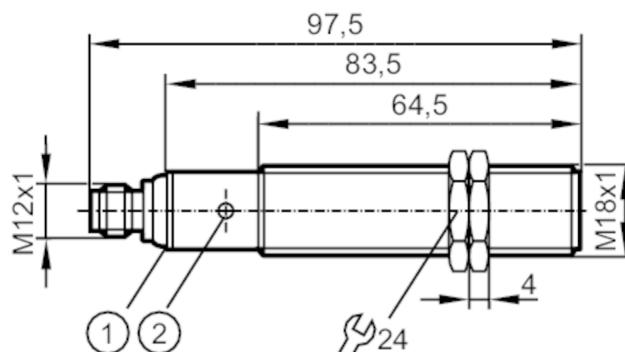


# UGT519

## Ultrasonic sensor

UGA02200F1KG/US



- 1 LEDs
- 2 teach button



### Product characteristics

|                    |                                        |
|--------------------|----------------------------------------|
| Electrical design  | NPN                                    |
| Output function    | normally open / closed; (configurable) |
| Sensing range [mm] | 200...2200; (Target: 200 x 200 mm)     |
| Housing            | Threaded type                          |
| Dimensions [mm]    | M18 x 1 / L = 97.5                     |

### Electrical data

|                             |                                               |
|-----------------------------|-----------------------------------------------|
| Operating voltage [V]       | 10...30 DC; (cULus - Class 2 source required) |
| Current consumption [mA]    | 55                                            |
| Protection class            | III                                           |
| Reverse polarity protection | yes                                           |
| Power-on delay time [s]     | < 0.3                                         |
| Converter frequency [kHz]   | 200                                           |

### 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]                          | 2                                      |
| Number of analog outputs                             | 1                                      |
| Analog current output [mA]                           | 4...20                                 |
| Max. load [Ω]                                        | 500                                    |
| Short-circuit protection                             | yes                                    |
| Overload protection                                  | yes                                    |

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## Ultrasonic sensor

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|                                                 |                           |                                                                                                |  |
|-------------------------------------------------|---------------------------|------------------------------------------------------------------------------------------------|--|
| Resolution of analog output                     |                           | < 3 mm                                                                                         |  |
| Monitoring range                                |                           |                                                                                                |  |
| Sensing range                                   | [mm]                      | 200...2200; (Target: 200 x 200 mm)                                                             |  |
| Blind zone                                      | [mm]                      | 200                                                                                            |  |
| Angle of aperture cylindrical                   | [°]                       | 14; (±2)                                                                                       |  |
| Max. deviation from the 90° angle sensor/object | [°]                       | ± 4                                                                                            |  |
| Accuracy / deviations                           |                           |                                                                                                |  |
| Temperature compensation                        |                           | yes                                                                                            |  |
| Hysteresis                                      | [%]                       | < 2                                                                                            |  |
| Switch-point drift                              | [%]                       | -2...2                                                                                         |  |
| Linearity error of analog output                | [%]                       | <3                                                                                             |  |
| Repeatability                                   |                           | 1 %                                                                                            |  |
| Notes on the accuracy / deviation               |                           | The indicated values are reached after a warm-up time of min. 20 minutes                       |  |
| Reaction times                                  |                           |                                                                                                |  |
| Response time                                   | [ms]                      | < 300; (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]                   | 142                                                                                            |  |
| UL approval                                     | Ta                        | -20...70 °C                                                                                    |  |
|                                                 | voltage supply            | Class 2                                                                                        |  |
|                                                 | File number UL            | E174191                                                                                        |  |
| Mechanical data                                 |                           |                                                                                                |  |
| Weight                                          | [g]                       | 102                                                                                            |  |
| Housing                                         |                           | Threaded type                                                                                  |  |
| Dimensions                                      | [mm]                      | M18 x 1 / L = 97.5                                                                             |  |
| Thread designation                              |                           | M18 x 1                                                                                        |  |
| Material                                        |                           | stainless steel (1.4404 / 316L); PA; epoxy glass ceramics                                      |  |
| Tightening torque                               | [Nm]                      | 50                                                                                             |  |

