



Model Number

UC2000-30GM-IU-V1

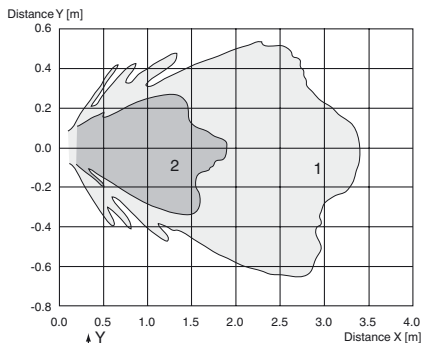
Single head system

Features

- Analog current and voltage output
- 12 bit D/A transducer
- Evaluation limits can be taught-in
- Temperature compensation
- Compact design
- Plug connection

Diagrams

Characteristic response curve



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

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Technical data

General specifications

Sensing range	200 ... 2000 mm
Unusable area	0 ... 200 mm
Standard target plate	100 mm x 100 mm
Transducer frequency	approx. 175 kHz
Response delay	≤ 100 ms

Indicators/operating means

LED yellow	solid yellow: object in the evaluation range yellow, flashing: program function evaluation limits, slope
LED red/green	solid green: Power on green, flashing: program function, object detected solid red: Connector removed red, flashing: error, program function object not detected

Electrical specifications

Operating voltage U_B	10 ... 30 V DC , ripple 10 % _{SS}
Power consumption P_0	≤ 800 mW

Output

Output type	1 current output 4 ... 20 mA 1 voltage output 0 ... 10 V
Resolution	depending on the set evaluation range: 0.172 mm , if evaluation range < 705 mm , evaluation range [mm] / 4096, if evaluation range > 705 mm
Deviation of the characteristic curve	≤ 0.2 % of full-scale value
Repeat accuracy	≤ 0.1 % of full-scale value
Load impedance	current output: ≤ 500 Ohm Voltage output: ≥ 1000 Ohm
Temperature influence	< 2 % of full-scale value (≤ 0.2 % / K without temperature compensation)

Standard conformity

Standards	EN 60947-5-2
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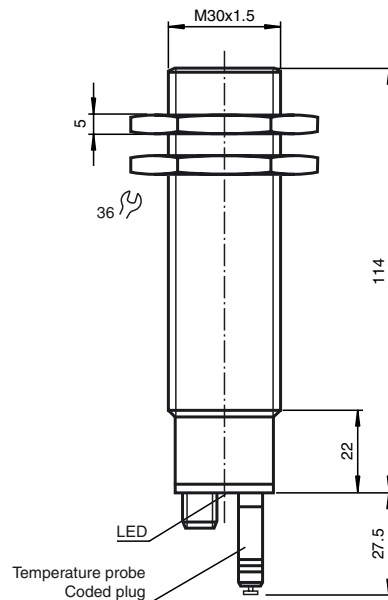
Ambient conditions

Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)

Mechanical specifications

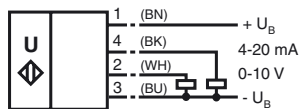
Connection type	Connector M12 x 1 , 4-pin
Protection degree	IP65
Material	
Housing	High grade stainless steel
Transducer	epoxy resin/hollow glass sphere mixture; foam polyurethane, cover PBT
Mass	175 g

Dimensions



Electrical Connection

Standard symbol/Connection:
(version IU)



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

Pinout

Connector V1



Accessories

- BF 30**
Mounting flange, 30 mm
- BF 30-F**
Mounting flange with dead stop, 30 mm
- BF 5-30**
Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm
- OMH-04**
Mounting aid for round steel \varnothing 12 mm or sheet 1.5 mm ... 3 mm
- UVW90-M30**
Ultrasonic -deflector
- UVW90-K30**
Ultrasonic -deflector
- UC-30GM-PROG**

- DA5-IU-2K-V**
Process control and indication equipment
- V1-G-2M-PVC**
Cable socket, M12, 4-pin, PVC cable
- V1-W-2M-PVC**
Cable socket, M12, 4-pin, PVC cable

Description of the sensor functions

This ultrasonic sensor features a four-pole temperature/TEACH-IN plug, that can be connected in four different positions. These have the following significance.

Plug position	Meaning
A1	TEACH-IN evaluation limit A1
A2	TEACH-IN evaluation limit A2
E2/E3	Switching: falling/rising ramp
T	Temperature compensation

Description of the TEACH-IN procedure

- Remove temperature plug
- Cut and restore supply voltage (e.g. by removing and replacing unit plug)

TEACH-IN of evaluation limits A1 or A2

- Set object to desired evaluation limit
- Connect TEACH-IN plug in pos. A1 or A2
- Green LED flashes when object detected, red LED flashes when no object detected
- Pull the plug (the current object position is taught and stored when the plug is removed!!)

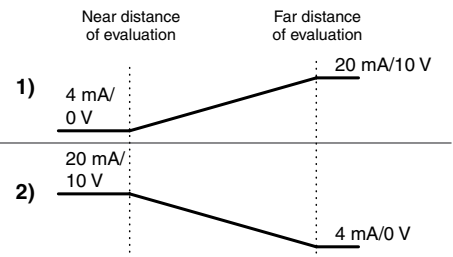
TEACH-IN of output function

- Connect TEACH-IN plug in pos. E2/E3
- The yellow LED indicates the output function
- E2: falling ramp

Additional Information

Programmed analogue output function

Analogue function



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E3: rising ramp

- Pull the plug when the desired function is activated, otherwise reconnect the TEACH-IN plug in pos. E2/E3
- Pull plug

Completing the TEACH-IN procedure

- Connect TEACH-IN plug in pos. T. Temperature compensation is now activated.

If the temperature plug has not been plugged in within 5 minutes, the sensor will return to normal mode without temperature compensation.

Default setting

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

LED Displays

Displays depending on position of temperature/TEACH-IN plug	Green dual LED	Red dual LED	Yellow LED A1/ ↖	Yellow LED A2/ ↗
TEACH-IN evaluation limit A1				
Object detected	flashes	off	flashes	off
No object detected	off	flashes	flashes	off
TEACH-IN evaluation limit A2				
Object detected	flashes	off	off	flashes
No object detected	off	flashes	off	flashes
TEACH-IN mode of operation				
rising ramp	on	off	flashes	off
falling ramp	on	off	off	flashes
Normal operation				
temperature compensated	on	off	on/off ¹⁾	on/off ²⁾
Plug pulled or shorted	off	on		
Interference (e.g. compressed air)	off	flashes	previous state	previous state

1) on, when object in evaluation range

2) on, when object in detection range

Mounting conditions

If the sensor is installed in places where the operating temperature can fall below 0 °C, the BF30, BF30-F or BF 5-30 fixing clamp must be used.

LED-Window

