

Ultrasonic sensor

UMC3000-30H-E5-5M



- 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

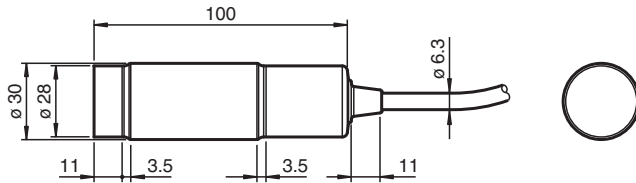
Single head system



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	switching state
LED red	error

Electrical specifications

Operating voltage	U_B	10 ... 30 V DC
No-load supply current	I_0	≤ 50 mA

Input/Output

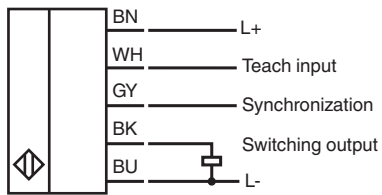
Input/output type	1 synchronization connection, bidirectional
0 Level	0 ... 1 V
1 Level	4 V ... U_B
Input impedance	> 12 kΩ
Output current	< 12 mA

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Technical Data

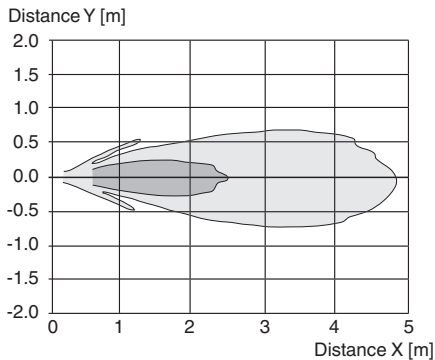
Pulse length		≥ 200 μs
Pulse interval		≥ 2 ms
Synchronization frequency		
Common mode operation		≤ 20 Hz
Multiplex operation		≤ 20/n Hz, n = number of sensors n ≤ 10 (factory setting: 5)
Input		
Input type		1 program input
Level (switch point 1)		0 ... 1 V
Level (switch point 2)		4 V ... U _B
Input impedance		> 10 kΩ
Pulse length		2 ... 5 s
Output		
Output type		1 switching output E5, PNP NO/NC, programmable
Rated operating current	I _e	200 mA , short-circuit/overload protected
Voltage drop	U _d	≤ 2 V
Repeat accuracy		≤ 0.1 % of full-scale value
Switching frequency	f	≤ 2.8 Hz
Range hysteresis	H	programmable , preset to 1 mm
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
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		near switch point: 240 mm far switch point: 3000 mm output function: Window mode output behavior: NO contact
General information		
Supplementary information		Switch settings of the external programming adapter: "output load": pull-down "output logic": inv

Connection Assignment

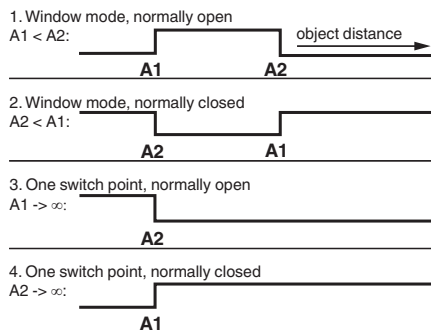


Characteristic Curve

Characteristic response curve



Switching output modes



5. A1 -> ∞, A2 -> ∞: Object presence detection mode

Object detected: Switch output closed
 No object detected: Switch output open

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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!

Commissioning

Adjustment possibilities

The sensor is equipped with 1 switching output with 2 programmable switch points. The programming of the switch points and the of output behavior can be done in two 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.