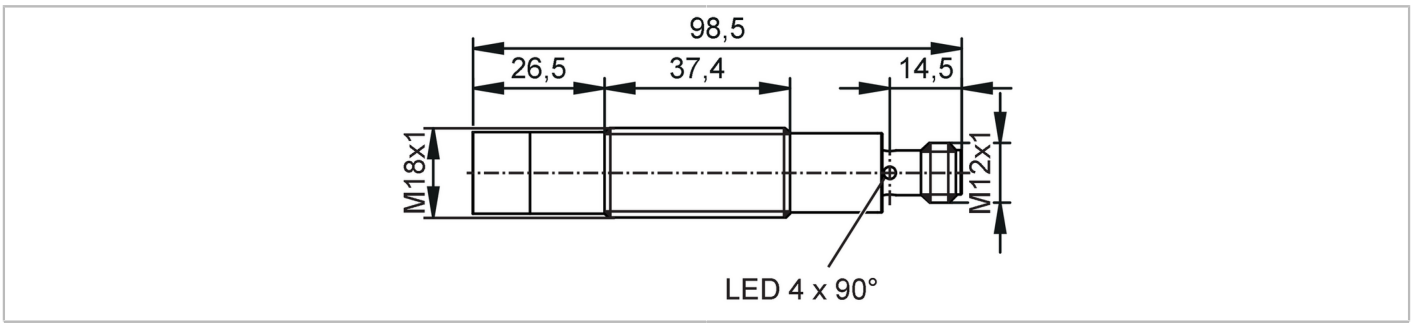
UGT301

Full-metal ultrasonic sensor

UGA400400R1KG/AM/IO/US



Product characteristics		
Electrical design		PNP/NPN; (configurable)
Output function		normally open / closed; (configurable)
Sensing range	[mm]	50...400; (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]	300
Inputs / outputs		
Number of inputs and outputs		Number of digital outputs: 1; Number of analog outputs: 1
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]	10
Number of analog outputs		1
Analog current output	[mA]	4...20
Max. load	[Ω]	500
Short-circuit protection		yes
Overload protection		yes
Monitoring range		
Sensing range	[mm]	50...400; (Target: 100 x 100 mm)
Blind zone	[mm]	50

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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		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)		**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 / 1810
Note		For further information please see the IODD PDF file at "Downloads"
Operating conditions		
Ambient temperature	[°C]	-10...70
Storage temperature	[°C]	-25...75
Protection		IP 65; IP 67; IP 68; IP 69K

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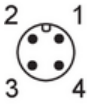
Tests / approvals			
EMC		EN 61000-4-2 ESD	4 kV CD / 8 kV AD
		EN 61000-4-3 HF radiated	3 V/m
		EN 61000-4-4 Burst	2 kV
		EN 61000-4-6 HF conducted	3 V
		EN 55011	class A
Vibration resistance		EN 60068-2-6 Fc	(10-55) Hz 1 mm amplitude, vibration duration 5 min., 30 min. per axis with resonance or 55 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]	838	
UL approval		Ta	-10...70 °C
		Enclosure type	Type 1
		voltage supply	Class 2
		File number UL	E174191
Mechanical data			
Weight	[g]	96.1	
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
Accessories			
Items supplied		lock nuts: 2 x M18, stainless steel	
		damping plates: 2, EPDM	
Remarks			
Pack quantity		1 pcs.	

Electrical connection - plug

Connector: 1 x M12; coding: A; Contacts: 4



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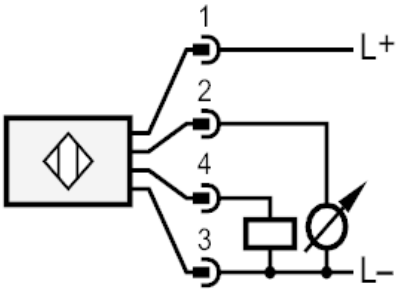
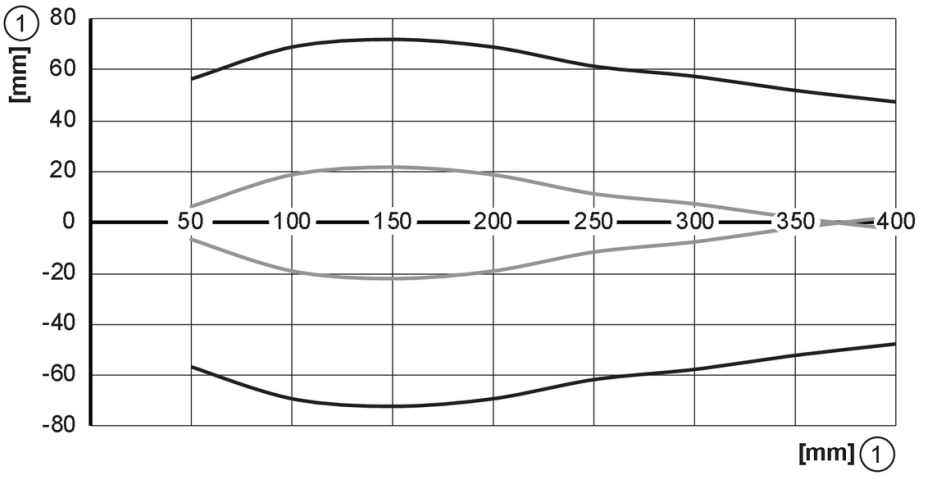
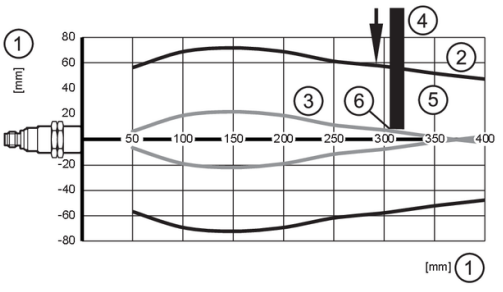
Connection



4 IO-Link

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