

Technical data sheet

Ultrasonic sensor

Part no.: 50149547

HTU230-3000/L4-M12

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For illustration purposes only



Technical data

Basic data

| | |
|---------------------|----------------------------------------------------------|
| Series | 200 |
| Operating principle | Diffuse reflection principle with background suppression |
| Contains | 2x M30 mounting nut |

Characteristic parameters

| | |
|------|-----------|
| MTTF | 640 years |
|------|-----------|

Ultrasonic specifications

| | |
|----------------------|----------------------------|
| Operating range | 0.3 ... 3 m |
| Operating range | Guaranteed operating range |
| Ultrasonic frequency | 125 kHz |
| Shape of sound lobe | standard |
| Direction of beam | Front |
| Opening angle | 14 ° |
| Adjustment range | 300 ... 3,000 mm |

Measurement data

| | |
|-------------------------------|-----------|
| Resolution | 1.0 mm |
| Repeatability | 0.3 % |
| Reference value repeatability | End value |
| Temperature drift | 0.2 %/K |

Electrical data

| | |
|--------------------|---------------------------------------------------------|
| Protective circuit | Polarity reversal protection Short circuit protected |
|--------------------|---------------------------------------------------------|

Performance data

| | |
|----------------------|------------------------|
| Supply voltage U_B | 18 ... 30 V, DC |
| Residual ripple | 0 ... 10 %, From U_B |
| Open-circuit current | 0 ... 45 mA |
| Switching hysteresis | 15 mm |

Outputs

| | |
|-------------------------------------|------------|
| Number of digital switching outputs | 2 Piece(s) |
|-------------------------------------|------------|

Switching outputs

| | |
|-------------------------|-----------------|
| Voltage type | DC |
| Switching current, max. | 100 mA |
| Switching voltage | low: ≤ 2 V |

Switching output 1

| | |
|---------------------|------------------------------------------------------|
| Switching element | Transistor, Push-pull |
| Switching principle | IO-Link / light switching (PNP)/dark switching (NPN) |

Switching output 2

| | |
|---------------------|-----------------|
| Switching element | Transistor, PNP |
| Switching principle | Light switching |

Time behavior

| | |
|---------------------|--------|
| Switching frequency | 3 Hz |
| Response time | 170 ms |
| Readiness delay | 300 ms |

Interface

| | |
|------|---------|
| Type | IO-Link |
|------|---------|

IO-Link

| | |
|------------------|---------------|
| COM mode | COM2 |
| Min. cycle time | COM2 = 2.3 ms |
| Frame type | 2.2 |
| Specification | V1.1 |
| Device ID | 3070 |
| SIO-mode support | Yes |

Connection

| | |
|-----------------------|------------|
| Number of connections | 1 Piece(s) |
|-----------------------|------------|

Connection 1

| | |
|--------------------|---------------------------------------------|
| Function | Signal OUT Teach input Voltage supply |
| Type of connection | Connector |
| Thread size | M12 |
| Type | Male |
| Material | Metal |
| No. of pins | 4 -pin |
| Encoding | A-coded |

Mechanical data

| | |
|--------------------------------|--------------------------------------------------------|
| Design | Cylindrical |
| Dimension (\varnothing x L) | 30 mm x 60 mm |
| Thread size | M30 x 1.5 mm |
| Housing material | Metal |
| Metal housing | Nickel-plated brass |
| Ultrasonic transducer material | Piezoceramics (contains lead zirconium titanate (PZT)) |
| Net weight | 110 g |
| Housing color | Silver |

Operation and display

| | |
|-----------------|------------|
| Type of display | LED |
| Number of LEDs | 1 Piece(s) |

Environmental data

| | |
|--------------------------------|---------------|
| Ambient temperature, operation | -25 ... 70 °C |
| Ambient temperature, storage | -25 ... 70 °C |

