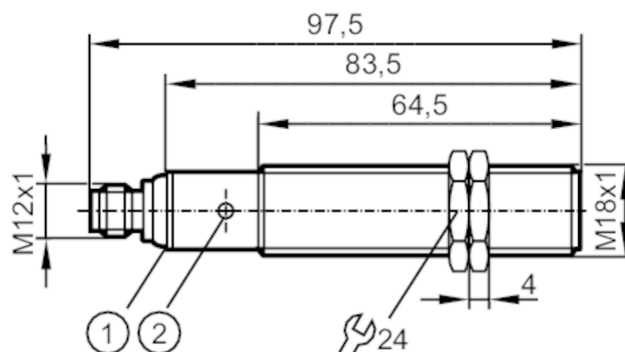


# UGT513



## Ultrasonic sensor

UGA02200E1KG/IO-LINK/US



- 1 LEDs
- 2 teach button



### Product characteristics

Electrical design	PNP
Output function	normally open / normally closed; (parameterisable + 1x current output)
Sensing range [mm]	200...2200; (Target: 200 x 200 mm)
Communication interface	IO-Link
Housing	threaded type
Dimensions [mm]	M18 x 1 / L = 97.5

### Electrical data

Operating voltage [V]	10...30 DC; ("supply class 2" to cULus)
Current consumption [mA]	55
Protection class	III
Reverse polarity protection	yes
Power-on delay time [s]	< 0.3
Converter frequency [kHz]	200

### Inputs / outputs

Number of inputs and outputs	Number of digital outputs: 1; Number of analogue outputs: 1
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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]	2
Number of analogue outputs	1
Analogue current output [mA]	4...20
Max. load [Ω]	500
Short-circuit protection	yes
Overload protection	yes



## Ultrasonic sensor

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Resolution of analogue output		< 3 mm	
Detection zone			
Sensing range	[mm]	200...2200; (Target: 200 x 200 mm)	
Blind zone	[mm]	200	
Angle of aperture cylindrical	[°]	14; (±2)	
Max. deviation from the 90° angle sensor/object	[°]	± 4	
Accuracy / deviations			
Temperature compensation		yes	
Hysteresis	[%]	< 2	
Switch point drift	[%]	-2...2	
Linearity error of analogue output	[%]	<3	
Repeatability		1 %	
Notes on the accuracy / deviation		The indicated values are reached after a warm-up time of min. 20 minutes	
Response times			
Response time	[ms]	< 400; (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	
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	704	
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	

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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, 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]		142
UL approval	Ta	-20...70 °C
	power supply	Class 2
	File number UL	E174191

Mechanical data		
Weight [g]		102
Housing		threaded type
Dimensions [mm]		M18 x 1 / L = 97.5
Thread designation		M18 x 1
Materials		stainless steel (1.4404 / 316L); PA; epoxy glass ceramics
Tightening torque [Nm]		50

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; coding: A



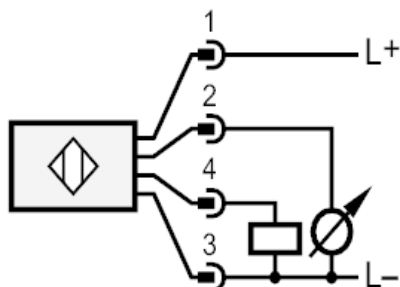
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## Ultrasonic sensor

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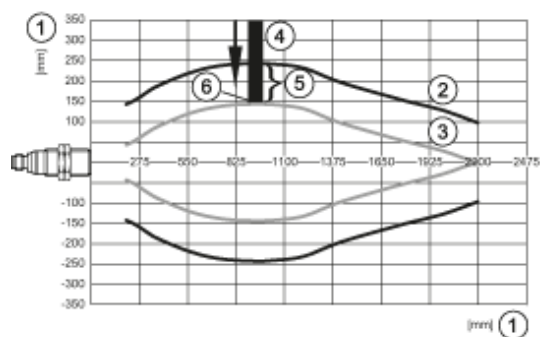
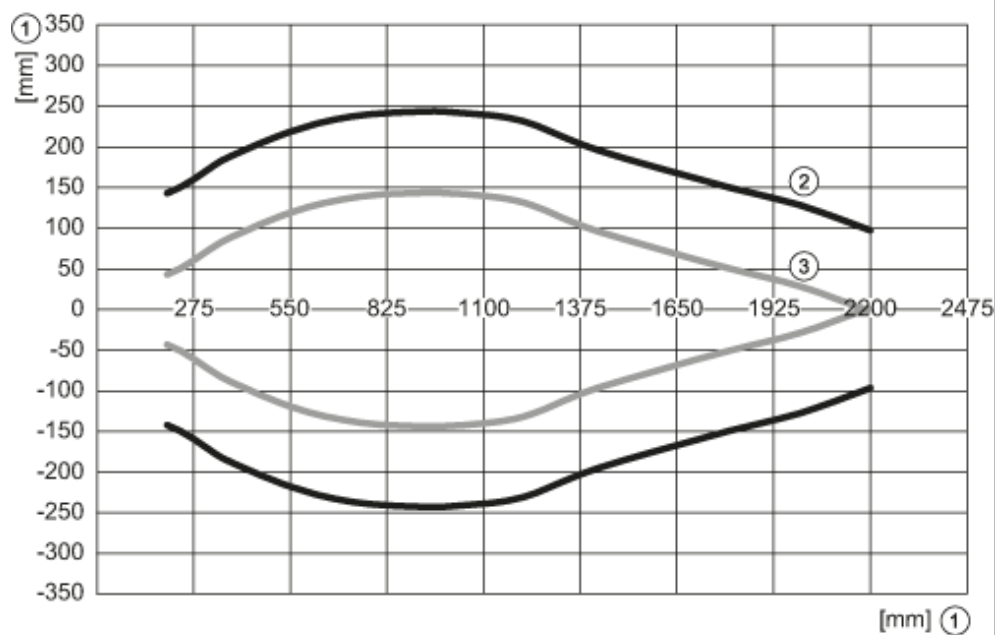
### Connection



Pin 4 = IO-Link



### Diagrams and graphs



- 1: distance
- 2: Detection zone
- 3: switch-on/switch-off graph
- 4: Target 200 x 200 mm
- 5: 50% of the target in the detection zone
- 6: switch point