UIT300

Full-metal ultrasonic sensor

UID02500GOKG/IO-Link/US

Product characteristics

Electrical design		PNP/NPN; (configurable)
Output function		normally open / closed; (configurable)
Sensing range	[mm]	250...2500; (Target: 400 x 400 mm)
Communication interface		IO-Link
Housing		Threaded type
Dimensions	[mm]	M30 x 1.5 / L = 103

Electrical data

Operating voltage	[V]	10...30 DC
Current consumption	[mA]	< 50
Protection class		III
Reverse polarity protection		yes
Power-on delay time	[s]	< 0.5
Converter frequency	[kHz]	112

Inputs / outputs

Number of inputs and outputs	Number of digital outputs: 2

Outputs

Total number of outputs		2
Electrical design		PNP/NPN; (configurable)
Number of digital outputs		2
Output function		normally open / closed; (configurable)
Max. voltage drop switching output DC	[V]	2.2
Permanent current rating of switching output DC	[mA]	100
Switching frequency DC	[Hz]	1
Short-circuit protection		yes
Overload protection		yes

Monitoring range

Sensing range	[mm]	250...2500; (Target: 400 x 400 mm)

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Blind zone	[mm]	250
Angle of aperture cylindrical	[°]	12; (±2)
Max. deviation from the 90° angle sensor/object	[°]	± 4

Accuracy / deviations

Temperature compensation		yes
Hysteresis	[%]	< 3
Temperature drift		± 5 %; (of the final value of the measuring range)
Repeatability		1 %
Resolution	[mm]	3
Notes on the accuracy / deviation		The indicated values are reached after a warm-up time of min. 20 minutes

Software / programming

Parameter setting options	hysteresis / window; second switch point; Switch-on and switch-off delay; switch-on operations; Teach function; light-on/dark-on mode

Interfaces

Communication interface		IO-Link
Transmission type		COM2 (38,4 kBaud)
IO-Link revision		1.1
SDCI standard		IEC 61131-9
Profiles	Smart Sensor - SSP 3.1	Measuring Sensor
	Common - I&D	Identification and Diagnosis
	Function	Multiple switching signal
	Function	Teach channel
SIO mode		yes
Required master port class		A
Min. process cycle time	[ms]	3.2
IO-Link process data (cyclical)	**Function**	**bit length**
	process value	16
	device status	4
	binary switching information	2
IO-Link functions (acyclical)	application specific tag; operating hours counter	
Supported DeviceIDs	**Type of operation**	**DeviceID**
	default	1388
Note	For further information please see the IODD PDF file at "Downloads"	

Operating conditions

Ambient temperature	[°C]	-10...60
Storage temperature	[°C]	-15...65
Protection		IP 65; IP 67; IP 68; IP 69K

Tests / approvals

EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	3 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-6 HF conducted	3 V
	EN 55011	class A

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Vibration resistance	EN 60068-2-6 Fc	(10-55) Hz 1 mm amplitude, vibration duration 5 min., 30 min. per axis with resonance or 55 Hz
Shock resistance	EN 60068-2-27 Ea	30 g 11 ms half-sine; 3 shocks each in every direction of the 3 coordinate axes
MTTF [years]	108	

Mechanical data	
Weight [g]	257.1
Housing	Threaded type
Dimensions [mm]	M30 x 1.5 / L = 103
Thread designation	M30 x 1.5
Material	stainless steel (1.4404 / 316L); LED window: TPU (urethane); potting: PUR
Tightening torque [Nm]	100

Displays / operating elements		
Display	Switching status	1 LED, yellow

Accessories	
Items supplied	lock nuts: 2 x M30, stainless steel
	damping plates: 2, EPDM

Remarks	
Pack quantity	1 pcs.

