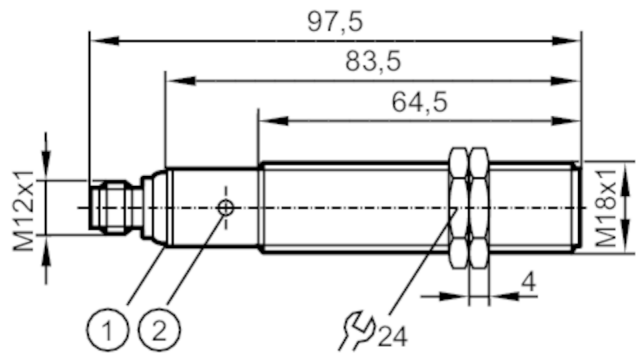


UGR501



Ultrasonic sensor

UGA02200EOKG/IO-LINK/US



- 1 LEDs
- 2 teach button



Product characteristics

Housing	Threaded type
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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]	200

Inputs / outputs

Number of inputs and outputs	Number of digital outputs: 1
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Outputs

Total number of outputs		1
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]	2
Short-circuit protection		yes
Overload protection		yes

Monitoring range

Sensing range	[mm]	< 2200; (Target: 200 x 200 mm)
Angle of aperture cylindrical	[°]	14; (±2)

Accuracy / deviations

Temperature compensation		yes
Hysteresis	[%]	< 2
Switch-point drift	[%]	-2...2
Repeatability		1 %

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Resolution	[mm]	1
Notes on the accuracy / deviation	The indicated values are reached after a warm-up time of min. 20 minutes	

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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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	
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	698
Note	For further information please see the IODD PDF file at "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, 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]	141
UL approval	Ta	-20...70 °C
	voltage supply	Class 2
	File number UL	E174191

Mechanical data

Weight	[g]	103
Housing	Threaded type	
Dimensions	[mm]	M18 x 1 / L = 97.5
Thread designation	M18 x 1	

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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

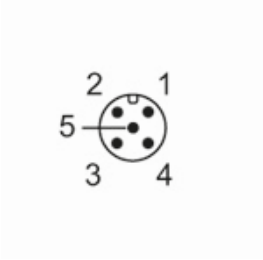
Items supplied	lock nuts: 2, stainless steel
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Remarks

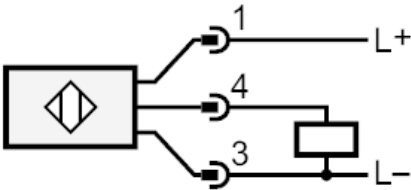
Remarks	cULus - Class 2 source required
Pack quantity	1 pcs.

Electrical connection - connector

Connector: 1 x M12; coding: A



Connection



UGR501

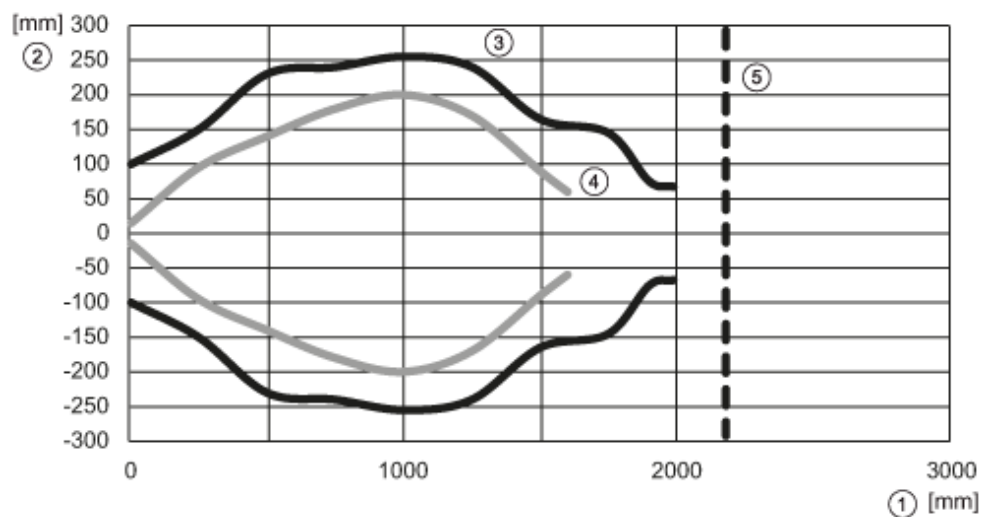
Ultrasonic sensor

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Diagrams and graphs

Response curve



- 1: Distance
- 2: sound beam
- 3: Target 200 x 200 mm
- 4: Target Ø 25 mm
- 5: Reflector