

Technical data sheet

Ultrasonic sensor

Part no.: 50149527

HTU208-100/2T-M8

Contents

- Technical data
- Dimensioned drawings
- Electrical connection
- Diagrams
- Operation and display
- Part number code
- Notes
- Accessories



For illustration purposes only



Technical data

Basic data

| | |
|---------------------|--|
| Series | 200 |
| Operating principle | Diffuse reflection principle with background suppression |
| Contains | 2x M8 mounting nut |

Special version

| | |
|-----------------|-------------|
| Special version | Teach input |
|-----------------|-------------|

Optical data

| | |
|-------------------|----------------------------|
| Operating range | 0.02 ... 0.1 m |
| Operating range | Guaranteed operating range |
| Opening angle | 12 ° |
| Direction of beam | Front |

Ultrasonic specifications

| | |
|----------------------|----------|
| Shape of sound lobe | standard |
| Ultrasonic frequency | 484 kHz |

Measurement data

| | |
|--|-----------|
| Resolution | 0.1 mm |
| Repeatability | 0.3 % |
| Reference value repeatability | End value |
| Temperature drift | 0.2 % |
| Reference value, temperature drift, relative | End value |

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 ... 30 mA |
| Switching hysteresis | 1,000 μ m |

Inputs

| | |
|------------------------|------------|
| Number of teach inputs | 1 Piece(s) |
|------------------------|------------|

Teach inputs

| | |
|-------------------|-------------------------------------|
| Voltage type | DC |
| Switching voltage | high: ≥ 9 V low: ≤ 2 V |

Teach input 1

| | |
|------------------------|------|
| Active switching state | High |
|------------------------|------|

Outputs

| | |
|-------------------------------------|------------|
| Number of digital switching outputs | 1 Piece(s) |
|-------------------------------------|------------|

Switching outputs

| | |
|-------------------------|--------|
| Voltage type | DC |
| Switching current, max. | 150 mA |

Switching output 1

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

Time behavior

| | |
|---------------------|--------|
| Switching frequency | 20 Hz |
| Response time | 25 ms |
| Readiness delay | 300 ms |

Connection

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

Connection 1

| | |
|--------------------|---|
| Function | Signal OUT Teach input Voltage supply |
| Type of connection | Connector |
| Thread size | M8 |
| Type | Male |
| Material | Metal |
| No. of pins | 4 -pin |

Mechanical data

| | |
|--------------------------------|--|
| Design | Cylindrical |
| Thread size | M12 x 1 mm |
| Dimension (\varnothing x L) | 8 mm x 70 mm |
| Housing material | Metal |
| Metal housing | Nickel-plated brass |
| Ultrasonic transducer material | Piezoceramics (contains lead zirconium titanate (PZT)) |
| Net weight | 10 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

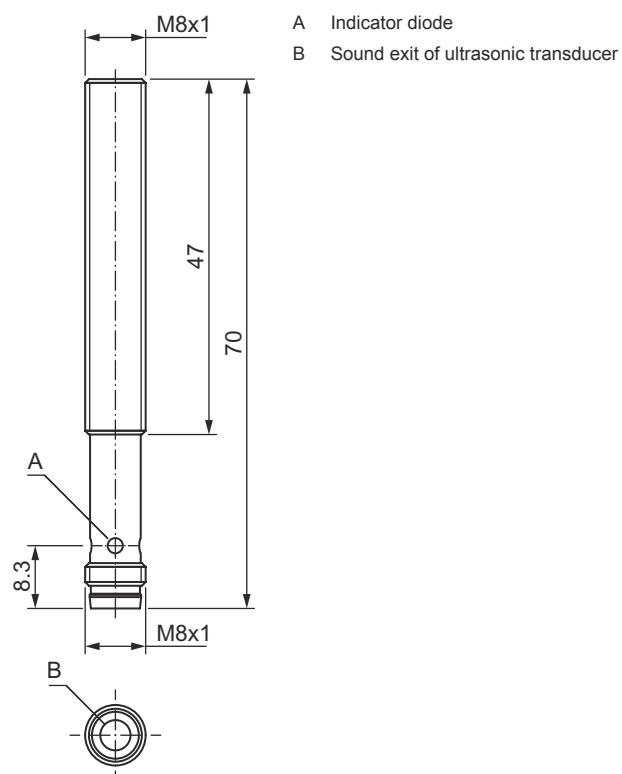
| | |
|----------------------|---------------|
| Degree of protection | IP 67 |
| Protection class | III |
| Certifications | c UL US |
| Standards applied | IEC 60947-5-2 |

