

# UGT524



## Ultrasonic sensor

UGB00300EOKG/IO-Link/US



1 LEDs



### Product characteristics

|                         |                                        |
|-------------------------|----------------------------------------|
| Electrical design       | PNP                                    |
| Output function         | normally open / closed; (configurable) |
| Sensing range [mm]      | 40...300; (Target: 200 x 200 mm)       |
| Communication interface | IO-Link                                |
| Housing                 | Threaded type                          |
| Dimensions [mm]         | M18 x 1 / L = 60.5                     |

### Electrical data

|                             |                                               |
|-----------------------------|-----------------------------------------------|
| Operating voltage [V]       | 10...30 DC; (cULus - Class 2 source required) |
| Current consumption [mA]    | < 35                                          |
| Protection class            | III                                           |
| Reverse polarity protection | yes                                           |
| Power-on delay time [s]     | < 0.3                                         |
| Converter frequency [kHz]   | 300                                           |

### Inputs / outputs

|                              |                              |
|------------------------------|------------------------------|
| Number of inputs and outputs | Number of digital outputs: 1 |
|------------------------------|------------------------------|

### Inputs

|                       |    |
|-----------------------|----|
| Synchronization input | no |
| Multiplex input       | no |

### Outputs

|                                                      |                                        |
|------------------------------------------------------|----------------------------------------|
| Total number of outputs                              | 1                                      |
| Electrical design                                    | PNP                                    |
| 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]                          | 8                                      |
| Short-circuit protection                             | yes                                    |
| Overload protection                                  | yes                                    |

# UGT524



## Ultrasonic sensor

UGB00300EOKG/IO-Link/US

| Monitoring range                                |                                                                                                                                                                           |                                  |
|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| Sensing range                                   | [mm]                                                                                                                                                                      | 40...300; (Target: 200 x 200 mm) |
| Blind zone                                      | [mm]                                                                                                                                                                      | 40                               |
| Angle of aperture cylindrical                   | [°]                                                                                                                                                                       | 15; (±2)                         |
| Max. deviation from the 90° angle sensor/object | [°]                                                                                                                                                                       | ± 4                              |
| Accuracy / deviations                           |                                                                                                                                                                           |                                  |
| Temperature compensation                        |                                                                                                                                                                           | yes                              |
| Hysteresis                                      | [%]                                                                                                                                                                       | < 1                              |
| Switch-point drift                              | [%]                                                                                                                                                                       | -2...2                           |
| Repeatability                                   |                                                                                                                                                                           | <0,7 %                           |
| Resolution                                      | [mm]                                                                                                                                                                      | 1                                |
| 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)                 | 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                                                                                                                                                                   | 886                              |
| 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                          |

# UGT524



## Ultrasonic sensor

UGB00300EOKG/IO-Link/US

|                      |                  |                                                                                                |
|----------------------|------------------|------------------------------------------------------------------------------------------------|
| 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]         | 202              |                                                                                                |
| UL approval          | Ta               | -20...70 °C                                                                                    |
|                      | voltage supply   | Class 2                                                                                        |
|                      | File number UL   | E174191                                                                                        |

### Mechanical data

|                        |                                                           |
|------------------------|-----------------------------------------------------------|
| Weight [g]             | 79.5                                                      |
| Housing                | Threaded type                                             |
| Dimensions [mm]        | M18 x 1 / L = 60.5                                        |
| Thread designation     | M18 x 1                                                   |
| Material               | stainless steel (1.4404 / 316L); PA; epoxy glass ceramics |
| Tightening torque [Nm] | 50                                                        |

### Displays / operating elements

|         |                  |                 |
|---------|------------------|-----------------|
| Display | Switching status | 1 x LED, yellow |
|         | echo             | 1 x LED, green  |

### 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

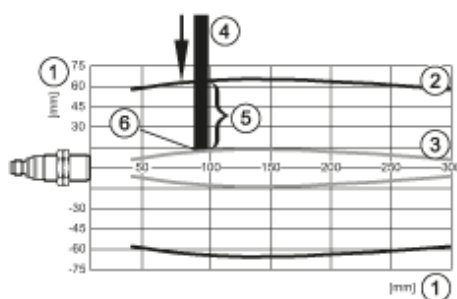


### Connection



OUT: Switching output / IO-Link

### Diagrams and graphs



- 1: Distance
- 2: Monitoring range
- 3: switch-on/switch-off graph
- 4: Target 100 x 100 mm
- 5: 50 % of the target in the detection zone
- 6: Set point