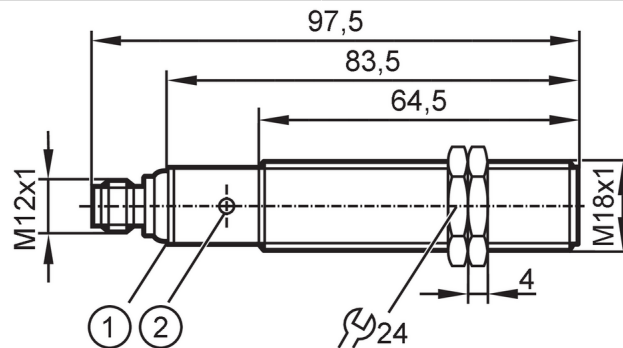


UGT511



Ultrasonic sensor

UGA01600E2KG/IO-LINK/US



- 1 LEDs
- 2 teach button



Product characteristics

Electrical design	PNP
Output function	normally open / closed; (configurable)
Sensing range [mm]	150...1600; (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; (cULus - Class 2 source required)
Current consumption [mA]	55
Protection class	III
Reverse polarity protection	yes
Power-on delay time [s]	< 0.3
Converter frequency [kHz]	230

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]	3
Number of analog outputs	1
Analog voltage output [V]	0...10
Min. load resistance [Ω]	3000
Short-circuit protection	yes

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Overload protection	yes												
Resolution of analog output	< 3 mm												
Monitoring range													
Sensing range [mm]	150...1600; (Target: 200 x 200 mm)												
Blind zone [mm]	150												
Angle of aperture cylindrical [°]	15; (±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 analog output [%]	<2												
Repeatability	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]	< 300; (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 0</td> <td>Generic Profiled Sensor</td> </tr> <tr> <td>Function</td> <td>Device identification</td> </tr> <tr> <td>Function</td> <td>Multiple switching signal</td> </tr> <tr> <td>Function</td> <td>Process data variable</td> </tr> <tr> <td>Function</td> <td>Device diagnosis</td> </tr> <tr> <td>Function</td> <td>Teach channel</td> </tr> </table>	Smart Sensor - SSP 0	Generic Profiled Sensor	Function	Device identification	Function	Multiple switching signal	Function	Process data variable	Function	Device diagnosis	Function	Teach channel
Smart Sensor - SSP 0	Generic Profiled Sensor												
Function	Device identification												
Function	Multiple switching signal												
Function	Process data variable												
Function	Device diagnosis												
Function	Teach channel												
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												
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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>703</td> </tr> </tbody> </table>	Type of operation	DeviceID	default	703								
Type of operation	DeviceID												
default	703												
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]	-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, 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]	125
UL approval	Ta	-20...70 °C
	voltage supply	Class 2
	File number UL	E174191

Mechanical data

Weight	[g]	103.5
Housing		Threaded type
Dimensions	[mm]	M18 x 1 / L = 97.5
Thread designation		M18 x 1
Material		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 x M18, stainless steel
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Remarks

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

Electrical connection

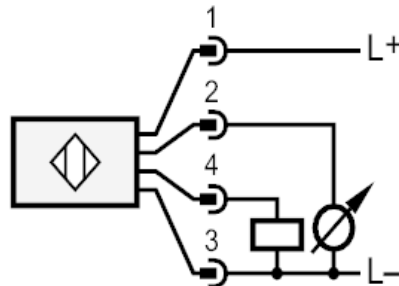
Connector: 1 x M12; coding: A



Ultrasonic sensor

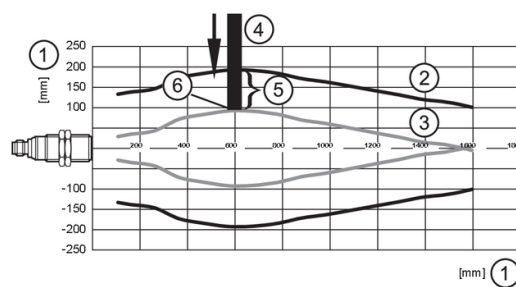
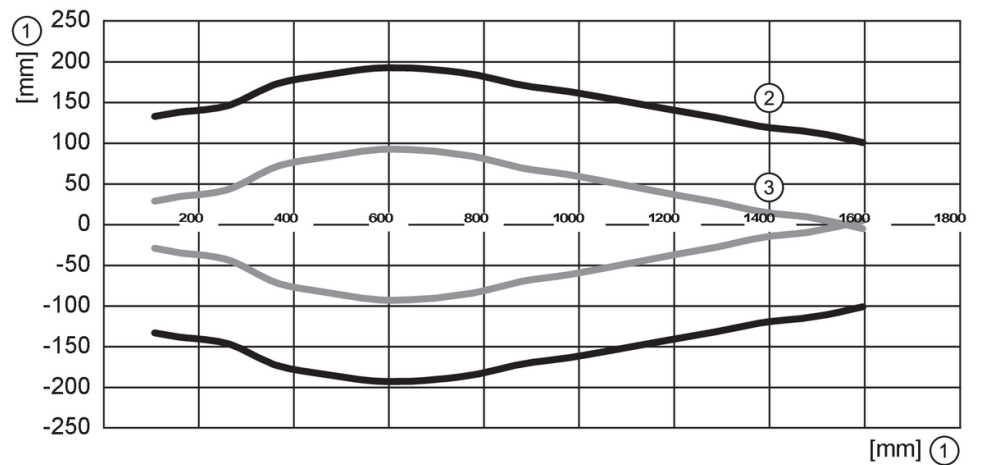
UGA01600E2KG/IO-LINK/US

Connection



Pin 4 = IO-Link

Diagrams and graphs



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