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 |
| ETIM 5.0 | EC001849 |
| ETIM 6.0 | EC001849 |
| ETIM 7.0 | EC001849 |
| ETIM 8.0 | EC001849 |

Dimensioned drawings

All dimensions in millimeters



Electrical connection

Connection 1

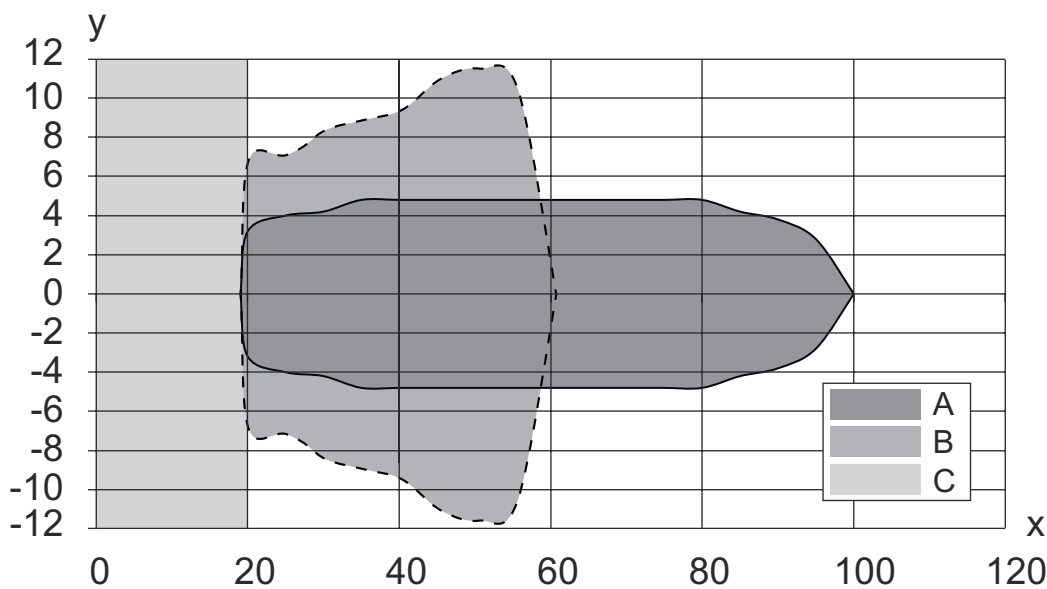
| | |
|---------------------------|---|
| Function | Signal OUT Teach input Voltage supply |
| Type of connection | Connector |
| Thread size | M8 |
| Type | Male |
| Material | Metal |
| No. of pins | 4 -pin |

| Pin | Pin assignment |
|-----|----------------|
| 1 | V+ |
| 2 | IN 1 |
| 3 | GND |
| 4 | OUT 1 |



Diagrams

Typ. response behavior



- x Object distance [mm]
- y Sound cone width [mm]
- A Plate 20 x 20 mm
- B Rod Ø 10 mm
- C Minimum distance in mm

Operation and display


| LED | Display | Meaning |
|-----|--------------------------|----------------------------------|
| 1 | 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 |
| 2BB | Design 208: Cylindrical with M8 thread 212: Cylindrical with M12 thread 218: Cylindrical with M18 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 |
| 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 cables


| | Part no. | Designation | Article | Description |
|---|-----------------|--------------------|------------------|--|
|  | 50130850 | KD U-M8-4A-V1-050 | Connection cable | Connection 1: Connector, M8, Axial, Female, 4 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5.000 mm Sheathing material: PVC |
|  | 50130871 | KD U-M8-4W-V1-050 | Connection cable | Connection 1: Connector, M8, Angled, Female, 4 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5.000 mm Sheathing material: PVC |

Accessories

Mounting technology - Mounting brackets

| | Part no. | Designation | Article | Description |
|--|----------|-------------|------------------|---|
|  | 50113550 | BT D08M.5 | Mounting bracket | Diameter, inner: 8 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 |
|---|----------|-------------|---------|--|
|  | 50111497 | MC 008K | Clamp | Diameter, inner: 8 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.