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DATASHEET
Doc. DS-0011 · Rev. A

KEY FIGURES

400–3500 mm
Measurement distance

M18 / M30
Thread house

8°
Angle of the sound cone

IP65
Protection class

RANGE OF APPLICATIONS

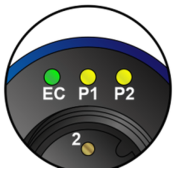
- UltraSonic distance sensor
- Proximity switch
- Level measurement

MODEL ULTRASONIC 400–3500

UltraSonic Sensor

UltraSonic 400 to 3500





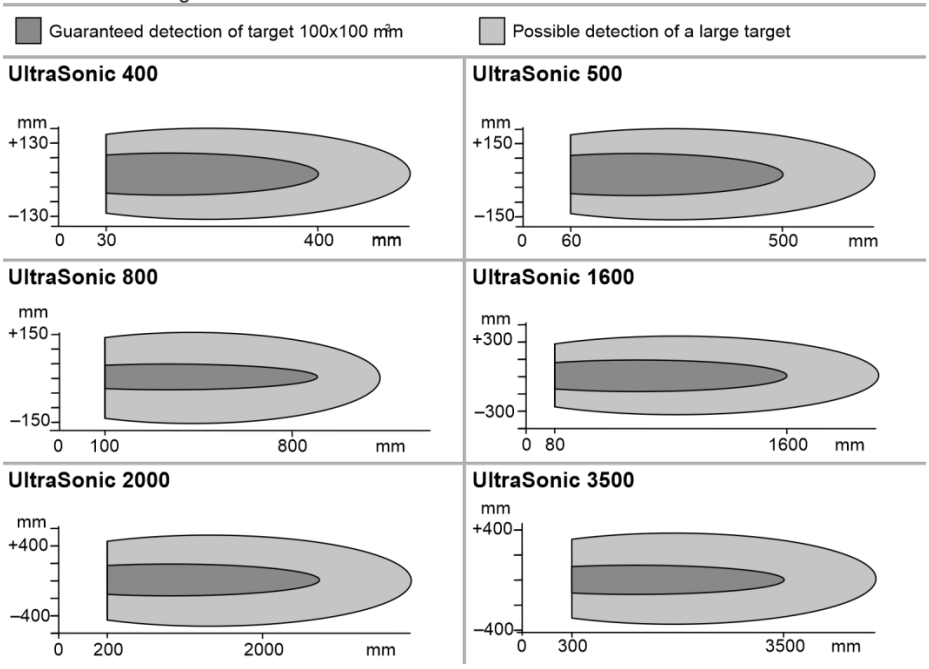
LEDs:
EC (Echo LED) green, P1, P2 LEDs yellow

FEATURES

- UltraSonic distance sensor or proximity switch
- Measurement distance from 400mm to 3500mm
- Teachable measurement range
- M18 / M30 thread house
- Available outputs analog 4-20mA / 0-10V, Proximity switch 2xPNP

Detection Beams

The exact geometry of the sound cone depends on the air-pressure, humidity and the size of the target



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UltraSonic Sensor

Model UltraSonic 400–3500

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Types

TYPE	x = DISTANCE	Y = OUTPUT
UltraSonic x-y M18	400 mm 500 mm 800 mm 1600 mm 2000 mm	I (4-20 mA) U (0-10V) 2P (Proximity switch 2 x PNP)
UltraSonic x-y M30	3500 mm	I (4-20 mA) U (0-10V) 2P (Proximity switch 2 x PNP)

Technical Data

DATA SENSOR DISTANCE MEASURE

SENSOR ULTRASONIC		400	500	800	1600	2000	3500
Detection Range	mm	30 to 400	60 to 500	100 to 800	80 to 1600	200 to 2000	300 to 3500
Repeatability *		±0.2 % / ±1 mm			±0.2 % / ±2 mm		
Linearity error	%	< 0.5					
Resolution	mm	0.125	0.250			1.0	
Response time	ms	60	100	100	140	200	400
Signal output		0-10 V / 4-20 mA					
Teachable measurement range		Yes					
Current consumption (no load)	mA	< 30					
Operating voltage	VDC	15-30					
Inverted characteristic curve		Yes					
Control inputs		Yes					
Safety features		Protection against reverse polarity and short circuit					
Temperature range	°C	-20 to +70					
Connection		M12 connector					
Design		M18 × 1 mm, 100 mm					M30 x 1.5 mm, 125 mm
Case material		Plastic					
Protection class		IP65					
Angle of the sound cone		8°					