Certifications

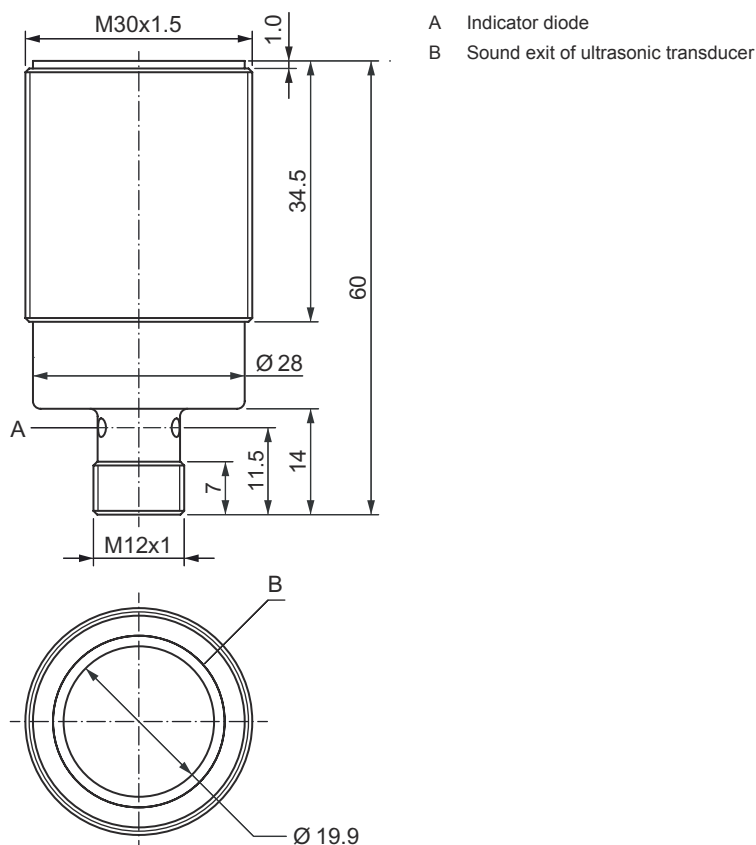
| | |
|----------------------|---------------|
| Degree of protection | IP 67 |
| Protection class | III |
| Approvals | c UL US |
| Standards applied | IEC 60947-5-2 |

Technical data

| | |
|-----------------------|----------|
| Customs tariff number | 85365019 |
| ECLASS 5.1.4 | 27272803 |
| ECLASS 8.0 | 27272803 |
| ECLASS 9.0 | 27272803 |
| ECLASS 10.0 | 27272803 |
| ECLASS 11.0 | 27272803 |
| ECLASS 12.0 | 27272803 |
| ECLASS 13.0 | 27272803 |
| ECLASS 14.0 | 27272803 |
| ECLASS 15.0 | 27272803 |
| ECLASS 16.0 | 27272803 |
| ETIM 5.0 | EC001849 |
| ETIM 6.0 | EC001849 |
| ETIM 7.0 | EC001849 |
| ETIM 8.0 | EC001849 |
| ETIM 9.0 | EC001849 |
| ETIM 10.0 | EC001849 |
| UNSPSC 26.08 | 41111960 |

Dimensioned drawings

All dimensions in millimeters

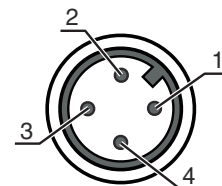


Electrical connection

Connection 1

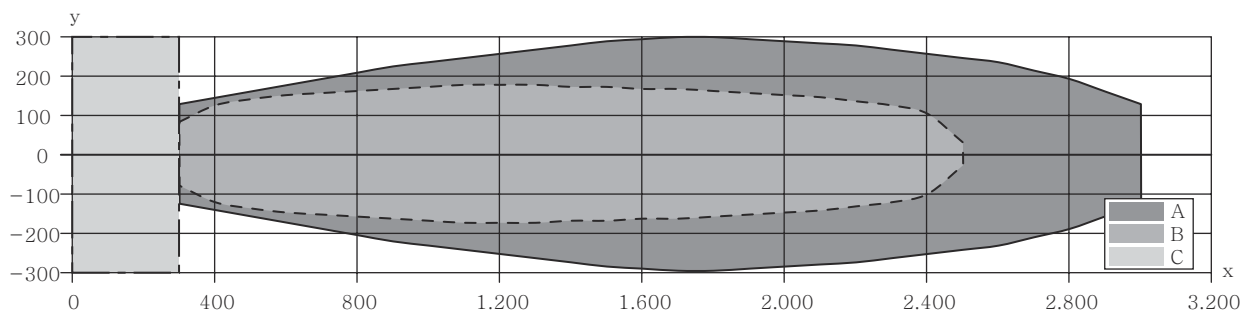
| | |
|---------------------------|----------------|
| Function | Signal OUT |
| | Teach input |
| | Voltage supply |
| Type of connection | Connector |
| Thread size | M12 |
| Type | Male |
| Material | Metal |
| No. of pins | 4 -pin |
| Encoding | A-coded |

