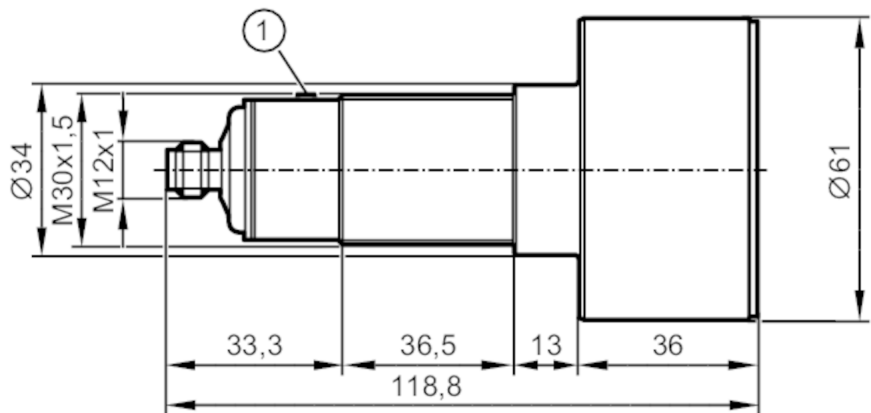


# UIT508



## Ultrasonic sensor

UIA08000E2KG/IO-Link/US



1 teach button



### Product characteristics

|                         |                                                    |
|-------------------------|----------------------------------------------------|
| Electrical design       | PNP                                                |
| Output function         | normally open / normally closed; (parameterisable) |
| Sensing range [mm]      | 600...8000; (Target: 1000 x 1000 mm)               |
| Communication interface | IO-Link                                            |
| Housing                 | threaded type                                      |
| Dimensions [mm]         | M30 x 1.5 / L = 118.8                              |

### 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]   | 40         |

### 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]                          | 1                                                  |
| Number of analogue outputs                           | 1                                                  |



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|                                                 |                              |                                                                                                                                                                           |
|-------------------------------------------------|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Analogue voltage output                         | [V]                          | 0...10                                                                                                                                                                    |
| Min. load resistance                            | [Ω]                          | 3000                                                                                                                                                                      |
| Short-circuit protection                        |                              | yes                                                                                                                                                                       |
| Overload protection                             |                              | yes                                                                                                                                                                       |
| Detection zone                                  |                              |                                                                                                                                                                           |
| Sensing range                                   | [mm]                         | 600...8000; (Target: 1000 x 1000 mm)                                                                                                                                      |
| Blind zone                                      | [mm]                         | 600                                                                                                                                                                       |
| Angle of aperture cylindrical                   | [°]                          | 10; (±2)                                                                                                                                                                  |
| Max. deviation from the 90° angle sensor/object | [°]                          | ± 4                                                                                                                                                                       |
| Accuracy / deviations                           |                              |                                                                                                                                                                           |
| Temperature compensation                        |                              | yes                                                                                                                                                                       |
| Hysteresis                                      | [%]                          | < 3                                                                                                                                                                       |
| Switch point drift                              | [%]                          | -5...5                                                                                                                                                                    |
| Linearity error of analogue output              | [%]                          | <3                                                                                                                                                                        |
| Repeatability                                   |                              | 1 %                                                                                                                                                                       |
| Resolution                                      | [mm]                         | 3                                                                                                                                                                         |
| Notes on the accuracy / deviation               |                              | The indicated values are reached after a warm-up time of min. 20 minutes                                                                                                  |
| Response times                                  |                              |                                                                                                                                                                           |
| Response time                                   | [ms]                         | < 700; (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: 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 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                      | 1101                                                                                                                                                                      |
| Note                                            |                              | For further information please see the IODD PDF file under "Downloads"                                                                                                    |
| Operating conditions                            |                              |                                                                                                                                                                           |
| Ambient temperature                             | [°C]                         | -20...70                                                                                                                                                                  |
| Storage temperature                             | [°C]                         | -30...80                                                                                                                                                                  |

# UIT508



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UIA08000E2KG/IO-Link/US

|            |       |
|------------|-------|
| 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]         |                           | 111                                                                                          |
| UL approval          | Ta                        | -20...70 °C                                                                                  |
|                      | power supply              | Class 2                                                                                      |
|                      | File number UL            | E174191                                                                                      |

### Mechanical data

|                        |                                                         |
|------------------------|---------------------------------------------------------|
| Weight [g]             | 443.5                                                   |
| Housing                | threaded type                                           |
| Dimensions [mm]        | M30 x 1.5 / L = 118.8                                   |
| Thread designation     | M30 x 1.5                                               |
| Materials              | stainless steel (316L/1.4404); 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       | operating voltage "supply class 2" according to cULus |
| Pack quantity | 1 pcs.                                                |

### Electrical connection

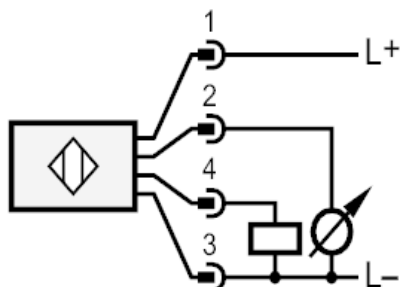
Connector: 1 x M12; coding: A



## Ultrasonic sensor

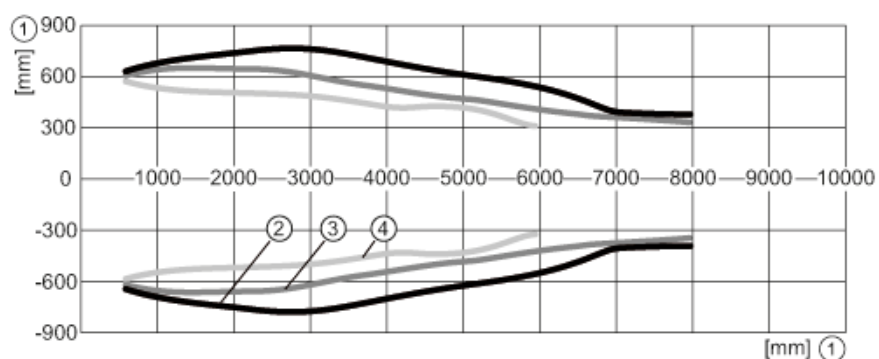
UIA08000E2KG/IO-Link/US

### Connection



4 IO-Link

### Diagrams and graphs



- 1 distance
- 2 Standard sound beam
- 3 Medium sound beam
- 4 Narrow sound beam