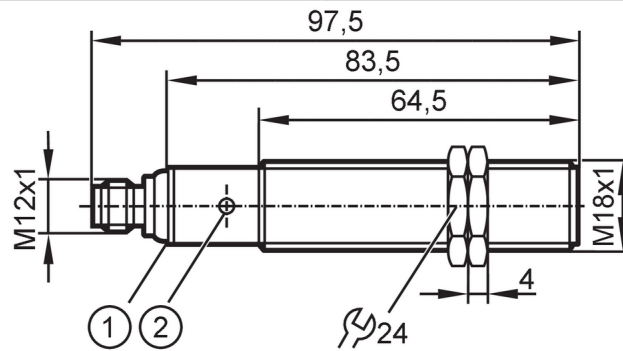


UGR501



Ultrasonic sensor

UGA02200EOKG/IO-LINK/US



- 1 LEDs
- 2 teach button



Product characteristics

| | |
|---------|---------------|
| Housing | Threaded type |
|---------|---------------|

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 |
|------------------------------|------------------------------|

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 |
|---------------------------|---|

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 0 | Generic Profiled Sensor |
| | Function | Device identification |
| | Function | Multiple switching signal |
| | Function | Process data variable |
| | Function | Device diagnosis |
| | Function | 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 | 699 |
| 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 |

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| Mechanical data | |
|------------------------|---|
| Weight [g] | 103 |
| 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 |

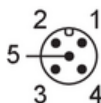
| Displays / operating elements | | |
|-------------------------------|------------------|-----------------|
| Display | Switching status | 2 x LED, yellow |
| | echo | 1 x LED, green |
| Teach function | yes | |

| Accessories | |
|----------------|-------------------------------------|
| Items supplied | lock nuts: 2 x M18, stainless steel |

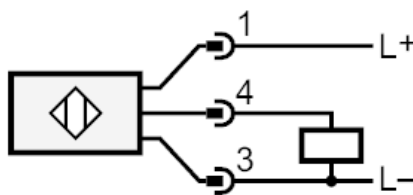
| Remarks | |
|---------------|---------------------------------|
| Remarks | cULus - Class 2 source required |
| Pack quantity | 1 pcs. |

Electrical connection - connector

Connector: 1 x M12; coding: A; Contacts: 5



Connection



UGR501

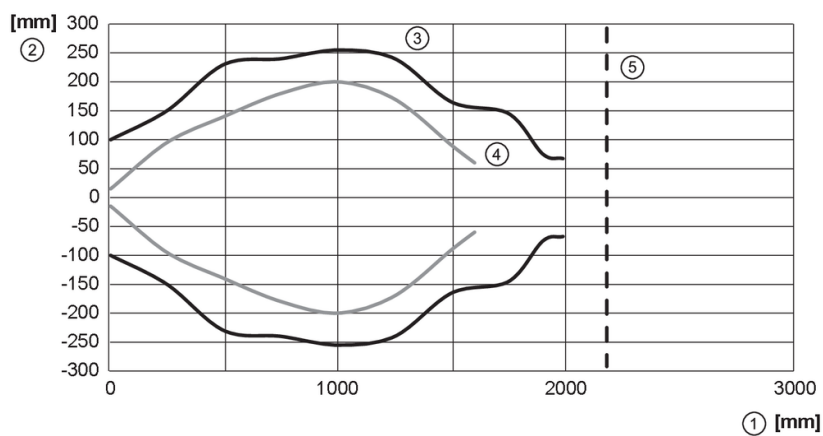


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Diagrams and graphs

Response curve



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