

Single head system UC300-30GM-IU-V1

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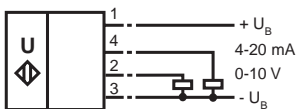


Features

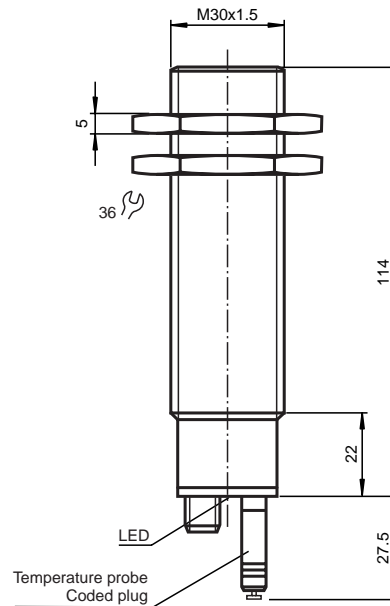
- Extremely small unusable area - only 15 mm
- Current and voltage output
- 12 bit D/A transducer
- Evaluation limits can be taught-in
- Temperature compensation
- Compact construction
- Plug connection

Electrical connection

Standard symbol/Connection:



Dimensions



CE

Technical data

General specifications

Sensing range	15 ... 300 mm
Standard target plate	100 mm x 100 mm
Unusable area	0 ... 15 mm
Transducer frequency	approx. 380 kHz
Response delay	≤ 35 ms
Standard conformity	EN 60947-5-2

Indicating/Operating means

LED yellow

permanently yellow: object in the evaluation range
yellow, flashing: Teach-in function evaluation limits, slope
permanent green: Power on green, flashing: TEACH-IN function,
object detected permanently red: Connector removed red, flashing:
Error, teach-in function object not detected

LED red/green

Temperature/TEACH-IN connector

Temperature compensation, TEACH-IN of the switch points, output
function change over

Electrical specifications

Rated operational voltage U_e	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
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Repeat accuracy

≤ 0.1 % of final value

Resolution

0.172 mm

Deviation of the characteristic
curve

≤ 0.2 % of final value

Load impedance

current output: ≤ 500 Ohm
Voltage output: ≥ 1000 Ohm

Temperature influence

< 2 % of full-scale value
(≤ 0.2 % / K without temperature compensation)

Ambient conditions

Ambient temperature	0 ... +50 °C (273 ... 323 K)
Storage temperature	-40 ... +85 °C (233 ... 358 K)

Mechanical specifications

Protection degree	IP65 according to EN 60529
Connection type	V1 connector (M12 x 1), 4 pin

Material

Housing: high grade steel (stainless)
Transducer: epoxy resin/hollow glass sphere mixture; foam polyurethane, cover
PBT

Mass

175 g

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17.08.2001

Note

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Notes:

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 evaluation limit A1
A2	Teach 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 and 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
 - 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.

Note:

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

Displays depending on position of temperature/TEACH-IN plug position	Green dual LED	Red dual LED	Yellow LED A1/ ↖	Yellow LED A2/ ↗
Teach switching point output A1				
Object detected	Flashing	Off	Flashing	Off
No object detected	Off	Flashing	Flashing	Off
Teach switching point output A2				
Object detected	Flashing	Off	Off	Flashing
No object detected	Off	Flashing	Off	Flashing
TEACH-IN of switch output functions:				
E2: 2 independent switching positions	On	Off	Flashing	Off
E3: window function	On	Off	Off	Flashing
Normal mode, temperature compensated	On	Off	on/off ¹⁾	on/off ¹⁾
Plug pulled or shorted	Off	On	on/off ¹⁾	on/off ¹⁾
Interference (e.g. compressed air)	Off	Flashing	Previous state	Previous state

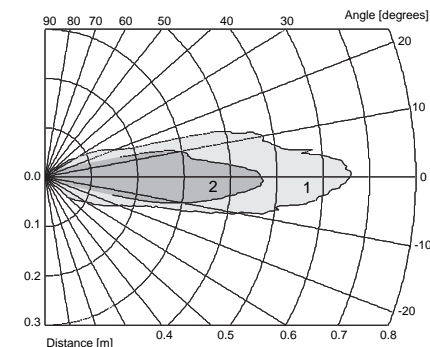
¹⁾ on: object within evaluation range; off: no object within evaluation range

Model number

UC300-30GM-IU-V1

Characteristic curves/ Additional information

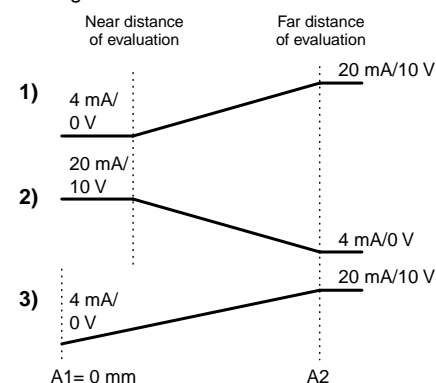
Characteristic response curves



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

Programmed analogue output function

Analogue function



LED-Window

