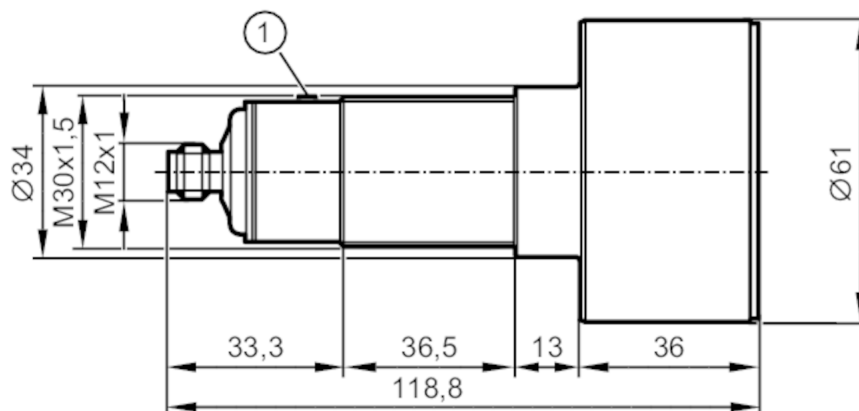


# UIT516



## Ultrasonic sensor

UIA08000F1KG/US



1: teach button



### Product characteristics

|                    |                                        |
|--------------------|----------------------------------------|
| Electrical design  | NPN                                    |
| Output function    | normally open / closed; (configurable) |
| Sensing range [mm] | 600...8000; (Target: 1000 x 1000 mm)   |
| 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 analog outputs: 1 |
|------------------------------|-----------------------------------------------------------|

### Outputs

|                                                      |                                        |
|------------------------------------------------------|----------------------------------------|
| Total number of outputs                              | 2                                      |
| Output signal                                        | switching signal; analog signal        |
| Electrical design                                    | NPN                                    |
| 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]                          | 1                                      |
| Number of analog outputs                             | 1                                      |
| Analog current output [mA]                           | 4...20                                 |

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|                          |     |     |
|--------------------------|-----|-----|
| Max. load                | [Ω] | 500 |
| Short-circuit protection |     | yes |
| Overload protection      |     | yes |

| Monitoring range                                |      |                                      |
|-------------------------------------------------|------|--------------------------------------|
| 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                        | [%]  | 1                                                                        |
| Switch-point drift                | [%]  | -5...5                                                                   |
| Linearity error of analog 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 |

| Reaction times |      |                        |
|----------------|------|------------------------|
| Response time  | [ms] | < 700; (analog output) |

| 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]                   | 124                                                                                            |
| UL approval          | Ta                        | -20...70 °C                                                                                    |
|                      | voltage supply            | Class 2                                                                                        |
|                      | File number UL            | E174191                                                                                        |

| Mechanical data    |      |                                                                    |
|--------------------|------|--------------------------------------------------------------------|
| Weight             | [g]  | 444                                                                |
| Housing            |      | Threaded type                                                      |
| Dimensions         | [mm] | M30 x 1.5 / L = 118.8                                              |
| Thread designation |      | M30 x 1.5                                                          |
| Material           |      | housing: stainless steel (1.4404 / 316L); PA; epoxy glass ceramics |

# UIT516



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

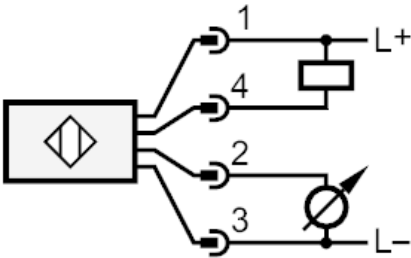
|               |                                 |
|---------------|---------------------------------|
| Remarks       | cULus - Class 2 source required |
| Pack quantity | 1 pcs.                          |

### Electrical connection

Connector: 1 x M12; coding: A



### Connection

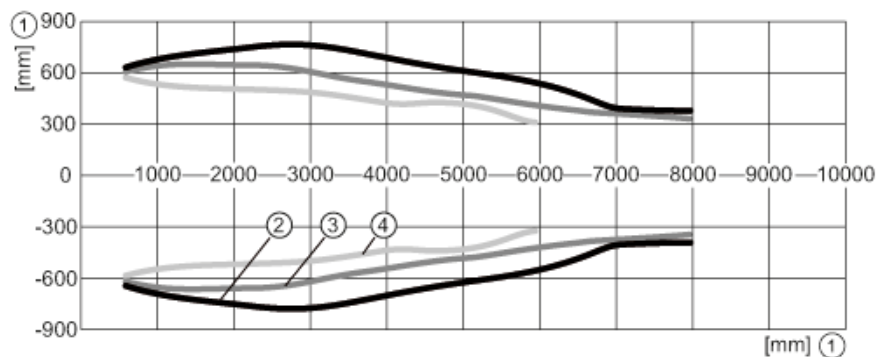




## Ultrasonic sensor

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### Diagrams and graphs



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