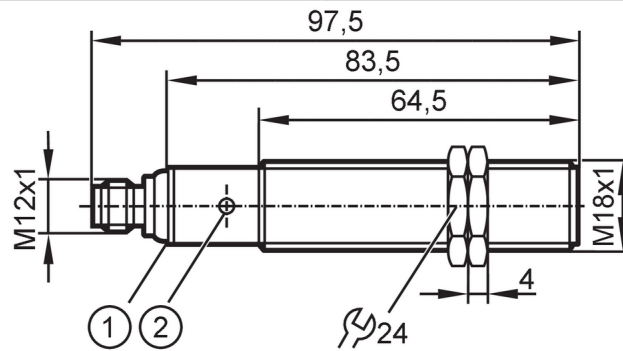


UGT513



Ultrasonic sensor

UGA02200E1KG/IO-LINK/US



- 1 LEDs
- 2 teach button



Product characteristics

| | |
|-------------------------|--|
| Electrical design | PNP |
| Output function | normally open / normally closed; (parameterisable) |
| 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 |
|------------------------------|---|

Outputs

| | |
|--|--|
| Total number of outputs | 2 |
| Output signal | switching signal; analogue signal; IO-Link |
| 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 |
| Number of analogue outputs | 1 |
| Analogue current output [mA] | 4...20 |
| Max. load [Ω] | 500 |
| Short-circuit protection | yes |

UGT513



Ultrasonic sensor

UGA02200E1KG/IO-LINK/US

| | |
|---|---|
| Overload protection | yes |
| 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 - 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 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" |

UGT513



Ultrasonic sensor

UGA02200E1KG/IO-LINK/US

| 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, 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 |
| | voltage 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 (316L/1.4404); 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 | | operating voltage "supply class 2" according to cULus |
| Pack quantity | | 1 pcs. |
| Electrical connection | | |
| Connector: 1 x M12; coding: A; Contacts: 4 | | |
| | | |

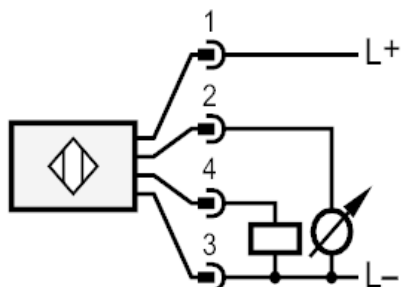
UGT513



Ultrasonic sensor

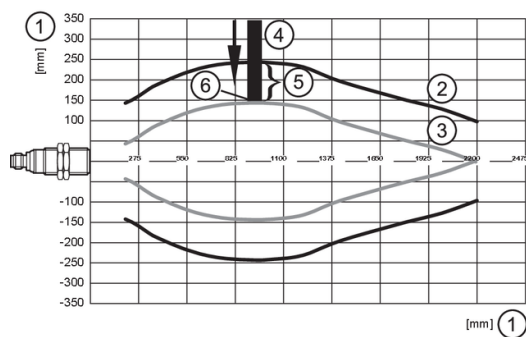
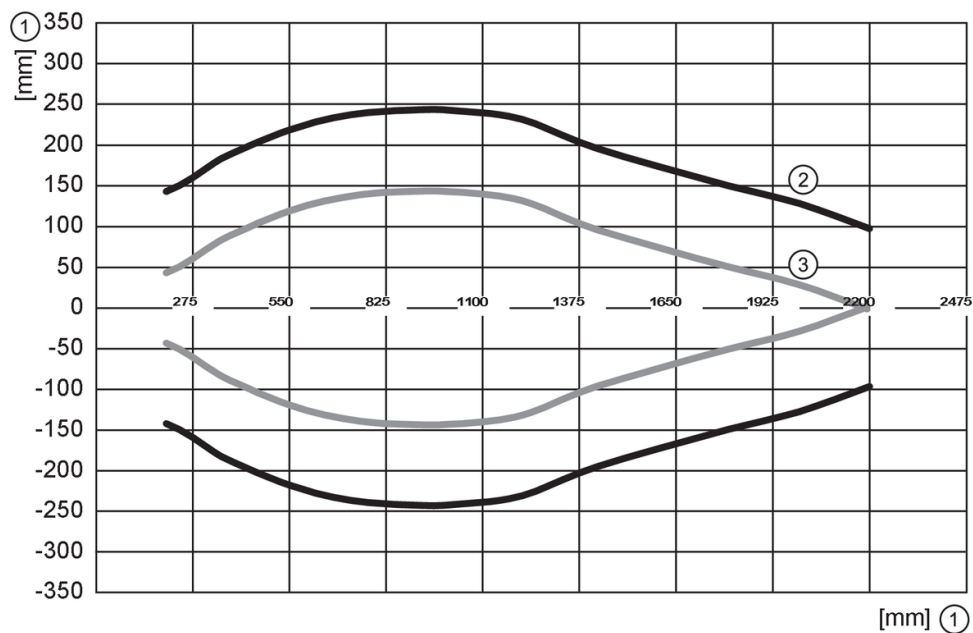
UGA02200E1KG/IO-LINK/US

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