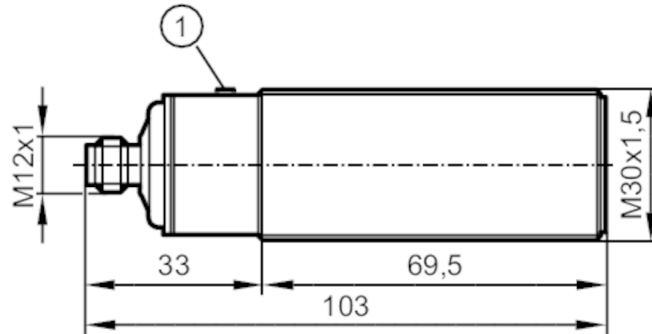


UIT501



Ultrasonic diffuse reflection sensor

UIA03500E1KG/IO-Link/US



1 teach button



Product characteristics

Electrical design	PNP
Output function	normally open / normally closed; (parameterisable + 1x current output)
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 analogue outputs: 1
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Ultrasonic diffuse reflection sensor

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Outputs	
Total number of outputs	2
Electrical design	PNP
Number of digital outputs	1
Output function	normally open / normally closed; (parameterisable + 1x current output)
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 analogue outputs	1
Analogue current output [mA]	4...20
Max. load [Ω]	500
Short-circuit protection	yes
Overload protection	yes
Detection zone	
Sensing range [mm]	250...3500; (Target: 200 x 200 mm)
Blind zone [mm]	250
Angle of aperture cylindrical [$^{\circ}$]	12; (± 2)
Max. deviation from the 90 $^{\circ}$ angle sensor/object [$^{\circ}$]	± 4
Accuracy / deviations	
Temperature compensation	yes
Hysteresis [%]	< 3
Switch point drift [%]	-5...5
Linearity error of analogue output [%]	<3
Notes on the accuracy / deviation	The indicated values are reached after a warm-up time of min. 20 minutes
Repeatability	1 %
Resolution [mm]	3
Response times	
Response time [ms]	< 600; (analogue output)
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

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Ultrasonic diffuse reflection sensor

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Interfaces		
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 type	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	1094
Note	For further information please see the IODD PDF file under "Downloads"	
Operating conditions		
Ambient temperature [°C]	-20...70	
Storage temperature [°C]	-30...80	
Protection	IP 67	
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, oscillation period 5 min., 30 min. per axis at 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	
Materials	stainless steel (1.4404 / 316L); PA; epoxy glass ceramics	
Tightening torque [Nm]	100	

UIT501



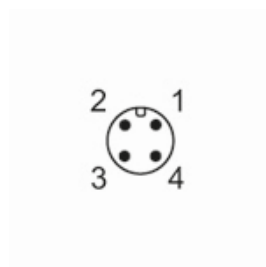
Ultrasonic diffuse reflection sensor

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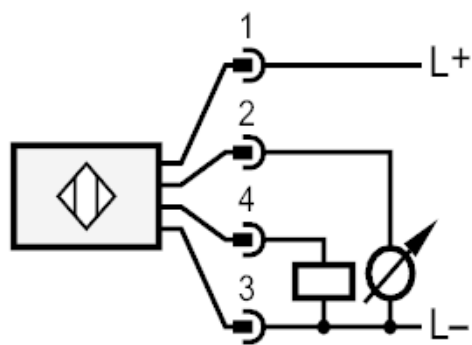
Displays / operating elements		
Display	switching status	2 x LED, yellow
	echo	1 x LED, green
Teach function	yes	
Accessories		
Items supplied	lock nuts: 2, stainless steel	
Remarks		
Remarks	operating voltage "supply class 2" according to cULus	
Pack quantity	1 pcs.	

Electrical connection

Connector: 1 x M12



Connection

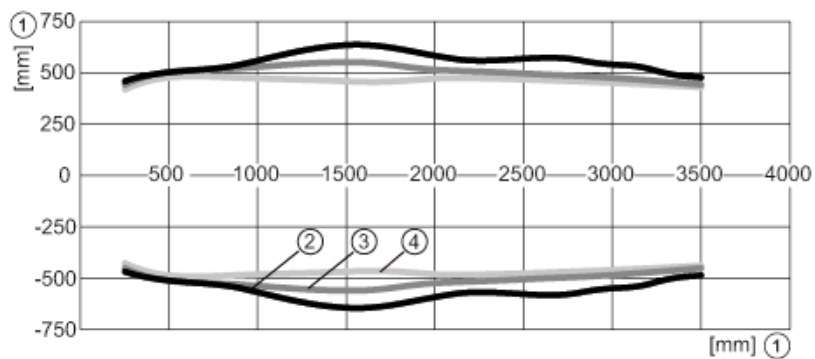




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Diagrams and graphs



- 1 distance
- 2 Standard sound beam
- 3 Medium sound beam
- 4 Narrow sound beam