



**Model Number**

**UCC1000-18GH90-E2-IO-V1**

Single head system

**Features**

- IO-link interface for service and process data
- Switch output
- Temperature compensation
- Stainless steel version

**Description**

This ultrasonic sensor is a contactless distance sensor based on the echo run time principle. It is suitable for the detection of solid, liquid or powder sound-reflecting objects. The IO-Link interface makes it ideally suited to applications in which the consistent communication of process, parameter and diagnostic data through to sensor level plays an important role.

**Technical data**

**General specifications**

Sensing range	100 ... 1000 mm
Adjustment range	110 ... 1000 mm
Unusable area	0 ... 100 mm
Standard target plate	20 mm x 20 mm
Transducer frequency	approx. 200 kHz
Response delay	approx. 100 ms
Direction of radiation	frontal

**Nominal ratings**

Linearity error	≤ ± 2 mm
Temperature drift	≤ ± 2.5 %
Time delay before availability $t_v$	≤ 120 ms

**Limit data**

Permissible cable length	max. 20 m
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**Indicators/operating means**

LED green	solid green: Power on flashes: IO-Link ON
LED yellow	on: object within measuring range

**Electrical specifications**

Rated operating voltage $U_e$	24 V DC
Operating voltage $U_B$	12 ... 30 V DC (including ripple)
Ripple	≤ 10 %
No-load supply current $I_0$	≤ 50 mA

**Interface**

Interface type	IO-Link
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**Switching output**

Output type	1 switch output PNP, NO SIO mode
Operating current $I_L$	≤ 200 mA , short-circuit/overload protected
Switching frequency	5 Hz
Voltage drop	≤ 2 V
Off-state current	≤ 0.01 mA
Switch-on delay	≤ 100 ms

**Ambient conditions**

Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)
Shock resistance	30 g , 11 ms period
Vibration resistance	10 ... 55 Hz , Amplitude ± 1 mm

**Mechanical specifications**

Connection type	Connector M12 x 1 , 4-pin
Protection degree	IP67
Material	
Housing	High grade stainless steel
Transducer	PTFE coated; epoxy resin/hollow glass sphere mixture; polyurethane foam
Installation position	any position
Mass	90 g
Mounting	max. tightening torque : 60 Nm

**Compliance with standards and directives**

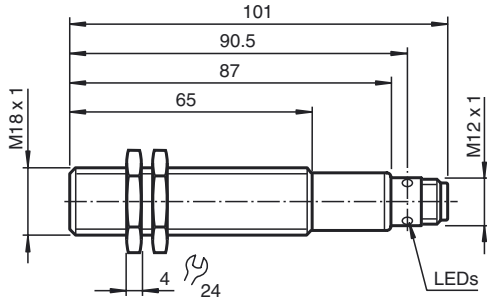
Standard conformity	
Standards	EN 60947-5-2:2007 IEC 60947-5-2:2007

**Approvals and certificates**

CCC approval	CCC approval / marking not required for products rated ≤36 V
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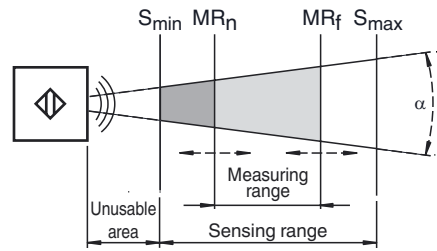
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**Dimensions**

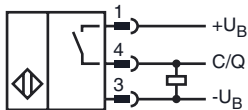


**Additional Information**

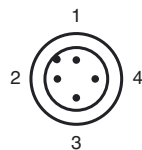
**Area definitions**



**Electrical Connection**



**Pinout**



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

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**Accessories**

**OMH-04**

Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm

**BF 18**

Mounting flange, 18 mm

**BF 18-F**

Mounting flange with dead stop, 18 mm

**BF 5-30**

Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm

**UVW90-K18**

Ultrasonic -deflector

**V1-G-2M-PVC**

Female cordset, M12, 4-pin, PVC cable

**V1-G-2M-PUR**

Female cordset, M12, 4-pin, PUR cable

**V1-W-2M-PVC**

Female cordset, M12, 4-pin, PVC cable

**V1-W-2M-PUR**

Female cordset, M12, 4-pin, PUR cable

**Description of the sensor functions**

The C/Q connection of this sensor provides double function. If the sensor recognizes a connected IO-Link master and receives a communication protocol directly after power on, the sensor turns into IO-Link communication mode. If the communication protocol is missing after power on, the sensor turns into SIO mode. In this case at this pin a conventional switching signal is provided.

**SIO Mode (standard switching output)**

Object position	Output state
Object in unusable area	undefined
Object in sensing range but not in programmed measuring range	off
Object in programmed measuring range	on

**Communication in IO-Link mode**

Example parametrization for variable parameters

Process data	Object position [mm]
undefined	$0 \leq \text{object distance} < 100$
-1	$100 \leq \text{object distance} < 110$
-2	$110 \leq \text{object distance} < MR_n$
Object distance [mm]	$MR_n \leq \text{object distance} < MR_f$
-3	$MR_f \leq \text{object distance} < 1000$
-4	unknown object distance

Device ID	M18	30 02 00 hex	
Informational data (read only)	Value range	Sub-index	
Interne Temperatur:	-25 °C ... 105 °C	1	
Parameter data (read / write)	Value range	Sub-index	Default value
Start of measuring range $MB_n$	110 mm ... $MR_f$	7/8	110 mm
end of measuring range $MB_f$	$> MR_n$ ... 1000 mm	9/10	1000 mm
Filter depth for averaging	0 ... 255	2	3

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