| Pin | Pin assignment |
|-----|-----------------|
| 1 | V+ |
| 2 | OUT 2 |
| 3 | GND |
| 4 | IO-Link / OUT 1 |



Diagrams

Typ. response behavior



- x Object distance [mm]
- y Sound cone width [mm]
- A Plate 200 x 200 mm
- B Rod Ø 25 mm
- C Minimum distance in mm

Operation and display

| LED | Display | Meaning |
|-----|--------------------------|----------------------------------|
| 1 | Green, continuous light | Operational readiness |
| | Green, flashing | IO-Link communication |
| | Yellow, continuous light | Switching output/switching state |

Part number code

Part designation: AAA2BB-xxxx/CD-EE

| | |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| AAA | Operating principle HTU: Ultrasonic sensor, scanning principle, with background suppression DMU: Ultrasonic sensor, distance measurement |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|

Part number code

| | |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2BB | Design 208: Cylindrical with M8 thread 212: Cylindrical with M12 thread 218: Cylindrical with M18 thread 230: Cylindrical with M30 thread |
| xxxx | Operating range Operating range in millimeters |
| C | Switching output / function OUT 1/IN: Pin 4 2: NPN transistor output, light switching N: NPN transistor output, dark switching 4: PNP transistor output, light switching P: PNP transistor output, dark switching L: IO-Link |
| D | Switching output / function OUT 2/IN: pin 2 T: teach-in via cable |
| EE | Electrical connection M8: M8 connector, 4-pin (plug) M12: M12 connector, 4-pin (plug) |

Note



A list with all available device types can be found on the Leuze website at www.leuze.com.

Notes




Observe intended use!




- ⌘ This product is not a safety sensor and is not intended as personnel protection.
- ⌘ The product may only be put into operation by competent persons.
- ⌘ Only use the product in accordance with its intended use.

Accessories

Connection technology - Connection unit

| | Part no. | Designation | Article | Description |
|------------------------------------------------------------------------------------|----------|-----------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50144900 | MD 798i-11-82/L5-2222 | IO-Link master | Current consumption, max.: 11,000 mA Interface: IO-Link, Automatic protocol detection, EtherNet IP, Modbus TCP, PROFINET Connections: 12 Piece(s) Sensor connections: 8 Piece(s) Degree of protection: IP 67, IP 65, IP 69K |

Connection technology - Connection cables

| | Part no. | Designation | Article | Description |
|------------------------------------------------------------------------------------|----------|--------------------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50130652 | KD U-M12-4A-V1-050 | Connection cable | Application: Chemical resistant Connection 1: Connector, M12, Axial, Female, A-coded, 4 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5,000 mm Sheathing material: PVC |

Accessories

| | Part no. | Designation | Article | Description |
|--|----------|--------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | 50130690 | KD U-M12-4W-V1-050 | Connection cable | Application: Chemical resistant Connection 1: Connector, M12, Angled, Female, A-coded, 4 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5,000 mm Sheathing material: PVC |

Mounting technology - Mounting brackets

| | Part no. | Designation | Article | Description |
|--|----------|-------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | 50113510 | BT D30M.5 | Mounting bracket | Diameter, inner: 30.2 mm Design of mounting device: Angle, L-shape Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type Type of mounting device: Rigid Material: Stainless steel |

Mounting technology - Rod mounts

| | Part no. | Designation | Article | Description |
|--|----------|-------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | 50111503 | MC 030K | Clamp | Diameter, inner: 30 mm Design of mounting device: Mounting clamp Fastening, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Rigid Material: Plastic |

Note



A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.