature compensation</b>	✓
<b>Switching frequency</b>	
350 mm ... 3,400 mm, 5,000 mm	4 Hz
600 mm ... 6,000 mm, 8,000 mm	3 Hz
<b>Ultrasonic frequency (typical)</b>	
350 mm ... 3,400 mm, 5,000 mm	120 kHz
600 mm ... 6,000 mm, 8,000 mm	80 kHz
<b>Detection area (typical)</b>	See diagrams
<b>Additional function</b> <sup>3)</sup>	Set switching mode: Distance to object (DtO) / Window (Wnd) / Object between sensor and background (ObSB) Teach-in and parameterization of switching output, invertible Teach-in and parameterization of analog output, invertible Temperature compensation IO-Link Synchronization and multiplexing (no cross talk) of up to 10 sensors Set measurement filters: value filter, filter strength, set on delay, adjustable sensitivity, foreground suppression and detection area Switch-off display and lock user interface

<sup>1)</sup> Referring to current measurement value.

<sup>2)</sup> Temperature compensation can be switched off, without temperature compensation: 0.17 % / K.

<sup>3)</sup> Functions may vary depending on sensor type.

## Interfaces

<b>Resolution analog output</b>	12 bit
<b>Multifunctional input (MF)</b>	1 x MF
<b>Hysteresis</b>	
350 mm ... 3,400 mm, 5,000 mm	50 mm
600 mm ... 6,000 mm, 8,000 mm	100 mm
<b>Data interface</b>	IO-Link

## Mechanics/electronics

<b>Supply voltage</b> $V_s$ <sup>1)</sup>	DC 9 V ... 30 V <sup>2)</sup>
<b>Power consumption</b> <sup>3)</sup>	≤ 1.2 W
<b>Initialization time</b> <sup>4)</sup>	
350 mm ... 3,400 mm, 5,000 mm	< 380 ms
600 mm ... 6,000 mm, 8,000 mm	< 450 ms
<b>Design</b>	Rectangular
<b>Housing material</b>	PBT, PET, ultrasonic transducer: polyurethane foam, glass epoxy resin
<b>Connection type</b>	Male connector, M12, 5-pin
<b>Indication</b>	2 x LED
<b>Weight</b>	180 g ... 240 g

<sup>1)</sup> Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A.

<sup>2)</sup> 15 V ... 30 V when using analog voltage output.

<sup>3)</sup> Without load.

<sup>4)</sup> Subsequent smoothing of the analog output, depending on the application, may increase the initialization time by up to 200 %.

Ambient data

Enclosure rating	IP 67
Protection class	III
Ambient temperature	Operation: -25 °C ... +70 °C Storage: -40 °C ... +85 °C

Ordering information

UC30-2

- **Sending axis:** straight

Working range, limiting range	Response time	Output time	Switching output <sup>1)</sup>	Analog output	Type	Part no.
350 mm ... 3,400 mm, 5,000 mm	180 ms	43 ms	1 x push-pull: PNP/NPN (100 mA); IO-Link <sup>2)</sup>	-	UC30-21416A	6054710
			2 x PNP (200 mA) <sup>3)</sup>	-	UC30-214162	6054711
			-	1 x 0 V ... 10 V ( $\geq 100 \text{ k}\Omega$ ) <sup>4)</sup> 1 x 4 mA ... 20 mA ( $\leq 500 \Omega$ ) <sup>4) 5)</sup>	UC30-214163	6054712
			2 x NPN (200 mA) <sup>6)</sup>	-	UC30-214164	6054713
600 mm ... 6,000 mm, 8,000 mm	240 ms	60 ms	1 x push-pull: PNP/NPN (100 mA); IO-Link <sup>2)</sup>	-	UC30-21516A	6054714
			2 x PNP (200 mA) <sup>3)</sup>	-	UC30-215162	6054715
			-	1 x 0 V ... 10 V ( $\geq 100 \text{ k}\Omega$ ) <sup>4)</sup> 1 x 4 mA ... 20 mA ( $\leq 500 \Omega$ ) <sup>4) 5)</sup>	UC30-215163	6054716
			2 x NPN (200 mA) <sup>7)</sup>	-	UC30-215164	6054717

<sup>1)</sup> Output Q short-circuit protected.