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Technical Data (continued)

DATA SENSOR PROXIMITY SWITCH

SENSOR ULTRASONIC		400	500	800	1600	2000	3500
Switching points		2					
Detection Range	mm	30 to 400	60 to 500	100 to 800	80 to 1600	200 to 2000	300 to 3500
Repeatability *		±0.5 %	±0.2 % / ±1 mm		±0.2 % / ±2 mm		
Resolution	mm	0.125	0.250		1.0		
Hysteresis	%	1					
Sampling frequency	Hz	15	10	10	6	5	2.5
Signal output		PNP / NPN					
Visualization of current state		LED green / yellow					
Adjustment of switching points		by Teach-in mode					
Max. output current	mA	500					
Current consumption (no load)	mA	< 60					
Operating voltage	VDC	12-30					
Switching mode		NO / NC					
Control inputs		Yes					
Safety features		Protection against reverse polarity and short circuit					
Temperature range	°C	-20 to +70					
Connection		M12 connector					
Design		M18 × 1 mm, 100 mm					M30 x 1.5 mm, 125 mm
Case material		Plastic					
Protection class		IP65					
Angle of the sound cone		8°					

* in case two values are indicated, please choose the worse value

⚠ **Attention!!! Do not expose sensor head to hot water >50 °C or water steam!**

⚠ **!! WARNING – SAFETY INFORMATION !!**
These devices are not designed for critical safety or emergency shut-down purposes. Therefore, they should never be used in an application, where a malfunction of the device could cause personal injury.

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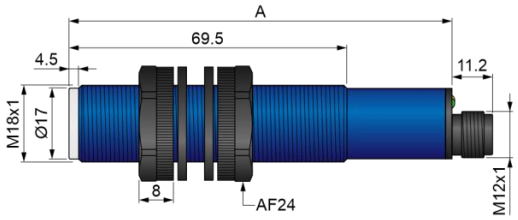
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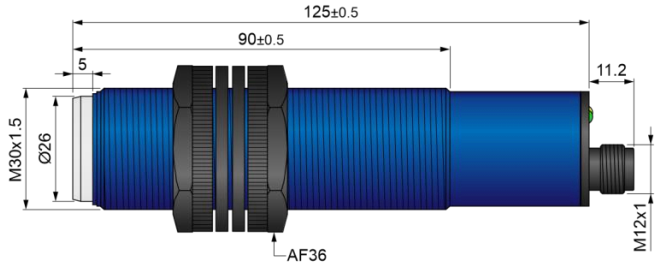
Technical Drawings

UltraSonic 400/500/800/1600/2000



Model	A
... 400	89
... 500/800/1600/2000	96

UltraSonic 3500



Electrical Connection

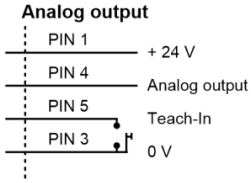
UltraSonic 400...3500

Pin	Analog output	Switching output	Connection cable K5P
1	+V	+V	BN
2	-	Switching point P2	WH
3	GND	GND	BU
4	Analog	Switching point P1	BK
5	Teach-In	Teach-In	GY

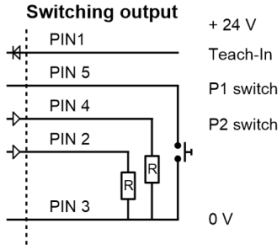
connector output M12 (male)



Analog output



Switching output



LEDs

UltraSonic 400...3500



EC (Echo LED) green: is on, when an echo is recieved (alignment LED).
P1, P2 LEDs yellow: LEDs P1 and P2 indicate the status of the switching outputs.