

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

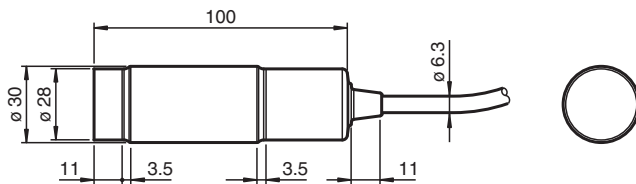
Single head system



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

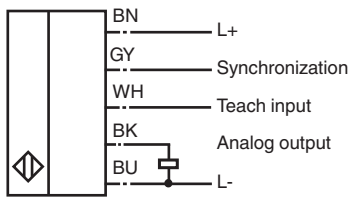
General specifications			
Sensing range		200 ... 3000 mm	
Adjustment range		240 ... 3000 mm	
Dead band		0 ... 200 mm	
Standard target plate		100 mm x 100 mm	
Transducer frequency		approx. 100 kHz	
Response delay		≤ 200 ms	
Indicators/operating means			
LED green		Operating display	
LED yellow		object in evaluation range	
LED red		error	
Electrical specifications			
Operating voltage	U_B	10 ... 30 V DC	
No-load supply current	I_0	≤ 50 mA	
Time delay before availability	t_v	≤ 400 ms	
Input/Output			
Input/output type		1 synchronization connection, bidirectional	
0 Level		0 ... 1 V	
1 Level		4 V ... U_B	
Input impedance		> 12 kΩ	

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Technical Data

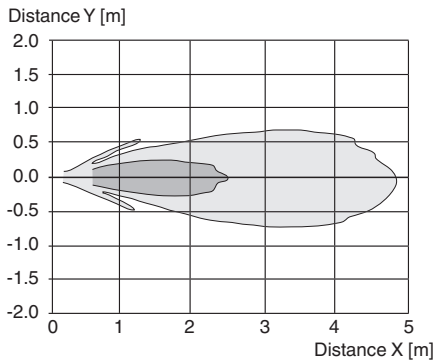
Output current	< 12 mA
Pulse length	≥ 200 μs
Pulse interval	≥ 2 ms
Synchronization frequency	
Common mode operation	≤ 20 Hz
Multiplex operation	≤ 20/n Hz, n = number of sensors n ≤ 10 (factory setting: 5)
Input	
Input type	1 program input
Level (evaluation limit 1)	0 ... 1 V
Level (evaluation limit 2)	3 V ... U _B
Input impedance	> 12 kΩ
Pulse length	2 ... 5 s
Output	
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
Compliance with standards and directives	
Standard conformity	
Standards	EN IEC 60947-5-2:2020 IEC 60947-5-2:2019 EN 60947-5-7:2003 IEC 60947-5-7:2003
Approvals and certificates	
CCC approval	CCC approval / marking not required for products rated ≤36 V
Ambient conditions	
Ambient temperature	-25 ... 60 °C (-13 ... 140 °F)
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)
Mechanical specifications	
Connection type	cable PUR , 5 m
Core cross section	5 x 0.5 mm ²
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
Dimensions	
Length	100 mm
Diameter	30 mm
Factory settings	
Output	evaluation limit A1: 240 mm evaluation limit A2: 3000 mm output function: rising ramp
General information	
Supplementary information	Switch settings of the external programming adapter: "output load": pull-down "output logic": noninv

Connection Assignment

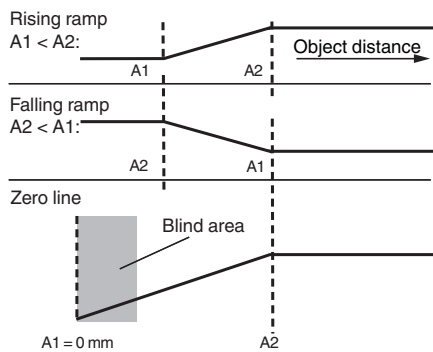


Characteristic Curve

Characteristic response curve



Programming the evaluation limits



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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 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.