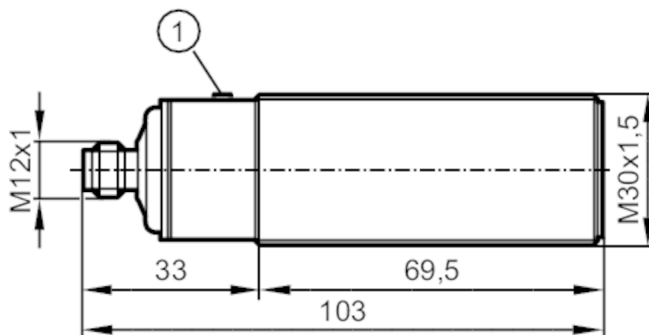


# UIT500



## Ultrasonic sensor

UIA03500GOKG/IO-Link/US



1 teach button



### Product characteristics

|                         |                                        |
|-------------------------|----------------------------------------|
| Electrical design       | PNP                                    |
| Output function         | normally open / closed; (configurable) |
| Sensing range [mm]      | 250...3500; (Target: 200 x 200 mm)     |
| Communication interface | IO-Link                                |
| Housing                 | Threaded type                          |
| Dimensions [mm]         | M30 x 1.5 / L = 103                    |

### Electrical data

|                             |            |
|-----------------------------|------------|
| Operating voltage [V]       | 10...30 DC |
| Current consumption [mA]    | < 30       |
| Protection class            | III        |
| Reverse polarity protection | yes        |
| Power-on delay time [s]     | < 0.3      |
| Converter frequency [kHz]   | 112        |

### Inputs / outputs

|                              |                              |
|------------------------------|------------------------------|
| Number of inputs and outputs | Number of digital outputs: 2 |
|------------------------------|------------------------------|

### Outputs

|                                                      |                                        |
|------------------------------------------------------|----------------------------------------|
| Total number of outputs                              | 2                                      |
| Electrical design                                    | PNP                                    |
| Number of digital outputs                            | 2                                      |
| 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]                          | 1                                      |
| Short-circuit protection                             | yes                                    |
| Overload protection                                  | yes                                    |

### Monitoring range

|                    |                                    |
|--------------------|------------------------------------|
| Sensing range [mm] | 250...3500; (Target: 200 x 200 mm) |
|--------------------|------------------------------------|

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|                                                 |      |          |
|-------------------------------------------------|------|----------|
| Blind zone                                      | [mm] | 250      |
| Angle of aperture cylindrical                   | [°]  | 12; (±2) |
| Max. deviation from the 90° angle sensor/object | [°]  | ± 4      |

### Accuracy / deviations

|                                   |                                                                          |        |
|-----------------------------------|--------------------------------------------------------------------------|--------|
| Temperature compensation          |                                                                          | yes    |
| Hysteresis                        | [%]                                                                      | < 3    |
| Switch-point drift                | [%]                                                                      | -5...5 |
| Repeatability                     |                                                                          | 1 %    |
| Resolution                        | [mm]                                                                     | 3      |
| 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: Device Identification; Multi-channel, two setpoint switching sensor, type 0 Generic Profiled Sensor; Process Data Variable; Device Diagnosis; Teach Channel |                   |
| SIO mode                        | yes                                                                                                                                                                       |                   |
| Required master port class      | A                                                                                                                                                                         |                   |
| Min. process cycle time         | [ms]                                                                                                                                                                      | 3.2               |
| IO-Link process data (cyclical) | <b>Function</b>                                                                                                                                                           | <b>bit length</b> |
|                                 | process value                                                                                                                                                             | 16                |
|                                 | device status                                                                                                                                                             | 4                 |
|                                 | binary switching information                                                                                                                                              | 2                 |
| IO-Link functions (acyclical)   | application specific tag; operating hours counter                                                                                                                         |                   |
| Supported DeviceIDs             | <b>Type of operation</b>                                                                                                                                                  | <b>DeviceID</b>   |
|                                 | default                                                                                                                                                                   | 1093              |
| 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 |

UIT500



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|                  |                  |                                                                                 |
|------------------|------------------|---------------------------------------------------------------------------------|
| 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]     |                  | 120                                                                             |
| UL approval      | Ta               | -20...70 °C                                                                     |
|                  | voltage supply   | Class 2                                                                         |
|                  | File number UL   | E174191                                                                         |

| Mechanical data        |  |                                                           |
|------------------------|--|-----------------------------------------------------------|
| Weight [g]             |  | 225.5                                                     |
| Housing                |  | Threaded type                                             |
| Dimensions [mm]        |  | M30 x 1.5 / L = 103                                       |
| Thread designation     |  | M30 x 1.5                                                 |
| Material               |  | stainless steel (1.4404 / 316L); PA; epoxy glass ceramics |
| Tightening torque [Nm] |  | 100                                                       |

| 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 |

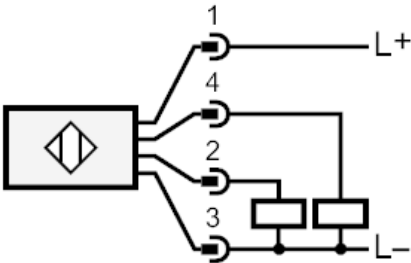
| Remarks       |                                 |
|---------------|---------------------------------|
| Remarks       | cULus - Class 2 source required |
| Pack quantity | 1 pcs.                          |

Electrical connection

Connector: 1 x M12; coding: A

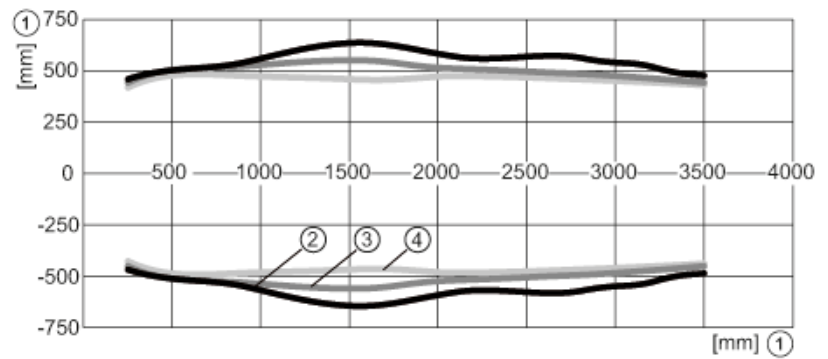


Connection





### Diagrams and graphs



- 1 Distance
- 2 Standard sound cone
- 3 Medium sound cone
- 4 Narrow sound cone