Ultrasonic sensor

UMB800-18H40-E5-2M

- Front of transducer and housing manufactured entirely from stainless steel
- Degree of protection IP68 / IP69K
- Short version: 55 mm
- Program input
- Temperature compensation
- Mounting bracket MH-18H-01 included in delivery

Single head system

CE   UKCA

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
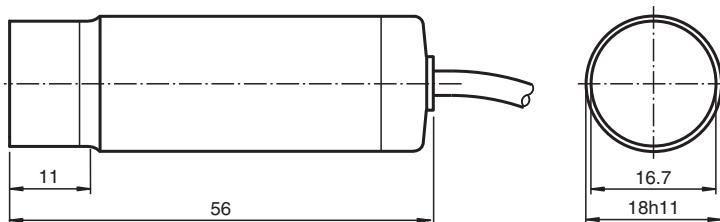
11
56
16.7
18h11

Technical Data

General specifications

Sensing range	70 ... 800 mm
Adjustment range	90 ... 800 mm
Dead band	0 ... 70 mm
Standard target plate	100 mm x 100 mm
Transducer frequency	approx. 170 kHz
Response delay	approx. 100 ms

Electrical specifications

Operating voltage	U_B	10 ... 30 V DC
No-load supply current	I_0	≤ 15 mA

Input

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

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Technical Data

Input type		1 program input operating distance 1: $-U_B$ ... +1 V, operating distance 2: +6 V ... $+U_B$ input impedance: > 4,7 kΩ program pulse: ≥ 1 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	≤ 3 V
Repeat accuracy		± 0.5 % of full-scale value
Switching frequency	f	≤ 4 Hz
Range hysteresis	H	1 % of the set operating distance
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 ... 85 °C (-13 ... 185 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Mechanical specifications		
Connection type		cable PUR , 2 m , Polyether based
Core cross section		4 x 0.19 mm^2
Housing diameter		18 mm
Degree of protection		IP68 / IP69K
Material		
Housing		Stainless steel 1.4404 / AISI 316L
Transducer		Stainless steel 1.4435 / AISI 316L
Seal		Cable seal : TPU , Elastollan 1185 A10
Mass		90 g
Factory settings		
Output		Switch point A1: 90 mm Switch point A2: 800 mm Output mode: Window mode Output logic: normally open

Connection

```
BN ──────── L+
WH ──────── Teach input
BK ──────── Switching output
BU ──────── L-
```

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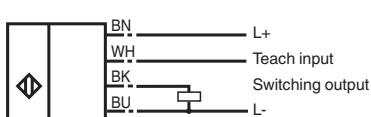
Characteristic Curve

Characteristic response curve

Distance Y [mm]

Distance X [m]

flat surface 100 mm x 100 mm
round bar, Ø 25 mm
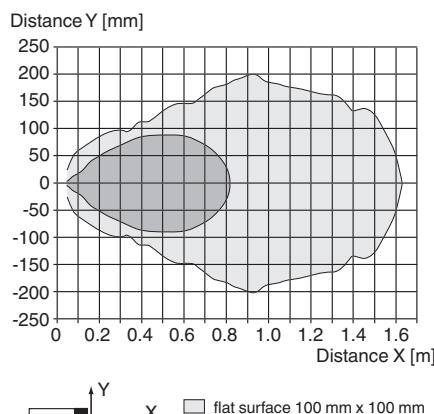
Switching output modes

1. Window mode, normally open
A1 < A2:   object distance
A1   **A2**
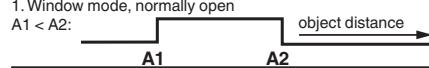
2. Window mode, normally closed
A2 < A1:
A2   **A1**
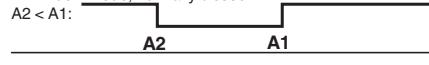
3. One switch point, normally open
A1 -> ∞:
A2
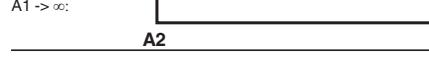
4. One switch point, normally closed
A2 -> ∞:
A1

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

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

Accessories

	MH-18H-01	Mounting aid, 18 mm

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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 is done via the teach input of the sensor.

Further Documentation

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

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