<sup>2)</sup> Push-Pull: PNP/NPN HIGH =  $U_V - (< 4 \text{ V}) / \text{LOW} < 2 \text{ V}$ .

<sup>3)</sup> PNP: HIGH =  $V_S - (< 2 \text{ V}) / \text{LOW} = 0 \text{ V}$ .

<sup>4)</sup> Automatic selection of analog current or voltage output dependent on load.

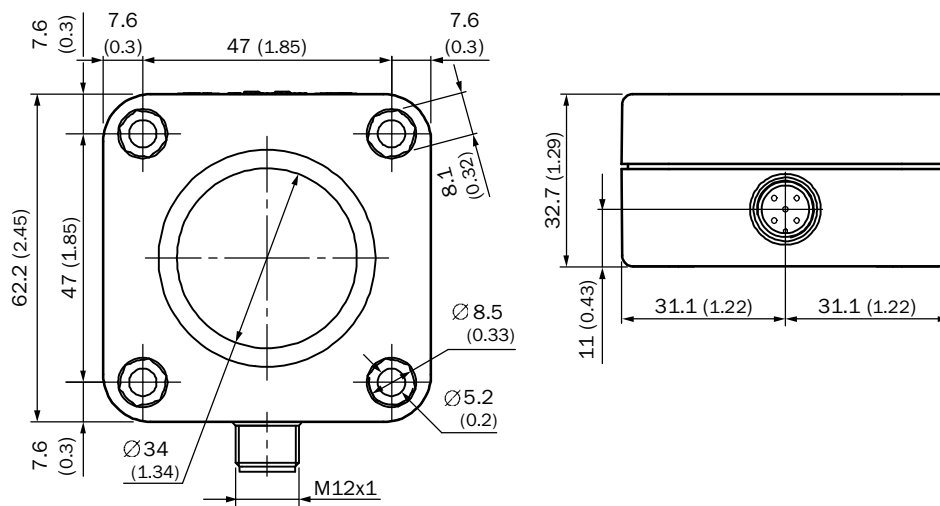
<sup>5)</sup> For 4 mA ... 20 mA and  $V_S \leq 20 \text{ V}$  max. load  $\leq 100 \Omega$ .

<sup>6)</sup> NPN: HIGH =  $\leq 2 \text{ V} / \text{LOW} = V_S$ .

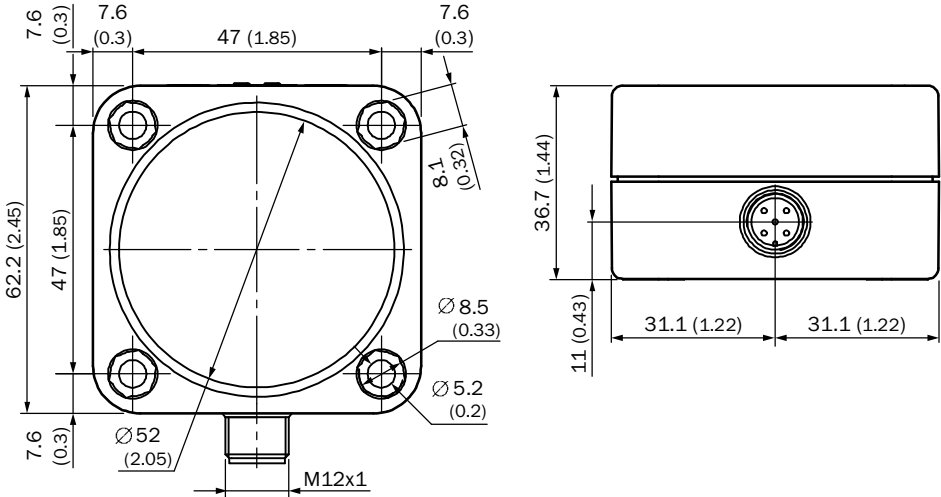
<sup>7)</sup> NPN: HIGH  $\leq 2 \text{ V} / \text{LOW} = V_S$ .

