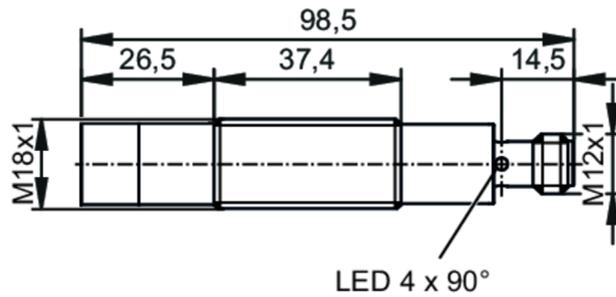


UGT304



Full-metal ultrasonic sensor

UGA401000R1KG/AM/IO/US



Product characteristics

Electrical design	PNP/NPN; (configurable)
Output function	normally open / closed; (configurable)
Sensing range [mm]	100...1000; (Target: 100 x 100 mm)
Communication interface	IO-Link
Housing	Threaded type
Dimensions [mm]	M18 x 1 / L = 98.5

Electrical data

Operating voltage [V]	10...30 DC; (cULus - Class 2 source required)
Current consumption [mA]	< 50
Protection class	III
Reverse polarity protection	yes
Power-on delay time [s]	< 0.5
Converter frequency [kHz]	200

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
Electrical design	PNP/NPN; (configurable)
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]	6
Number of analog outputs	1
Analog current output [mA]	4...20
Max. load [Ω]	500
Short-circuit protection	yes
Overload protection	yes

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Monitoring range													
Sensing range [mm]	100...1000; (Target: 100 x 100 mm)												
Blind zone [mm]	100												
Angle of aperture cylindrical [°]	16; (±1)												
Max. deviation from the 90° angle sensor/object [°]	± 4												
Accuracy / deviations													
Temperature compensation	yes												
Hysteresis [%]	< 1												
Linearity error of analog output [%]	1; (of the final value of the measuring range)												
Temperature drift	± 2 %; (of the final value of the measuring range)												
Repeatability	0,5 %												
Resolution [mm]	1												
Notes on the accuracy / deviation	The indicated values are reached after a warm-up time of min. 20 minutes												
Reaction times													
Response time [ms]	< 600; (analog 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												
Interfaces													
Communication interface	IO-Link												
Transmission type	COM2 (38,4 kBaud)												
IO-Link revision	1.1												
SDCI standard	IEC 61131-9												
Profiles	<table border="1"> <tr> <td>Smart Sensor - SSP 4.1.1</td> <td>Measuring and Switching Sensor, 1 channel</td> </tr> <tr> <td>Common - I&D</td> <td>Identification and Diagnosis</td> </tr> <tr> <td>Extension</td> <td>Sensor control</td> </tr> <tr> <td>Extension</td> <td>Object detection, switches when value falls below the setpoint</td> </tr> <tr> <td>Function</td> <td>Locator</td> </tr> <tr> <td>Function</td> <td>ProductURI</td> </tr> </table>	Smart Sensor - SSP 4.1.1	Measuring and Switching Sensor, 1 channel	Common - I&D	Identification and Diagnosis	Extension	Sensor control	Extension	Object detection, switches when value falls below the setpoint	Function	Locator	Function	ProductURI
Smart Sensor - SSP 4.1.1	Measuring and Switching Sensor, 1 channel												
Common - I&D	Identification and Diagnosis												
Extension	Sensor control												
Extension	Object detection, switches when value falls below the setpoint												
Function	Locator												
Function	ProductURI												
SIO mode	yes												
Required master port class	A												
Min. process cycle time [ms]	3.2												
IO-Link process data (cyclical)	<table border="1"> <thead> <tr> <th>Function</th> <th>bit length</th> </tr> </thead> <tbody> <tr> <td>process value</td> <td>16</td> </tr> <tr> <td>device status</td> <td>4</td> </tr> <tr> <td>binary switching information</td> <td>2</td> </tr> </tbody> </table>	Function	bit length	process value	16	device status	4	binary switching information	2				
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	<table border="1"> <thead> <tr> <th>Type of operation</th> <th>DeviceID</th> </tr> </thead> <tbody> <tr> <td>default</td> <td>1813</td> </tr> </tbody> </table>	Type of operation	DeviceID	default	1813								
Type of operation	DeviceID												
default	1813												
Note	For further information please see the IODD PDF file at "Downloads"												
Operating conditions													
Ambient temperature [°C]	-20...70												

