CE

Model Number

UC300-30GM-IU-V1

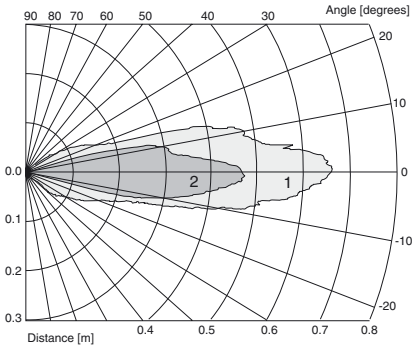
Single head system

Features

- **Extremly small unusable area - only 15 mm**
- **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 curves

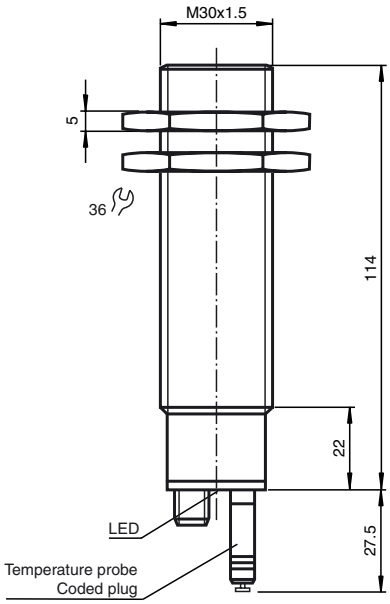


Curve 1: flat surface 100 mm x 100 mm
Curve 2: round bar, Ø 25 mm

Technical data

General specifications	
Sensing range	15 ... 300 mm
Unusable area	0 ... 15 mm
Standard target plate	100 mm x 100 mm
Transducer frequency	approx. 380 kHz
Response delay	≤ 35 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
Temperature/TEACH-IN connector	Temperature compensation , Evaluation range programming , output function setting
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	0.172 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
Ambient conditions	
Ambient temperature	0 ... 50 °C (32 ... 122 °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



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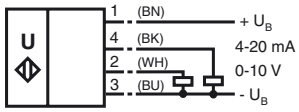
Electrical Connection

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 ø 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!!)

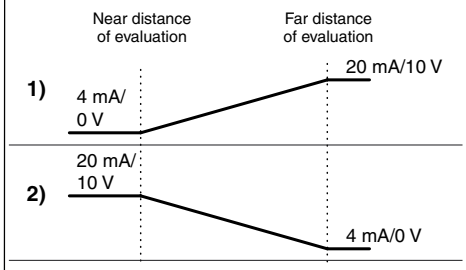
TEACH-IN of output function

- 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

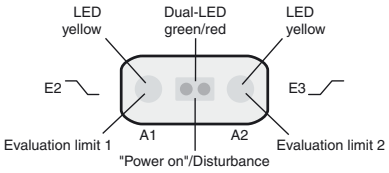
A1: unusable area
A2: nominal sensing range
Mode of operation: rising ramp

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			on/off [1]	on/off [2]
temperature compensated	on	off		
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

LED-Window



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