

# Ultrasonic sensor

## UMC3000-30H-I-5M



- Front of transducer and housing manufactured entirely from stainless steel
- Degree of protection IP68 / IP69K
- Programmable via DTM with PACTWARE
- Mounting bracket MH-30H-01 included in delivery

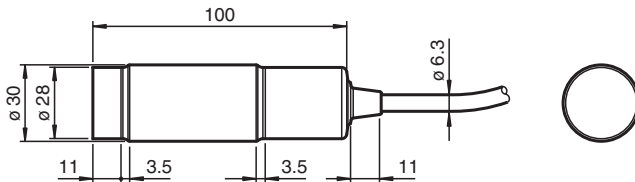
Single head system



### Function

The enclosure and transducer of this ultrasonic sensor form a hermetically sealed unit. Therefore the sensor is suitable for all applications where a very high tightness is required. Since the sensor housing is made exclusively of V4A stainless steel and all seals are made of highly chemical-resistant materials, this sensor is also predestined for use in chemically aggressive environments. For reliable operation, due to the special design of this sensor, solely the enclosed mounting accessories must be used.

### Dimensions



### Technical Data

#### General specifications

Sensing range	200 ... 3000 mm
Adjustment range	240 ... 3000 mm
Dead band	0 ... 200 mm
Standard target plate	100 mm x 100 mm
Transducer frequency	approx. 100 kHz
Response delay	≤ 200 ms

#### Indicators/operating means

LED green	Operating display
LED yellow	object in evaluation range
LED red	error

#### Electrical specifications

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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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## Technical Data

Operating voltage	$U_B$	10 ... 30 V DC
No-load supply current	$I_0$	≤ 50 mA
Time delay before availability	$t_v$	≤ 400 ms
<b>Input/Output</b>		
Input/output type		1 synchronization connection, bidirectional
0 Level		0 ... 1 V
1 Level		4 V ... $U_B$
Input impedance		> 12 kΩ
Output rated operating current		< 12 mA
Pulse length		≥ 200 μs
Pulse interval		≥ 2 ms
Synchronization frequency		
Common mode operation		≤ 20 Hz
Multiplex operation		≤ 20/n Hz, n = number of sensors n ≤ 10 (factory setting: 5 )
<b>Input</b>		
Input type		1 program input
Level (evaluation limit 1)		0 ... 1 V
Level (evaluation limit 2)		3 V ... $U_B$
Input impedance		> 12 kΩ
Pulse length		2 ... 5 s
<b>Output</b>		
Output type		1 analog output 4 ... 20 mA
Resolution		Evaluation range [mm]/3200, however ≥ 0.4 mm
Deviation of the characteristic curve		≤ 0.2 % of full-scale value
Repeat accuracy		≤ 0.1 % of full-scale value
Load impedance		≤ 500 Ω at $U_B ≥ 14V$ ≤ 300 Ω at $U_B < 14V$
Temperature influence		≤ 1.5 % of full-scale value
<b>Compliance with standards and directives</b>		
Standard conformity		
Standards		EN IEC 60947-5-2:2020 IEC 60947-5-2:2019 EN 60947-5-7:2003 IEC 60947-5-7:2003
<b>Approvals and certificates</b>		
CCC approval		CCC approval / marking not required for products rated ≤36 V
<b>Ambient conditions</b>		
Ambient temperature		-25 ... 60 °C (-13 ... 140 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
<b>Mechanical specifications</b>		
Connection type		cable PUR , 5 m
Core cross section		5 x 0.5 mm <sup>2</sup>
Housing diameter		30 mm
Degree of protection		IP68 / IP69K
Material		
Housing		Stainless steel 1.4404 / AISI 316L LED window: VMQ Elastosil LR 3003/Shore 50 A
Transducer		Stainless steel 1.4435 / AISI 316L
Mass		425 g
<b>Factory settings</b>		
Output		evaluation limit A1: 240 mm evaluation limit A2: 3000 mm output function: rising ramp
<b>General information</b>		

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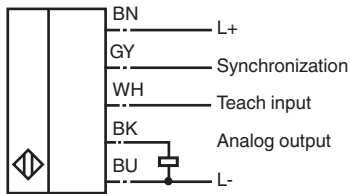
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## Technical Data

Supplementary information

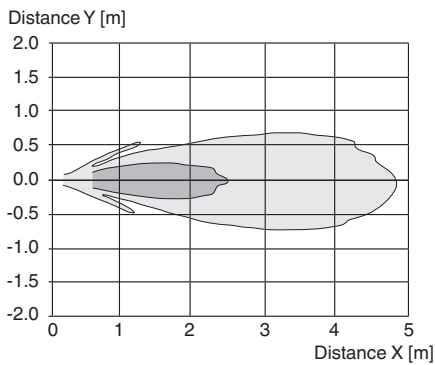
Switch settings of the external programming adapter:  
 "output load": pull-down  
 "output logic": noninv

## Connection

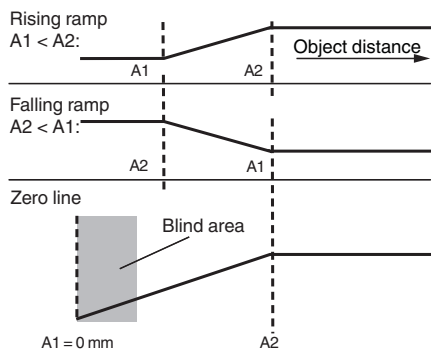


## Characteristic Curve

### Characteristic response curve



### Programming the evaluation limits




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## Accessories

	<b>UC-PROG1-USB</b>	Programming adapter
	<b>V15S-G-0,3M-PUR-WAGO</b>	Male cordset, M12, 5-pin, PUR cable with WAGO terminals

**Accessories**

	<p><b>MH-30H-01</b></p>	<p>Mounting aid, 30 mm</p>
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## Mounting

### Mounting instructions



Comply with the minimum permissible bending radius of 70 mm, if you install the connecting cable!



The mounting accessories included with the sensor must be used in order to ensure reliable operation!

## Additional Information

### Adjustment Possibilities

The sensor is equipped with 1 analog output with 2 programmable limits. The programming of the limits and of the output mode can be done in 2 different ways:

- Using the teach input of the sensor.
- Using the sensor's serial interface. This method requires an external programming adapter and the corresponding software. You will find the download link for the software at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com) on the product page of the sensor.

### Synchronisation

The sensor features a synchronization input for suppressing ultrasonic mutual interference ("crosstalk"). The following synchronization modes are available:

1. Automatic multiplex mode
2. Automatic master slave common mode
3. Externally controlled synchronization

### Further Documentation

For information on programming and synchronisation you may refer to the commissioning instruction.