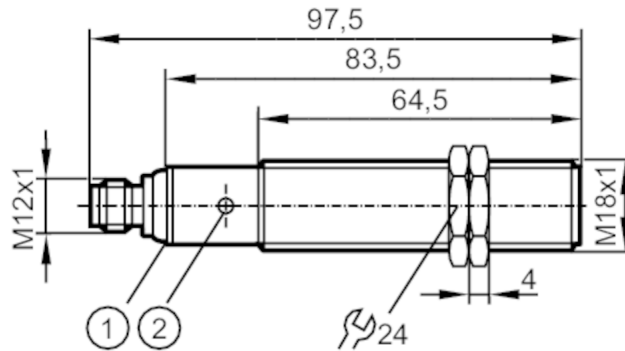


# UGR501



## Ultrasonic sensor

UGA02200EOKG/IO-LINK/US



- 1 LEDs
- 2 teach button



### Product characteristics

Electrical design	PNP
Output function	normally open / normally closed; (parameterisable)
Sensing range [mm]	300...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
------------------------------	------------------------------

### Outputs

Total number of outputs	1
Electrical design	PNP
Number of digital outputs	1
Output function	normally open / normally closed; (parameterisable)
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

# UGR501



## Ultrasonic sensor

UGA02200EOKG/IO-LINK/US

Detection zone		
Sensing range [mm]	300...2200; (Target: 200 x 200 mm)	
Blind zone [mm]	300	
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	
Notes on the accuracy / deviation	The indicated values are reached after a warm-up time of min. 20 minutes	
Repeatability	1 %	
Resolution [mm]	1	
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	
Required master port type	A	
Min. process cycle time [ms]	3.2	
IO-Link functions (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	IO-Link device ID
	Default	698 d / 00 02 BA h
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	

# UGR501



## Ultrasonic sensor

UGA02200EOKG/IO-LINK/US

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]		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
Materials		stainless steel (1.4404 / 316L); PA; epoxy glass ceramics
Tightening torque [Nm]		50

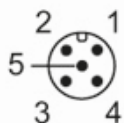
Displays / operating elements		
Display	switching status	2 x LED, yellow
	echo	1 x LED, green
Teach function		yes

Accessories		
Accessories (supplied)		lock nuts: 2, stainless steel

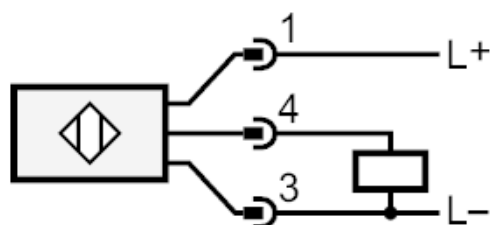
Remarks		
Remarks		operating voltage "supply class 2" according to cULus
Pack quantity		1 pcs.

### Electrical connection

Connector: 1 x M12

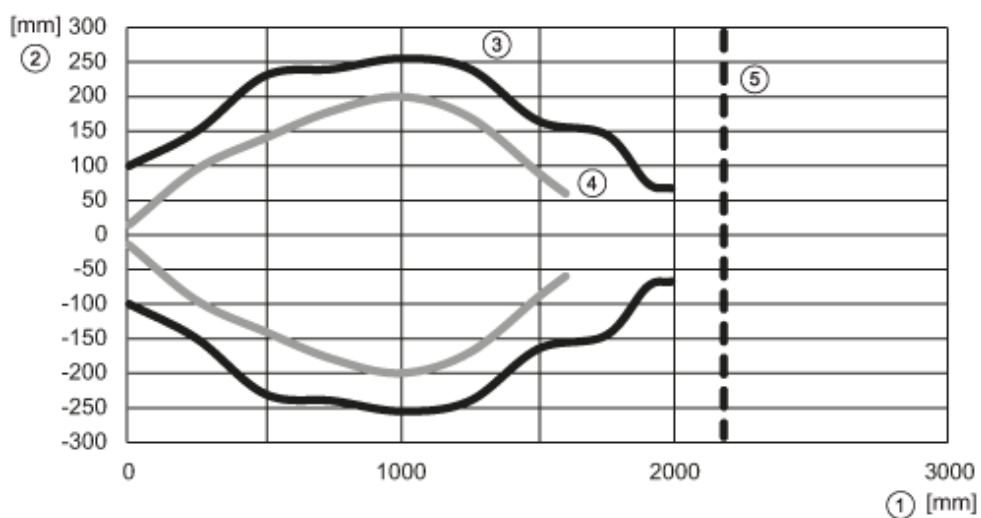


### Connection



### Diagrams and graphs

response curve



- 1: distance
- 2: sound beam
- 3: Target 200 x 200 mm
- 4: Target  $\varnothing$  25 mm
- 5: Reflector