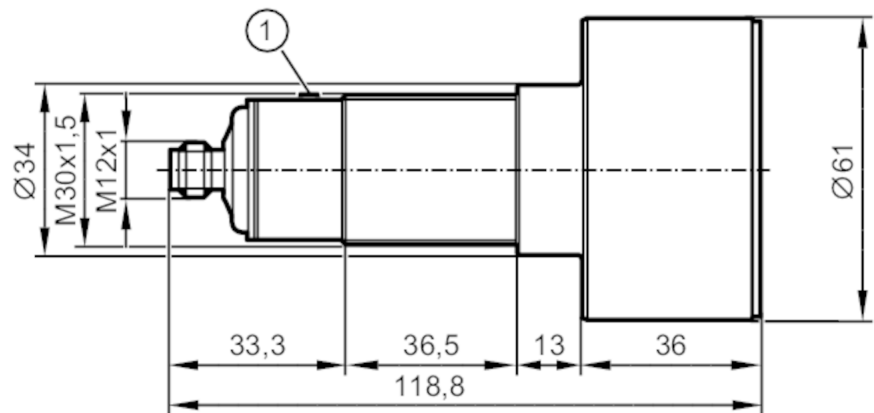


# UIT507



## Ultrasonic sensor

UIA08000E1KG/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                                                  |



## Ultrasonic sensor

UIA08000E1KG/IO-Link/US

|                                                 |                              |                                                                                                                                       |
|-------------------------------------------------|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Analogue current output                         | [mA]                         | 4...20                                                                                                                                |
| Max. load                                       | [Ω]                          | 500                                                                                                                                   |
| Short-circuit protection                        |                              | yes                                                                                                                                   |
| Overload protection                             |                              | yes                                                                                                                                   |
| <b>Detection zone</b>                           |                              |                                                                                                                                       |
| 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                                                                                                                                   |
| <b>Accuracy / deviations</b>                    |                              |                                                                                                                                       |
| 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                                                              |
| <b>Response times</b>                           |                              |                                                                                                                                       |
| Response time                                   | [ms]                         | < 700; (analogue output)                                                                                                              |
| <b>Software / programming</b>                   |                              |                                                                                                                                       |
| Parameter setting options                       |                              | hysteresis / window; second switch point; Switch-on and switch-off delay; switch-on operations; Teach function; light-on/dark-on mode |
| <b>Interfaces</b>                               |                              |                                                                                                                                       |
| 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)                 | <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                      | 1100                                                                                                                                  |

# UIT507



## Ultrasonic sensor

UIA08000E1KG/IO-Link/US

|      |                                                                        |
|------|------------------------------------------------------------------------|
| Note | For further information please see the IODD PDF file under "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, 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]                   | 107                                                                                          |
| UL approval          | Ta                        | -20...70 °C                                                                                  |
|                      | power supply              | Class 2                                                                                      |
|                      | File number UL            | E174191                                                                                      |

### Mechanical data

|                    |      |                                                         |
|--------------------|------|---------------------------------------------------------|
| Weight             | [g]  | 571.3                                                   |
| 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 x M30, 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

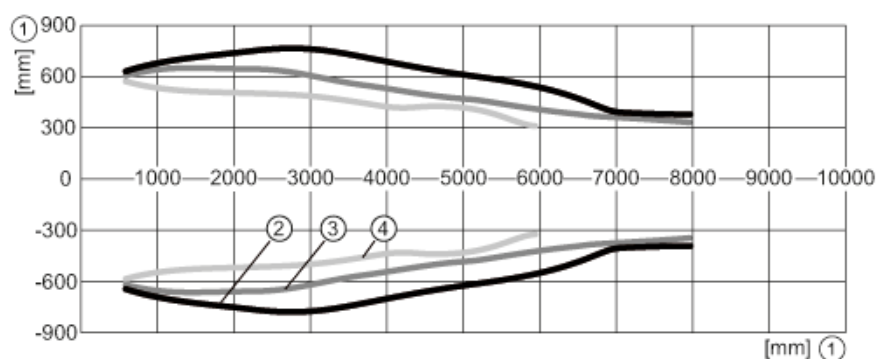
UIA08000E1KG/IO-Link/US

### Connection



4 IO-Link

### Diagrams and graphs



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