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Storage temperature [°C]	-25...75
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
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]		838
UL approval	Ta	-20...70 °C
	Enclosure type	Type 1
	voltage supply	Class 2
	File number UL	E174191

Mechanical data

Weight [g]	96
Housing	Threaded type
Dimensions [mm]	M18 x 1 / L = 98.5
Thread designation	M18 x 1
Material	housing: stainless steel (1.4404 / 316L); LED window: PA
Tightening torque [Nm]	50

Displays / operating elements

Display	Switching status	1 LED, yellow
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Accessories

Items supplied	lock nuts: 2 x M18, stainless steel damping plates: 2, EPDM
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Remarks

Pack quantity	1 pcs.
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Electrical connection - plug

Connector: 1 x M12; coding: A



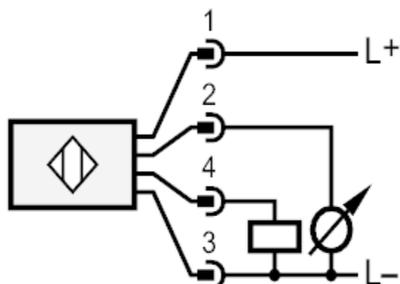
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Connection



4

IO-Link

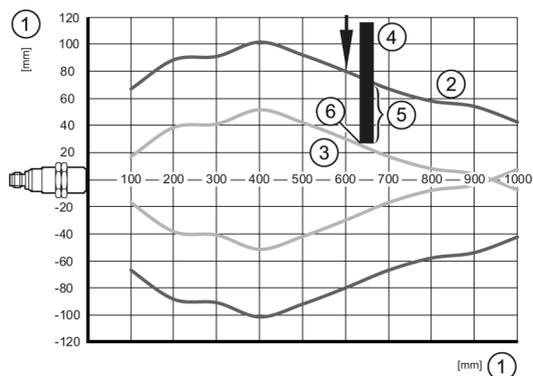
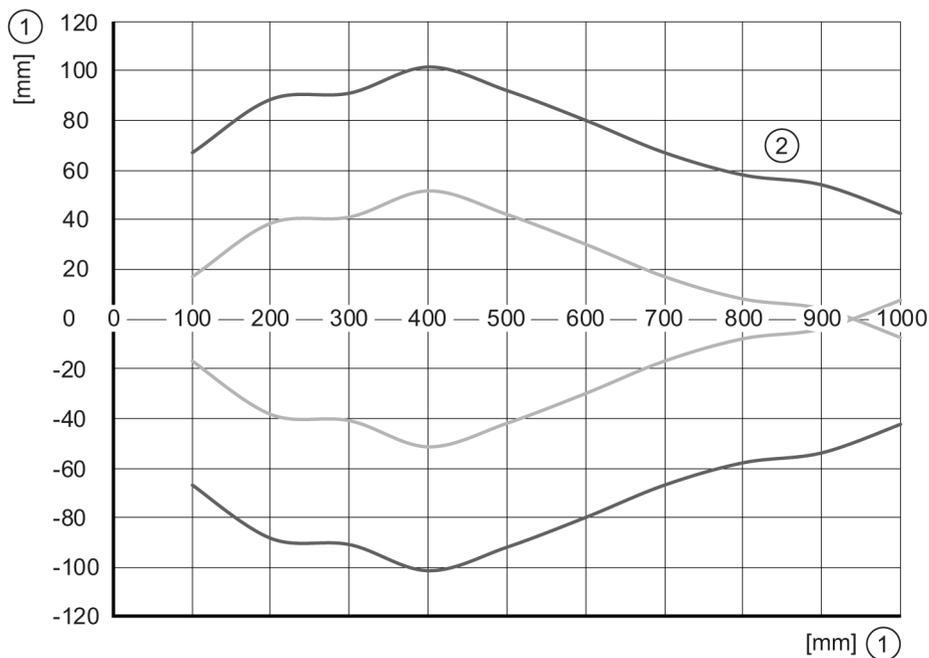
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Diagrams and graphs



- 1 Distance
- 2 Monitoring range
- 3 switch-on/switch-off graph
- 4 Target 100 x 100 mm
- 5 50 % of the target in the detection zone
- 6 Set point