



Model Number

UB200-12GM-I-V1

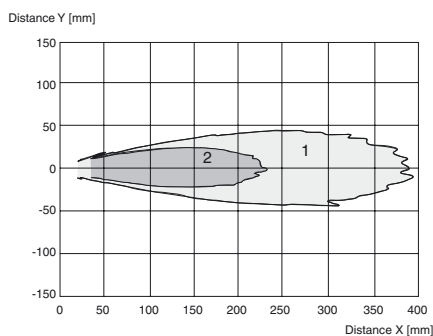
Single head system

Features

- Analogue output 4 mA ... 20 mA
- Very small unusable area
- Measuring window adjustable
- Program input
- Temperature compensation

Curves

Characteristic response curve



Curve 1: flat surface 100 mm x 100 mm
Curve 2: round bar, Ø 25 mm

Technical data

General specifications

| | |
|-----------------------|-----------------|
| Sensing range | 15 ... 200 mm |
| Adjustment range | 20 ... 200 mm |
| Unusable area | 0 ... 15 mm |
| Standard target plate | 100 mm x 100 mm |
| Transducer frequency | approx. 400 kHz |
| Response delay | approx. 30 ms |

Indicators/operating means

| | |
|------------|---|
| LED yellow | permanently yellow: object in the evaluation range yellow, flashing: program function, object detected |
| LED red | permanently red: Error red, flashing: program function, object not detected |

Electrical specifications

| | |
|------------------------------|--|
| Operating voltage U_B | 10 ... 30 V DC , ripple 10 % _{SS} |
| No-load supply current I_0 | ≤ 30 mA |

Input

| | |
|------------|---|
| Input type | 1 program input lower evaluation limit A1: $-U_B ... +1$ V, upper evaluation limit A2: $+4$ V ... $+U_B$ input impedance: > 4.7 kΩ, pulse duration: ≥ 1 s |
|------------|---|

Output

| | |
|-------------|---|
| Output type | 1 analogue output 4 ... 20 mA, short-circuit/overload protected |
| Resolution | 0.17 mm |

| | |
|---------------------------------------|-----------------------------|
| Deviation of the characteristic curve | ± 1 % of full-scale value |
| Repeat accuracy | ± 0.5 % of full-scale value |
| Load impedance | 0 ... 200 Ω |
| Temperature influence | ± 1.5 % of full-scale value |

Ambient conditions

| | |
|---------------------|-------------------------------|
| Ambient temperature | -25 ... 70 °C (248 ... 343 K) |
| Storage temperature | -40 ... 85 °C (233 ... 358 K) |

Mechanical specifications

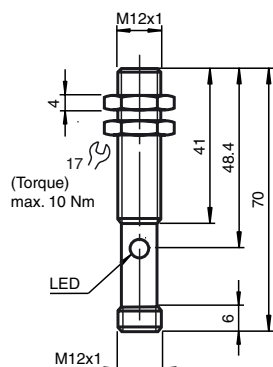
| | |
|-------------------|---|
| Protection degree | IP67 |
| Connection | V1 connector (M12 x 1), 4-pin |
| Material | |
| Housing | brass, nickel-plated |
| Transducer | epoxy resin/hollow glass sphere mixture; foam polyurethane, cover PBT |
| Mass | 25 g |

Compliance with standards and directives

| | |
|---------------------|---|
| Standard conformity | |
| Standards | EN 60947-5-7:2003 IEC 60947-5-7:2003 |

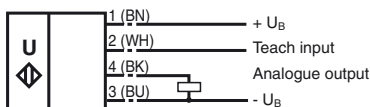
Release date: 2009-12-11 09:20 Date of issue: 2009-12-11 182235_ENG.xml

Dimensions



Electrical Connection

Standard symbol/Connections:
(version I)



Core colours in accordance with EN 60947-5-2.

Pinout

Connector V1



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. LEDs indicate whether the sensor has recognised the target during the TEACH-IN procedure. The lower evaluation limit A1 is taught with $-U_B$, A2 with $+U_B$.

Two different output functions 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)

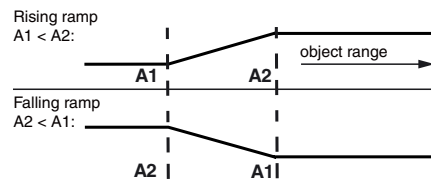
- Position object at lower evaluation limit
- TEACH-IN lower limit A1 with $-U_B$
- Position object at upper evaluation limit
- TEACH-IN upper limit A2 with $+U_B$

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

Additional Information

Programmed analogue output function



Accessories

UB-PROG2

Programming unit

BF 5-30

Mounting flange

BF 12

Mounting flange

BF 12-F

Mounting flange

V1-G-2M-PVC

Cable connector

V1-W-2M-PUR

Cable connector

UVW90-M12

Ultrasonic -deflector

- TEACH-IN upper limit A1 with - U_B

Default setting

A1: unusable area
 A2: nominal sensing range
 Mode of operation: rising ramp

LED Displays

| Displays in dependence on operating mode | Red LED | Yellow LED |
|--|---------|----------------|
| TEACH-IN evaluation limit | | |
| Object detected | off | flashes |
| No object detected | flashes | off |
| Object uncertain (TEACH-IN invalid) | on | off |
| Normal mode (evaluation range) | off | on |
| Fault | on | previous state |

Installation conditions

If the sensor is installed at places, where the environment temperature can fall below 0 °C, for the sensors fixation, one of the mounting flanges BF 12, BF 12-F or BF 5-30 must be used. In case of direct mounting of the sensor in a through hole, it has to be fixed at the middle of the housing thread.

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