Electrical connection - plug

Connector: 1 x M12; coding: A
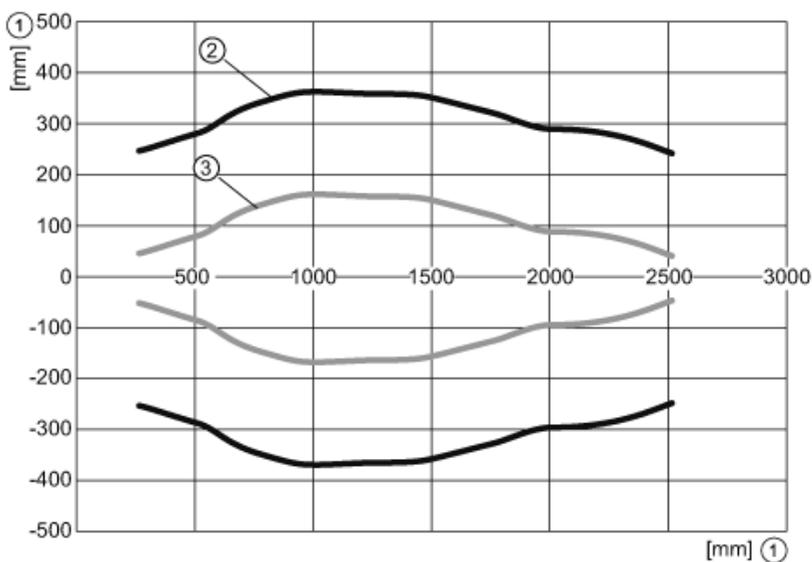

Connection
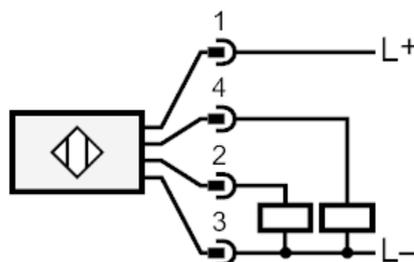
4   IO-Link

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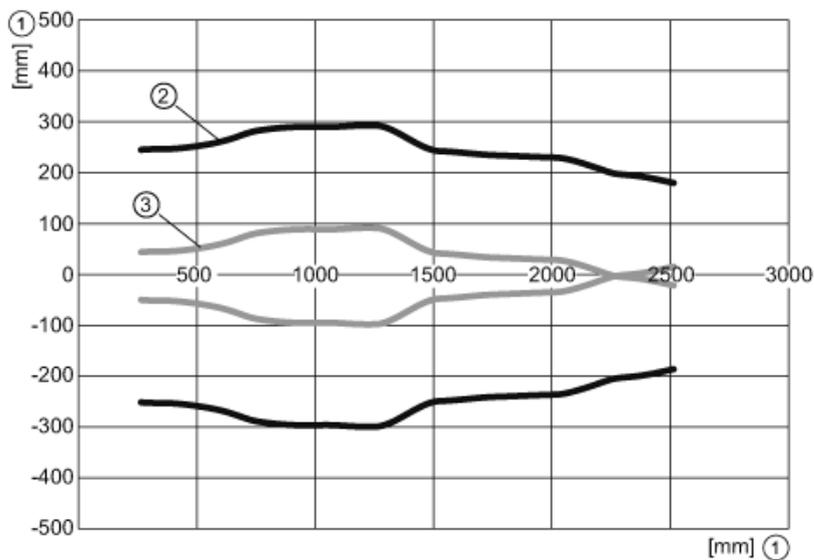## Diagrams and graphs

Standard sound cone

Medium sound cone
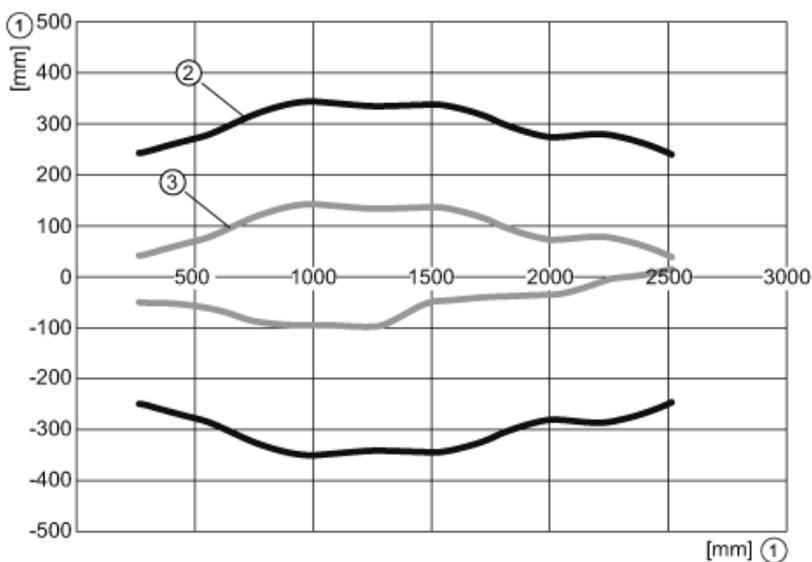
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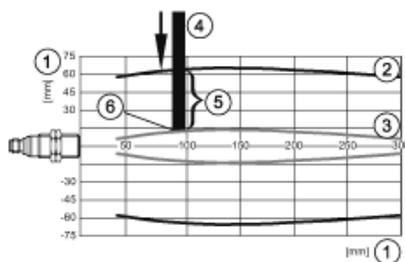### Full-metal ultrasonic sensor

Narrow sound cone

Function

1: Distance

2: Monitoring range

3: switch-on/switch-off graph

4: Target 400 x 400 mm

5: 50 % of the target in the detection zone

6: Set point