

## Technical data sheet

### Ultrasonic sensor

Part no.: 50149528

HTU208-100/NT-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 $\mu$ m

### Inputs

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

### Teach inputs

Voltage type	DC
Switching voltage	high: $\geq 9V$ low: $\leq 2 V$

### 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	Dark 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
----------------	---------

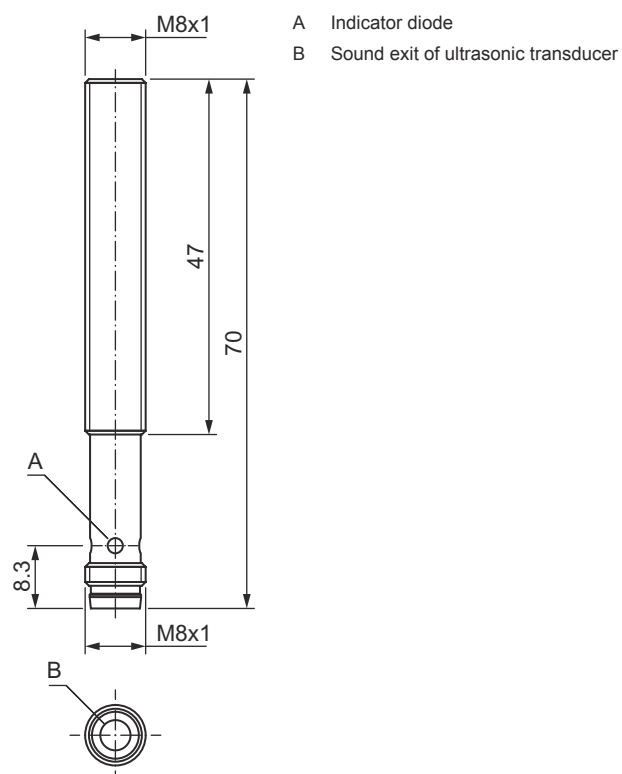
Standards applied	IEC 60947-5-2
-------------------	---------------

## 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

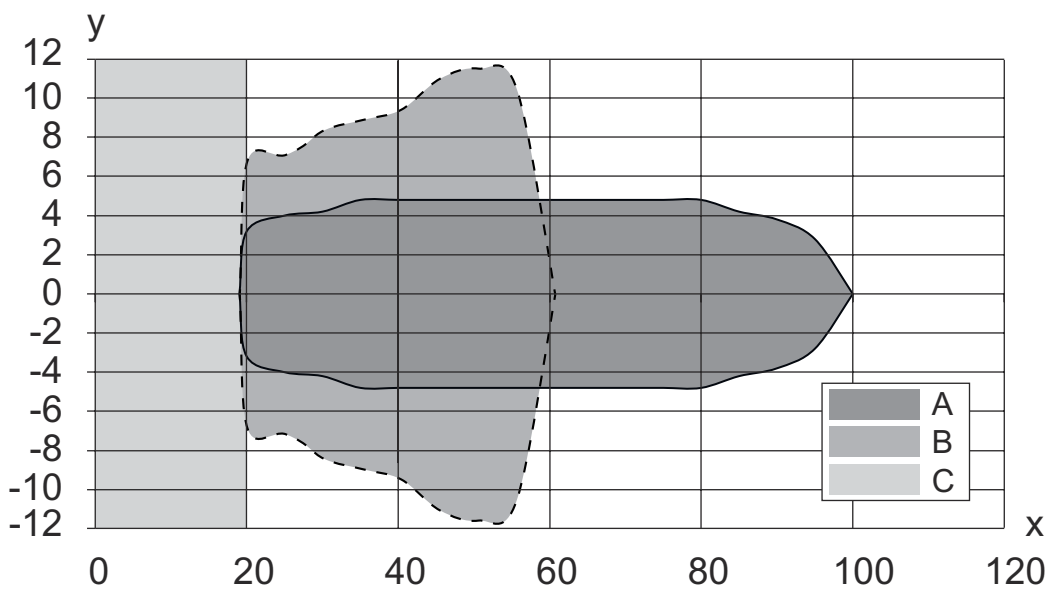
<b>Function</b>	Signal OUT
	Teach input
	Voltage supply
<b>Type of connection</b>	Connector
<b>Thread size</b>	M8
<b>Type</b>	Male
<b>Material</b>	Metal
<b>No. of pins</b>	4 -pin

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**

<b>AAA</b>	<b>Operating principle</b> HTU: Ultrasonic sensor, scanning principle, with background suppression
<b>2BB</b>	<b>Design</b> 208: Cylindrical with M8 thread 212: Cylindrical with M12 thread 218: Cylindrical with M18 thread
<b>xxxx</b>	<b>Operating range</b> Operating range in millimeters
<b>C</b>	<b>Switching output / function OUT 1/IN: Pin 4</b> 2: NPN transistor output, light switching N: NPN transistor output, dark switching 4: PNP transistor output, light switching P: PNP transistor output, dark switching
<b>D</b>	<b>Switching output / function OUT 2/IN: pin 2</b> T: teach-in via cable
<b>EE</b>	<b>Electrical connection</b> 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](http://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


	<b>Part no.</b>	<b>Designation</b>	<b>Article</b>	<b>Description</b>
	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.