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### 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 M18, stainless steel |
|----------------|-------------------------------------|

### Remarks

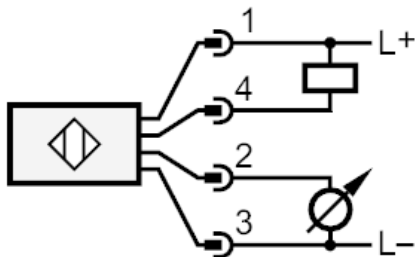
|               |                                 |
|---------------|---------------------------------|
| Remarks       | cULus - Class 2 source required |
| Pack quantity | 1 pcs.                          |

### Electrical connection

Connector: 1 x M12; coding: A

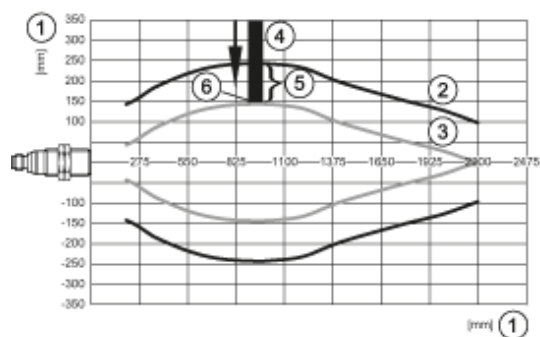
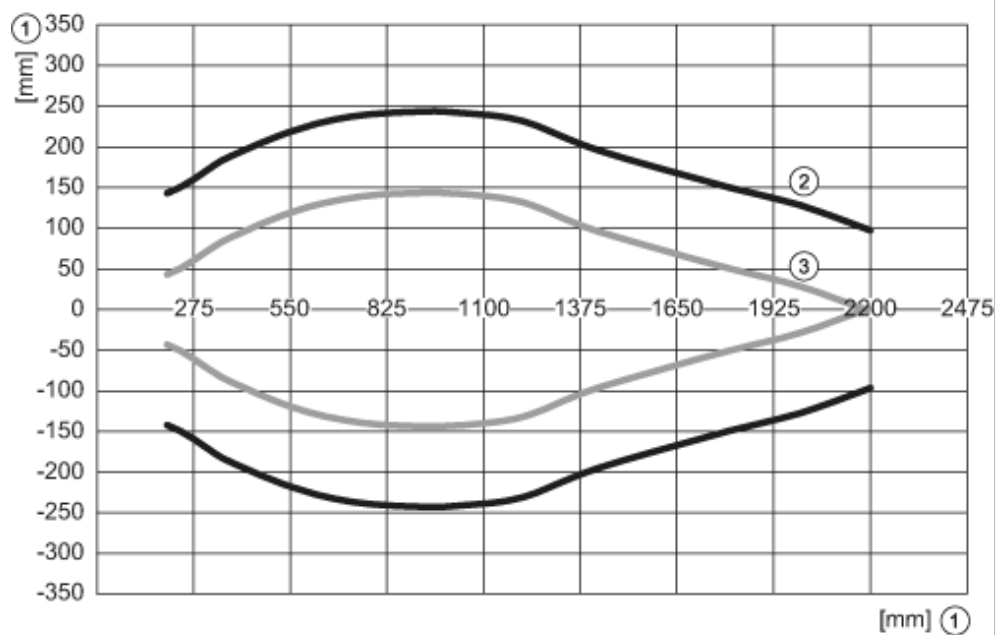


### Connection





### Diagrams and graphs



- 1: Distance
- 2: Monitoring range
- 3: switch-on/switch-off graph
- 4: Target 200 x 200 mm
- 5: 50 % of the target in the detection zone
- 6: Set point