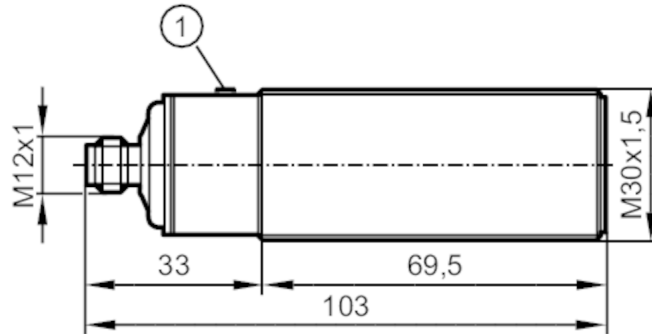


# UIT501



## Ultrasonic sensor

UIA03500E1KG/IO-Link/US



1 teach button



### Product characteristics

Electrical design	PNP
Output function	normally open / closed; (configurable)
Sensing range [mm]	250...3500; (Target: 200 x 200 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]	< 30
Protection class	III
Reverse polarity protection	yes
Power-on delay time [s]	< 0.3
Converter frequency [kHz]	112

### Inputs / outputs

Number of inputs and outputs	Number of digital outputs: 1; Number of analog outputs: 1
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### Outputs

Total number of outputs	2
Output signal	switching signal; analog signal; IO-Link
Electrical design	PNP
Number of digital outputs	1
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
Number of analog outputs	1
Analog current output [mA]	4...20
Max. load [Ω]	500

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Short-circuit protection		yes
Overload protection		yes
<b>Monitoring range</b>		
Sensing range	[mm]	250...3500; (Target: 200 x 200 mm)
Blind zone	[mm]	250
Angle of aperture cylindrical	[°]	12; (±2)
Max. deviation from the 90° angle sensor/object	[°]	± 4
<b>Accuracy / deviations</b>		
Temperature compensation		yes
Hysteresis	[%]	< 3
Switch-point drift	[%]	-5...5
Linearity error of analog output	[%]	<3
Repeatability		1 %
Resolution	[mm]	3
Notes on the accuracy / deviation		The indicated values are reached after a warm-up time of min. 20 minutes
<b>Reaction times</b>		
Response time	[ms]	< 600; (analog output)
<b>Software / programming</b>		
Parameter setting options		hysteresis / window; second switch point; Switch-on and switch-off delay; switch-on operations; Teach function; light-on/dark-on mode
<b>Interfaces</b>		
Communication interface		IO-Link
Transmission type		COM2 (38,4 kBaud)
IO-Link revision		1.1
SDCI standard		IEC 61131-9
Profiles		Smart Sensor: Device Identification; Multi-channel, two setpoint switching sensor, type 0 Generic Profiled Sensor; Process Data Variable; Device Diagnosis; Teach Channel
SIO mode		yes
Required master port class		A
Min. process cycle time	[ms]	3.2
IO-Link process data (cyclical)	<b>Function</b>	<b>bit length</b>
	process value	16
	device status	4
	binary switching information	2
IO-Link functions (acyclical)		application specific tag; operating hours counter
Supported DeviceIDs	<b>Type of operation</b>	<b>DeviceID</b>
	default	1094
Note		For further information please see the IODD PDF file at "Downloads"
<b>Operating conditions</b>		
Ambient temperature	[°C]	-20...70
Storage temperature	[°C]	-30...80
Protection		IP 67

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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
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]		117
UL approval	Ta	-20...70 °C
	voltage supply	Class 2
	File number UL	E174191

Mechanical data		
Weight [g]		227
Housing		Threaded type
Dimensions [mm]		M30 x 1.5 / L = 103
Thread designation		M30 x 1.5
Material		stainless steel (1.4404 / 316L); PA; epoxy glass ceramics
Tightening torque [Nm]		100

Displays / operating elements		
Display	Switching status	2 x LED, yellow
	echo	1 x LED, green
Teach function		yes

Accessories		
Items supplied		lock nuts: 2, stainless steel

Remarks		
Remarks		cULus - Class 2 source required
Pack quantity		1 pcs.

### Electrical connection

Connector: 1 x M12; coding: A

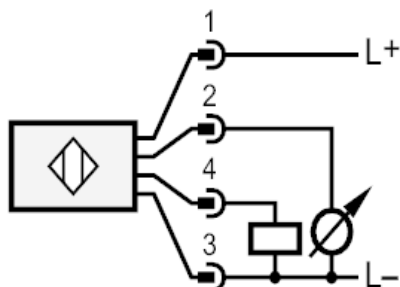




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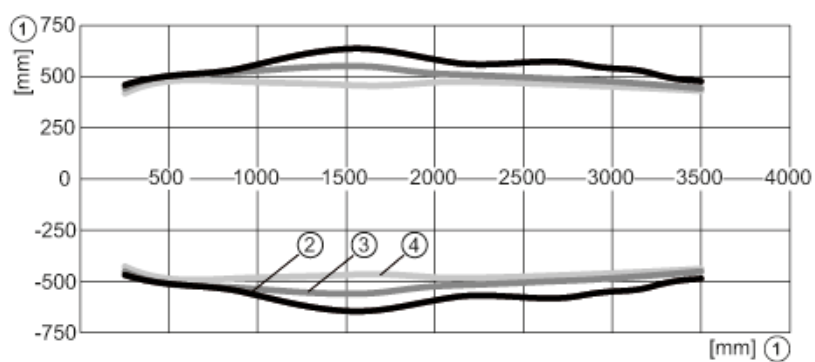
### Connection



4

IO-Link

### Diagrams and graphs



- 1 Distance
- 2 Standard sound cone
- 3 Medium sound cone
- 4 Narrow sound cone