Model Number

UMB800-18H40-I-2M-FA-Y294286

Single head system

Features

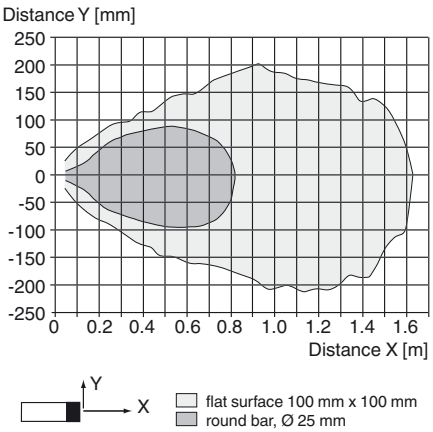
- **Front of transducer and housing manufactured entirely from stainless steel**
- **Hygienic design, easy to clean**
- **Mounting bracket MH-18H-01-FA included in delivery**
- **Program input**
- **Temperature compensation**
- **Custom configuration**

Description

The enclosure and transducer of this ultrasonic sensor form a hermetically sealed unit. Due to its special design, this sensor is EHEDG compliant, and together with an appropriate fixture are especially suitable for applications where there are increased hygiene requirements, such as in the manufacture and handling of food.
For reliable operation, due to the special design of this sensor, solely the enclosed mounting accessories must be used, even in applications without special hygiene requirements.

Diagrams

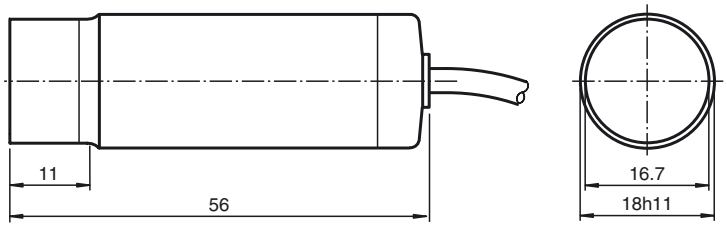
Characteristic response curve



Technical data

General specifications	
Sensing range	90 ... 800 mm
Adjustment range	110 ... 800 mm
Dead band	0 ... 90 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	
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 analog output 4 ... 20 mA , overload-protected
Resolution	0.4 mm at max. sensing range
Deviation of the characteristic curve	± 1 % of full-scale value
Repeat accuracy	± 0.5 % of full-scale value
Load impedance	0 ... 300 Ω at U_B > 10 V; 0 ... 500 Ω at U_B > 15 V
Temperature influence	± 1.5 % of full-scale value
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
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 (FDA)
Mass	90 g
Factory settings	
Output	evaluation limit A1: 110 mm evaluation limit A2: 800 mm Output mode: rising ramp
General information	
Supplementary information	FDA: All materials used for the sensor comply with CFR, title 21, §177.2600 (FDA)
Compliance with standards and directives	
Standard conformity	
Standards	EN 60947-5-2:2007+A1:2012 IEC 60947-5-2:2007 + A1:2012 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
EHEDG	Type EL Class I AUX
ECOLAB	yes

Dimensions



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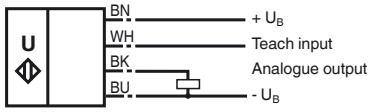
Electrical Connection



Accessories

MH-18H-01-FA
Mounting aid, 18 mm in accordance with EHEDG

Installation

Due to the unique design of this sensor, only the mounting accessories included with the sensor must be used in order to ensure reliable operation, even in applications without specific hygiene requirements.

Cleaning the Sensor in Areas with Hygiene Requirements

The sensor may only be used with the mounting aid included in the scope of delivery as the fixture. Please note the information in the enclosed package insert for the mounting aid with regard to the correct position of the seals and the correct process for tightening the screw connections.

If the sensor as a whole is located in an area subject to hygiene requirements, the sensor must be accessible from all sides for cleaning purposes. If the sensor is fitted with only the front in an area subject to hygiene requirements, the front must be accessible from all sides accordingly.

The sensor and corresponding fixture are certified by ECOLAB. The components were subjected to the cleaning agents listed in the certificate and are resistant to these agents. Use of other cleaning agents and chemicals is also possible. However, to ensure the sensor and fixture offer resistance to these substances, corresponding tests must be performed by the user.

For cleaning purposes, as a general rule you can completely cover the sensor including the fixture with foam and clean using a water jet. Cleaning at elevated temperatures of up to 85 °C is possible. It is not permitted to use high-pressure cleaning equipment for cleaning purposes in areas subject to hygiene requirements.

Adjusting the evaluation limits

The ultrasonic sensor features an analogue output with two teachable evaluation limits. These are set by applying the supply voltage $-U_B$ or $+U_B$ to the TEACH-IN input. The supply voltage must be applied to the TEACH-IN input for at least 1 s. The lower evaluation limit A1 is taught with $-U_B$, A2 with $+U_B$.

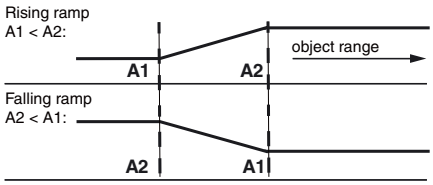
Two different output modes can be set:
1. Analogue value increases with rising distance to object (rising ramp)
2. Analogue value falls with rising distance to object (falling ramp)

TEACH-IN rising ramp (A2 > A1)
- Position object at lower evaluation limit
- TEACH-IN lower limit A1 with - U_B
- Position object at upper evaluation limit
- TEACH-IN upper limit A2 with + U_B

TEACH-IN falling ramp (A1 > A2):
- Position object at lower evaluation limit
- TEACH-IN lower limit A2 with + U_B
- Position object at upper evaluation limit
- TEACH-IN upper limit A1 with - U_B

Additional Information

Programming the analog output mode



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