Dimensional drawings (Dimensions in mm (inch))

UC30-214

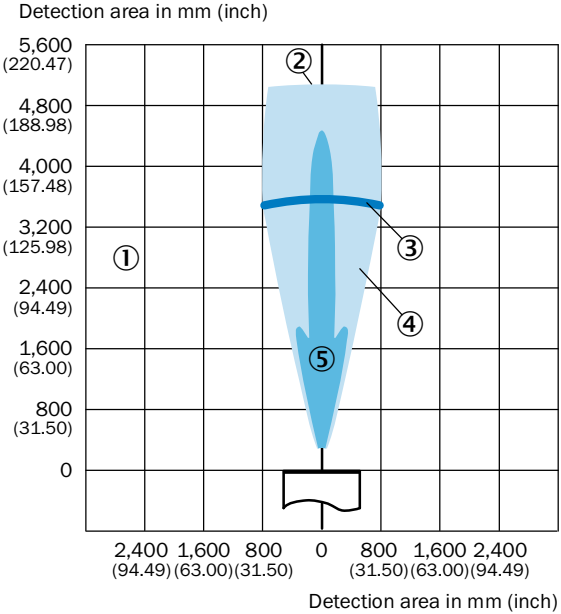


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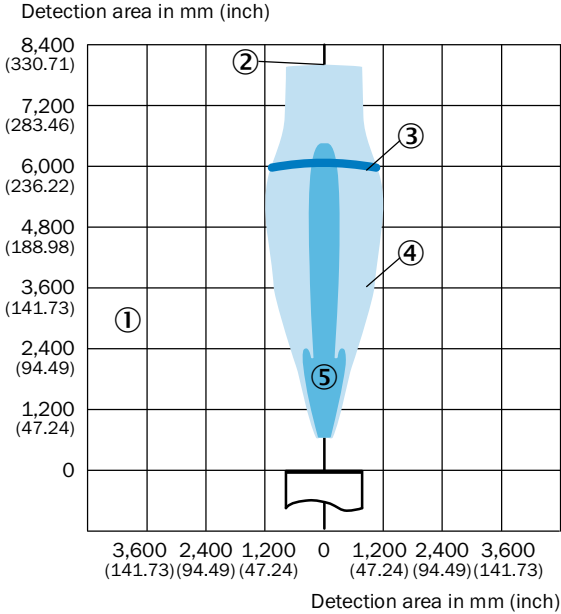
Detection ranges

UC30-214



- ① Sensing range dependent on reflection properties, size and orientation of the object
- ② Limiting range
- ③ Working range
- ④ Example object: aligned plate 500 mm x 500 mm
- ⑤ Example object: pipe with 27 mm diameter

UC30-215



- ① Sensing range dependent on reflection properties, size and orientation of the object
- ② Limiting range
- ③ Working range
- ④ Example object: aligned plate 500 mm x 500 mm
- ⑤ Example object: pipe with 27 mm diameter

Recommended accessories


Mounting systems

Universal bar clamp systems



	Brief description	Part no.
	Plate K for universal clamp bracket	2022718

Connection systems

Modules and gateways


	Brief description	Type	Part no.
	IO-Link V1.1 Class A port, USB2.0 port, optional external power supply 24V / 1A	SiLink2 Master	1061790

Plug connectors and cables

	Connection type head A	Connection type head B	Cable	Cable length	Part no.
 Illustration may differ	Female connector, M12, 5-pin, straight	Cable	PVC, unshielded	2 m	6008899
 Illustration may differ	Female connector, M12, 5-pin, angled	Cable	PVC, unshielded	2 m	6008900

Further accessories

Programming and configuration tools

	Brief description	Type	Part no.
	Tool for visualization, configuration and cloning, 3-digit LED display, supply voltage: DV 9 V ... 30V	Connect+ adapter (CPA)	6037782