

Technical data sheet

Ultrasonic sensor

Part no.: 50149531

HTU212-200/2T-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 M12 mounting nut

Special version

Special version	Teach input
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Characteristic parameters

MTTF	578 years
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Ultrasonic specifications

Operating range	0.02 ... 0.2 m
Operating range	Guaranteed operating range
Ultrasonic frequency	400 kHz
Shape of sound lobe	standard
Direction of beam	Front
Opening angle	9 °
Adjustment range	20 ... 200 mm

Measurement data

Resolution	1.0 mm
Repeatability	0.25 %
Reference value repeatability	End value
Temperature drift	0.2 %/K

Electrical data

Protective circuit	Polarity reversal protection Short circuit protected
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Performance data

Supply voltage U_B	18 ... 30 V, DC
Residual ripple	0 ... 10 %, From U_B
Open-circuit current	0 ... 40 mA
Switching hysteresis	2 mm

Inputs

Number of teach inputs	1 Piece(s)
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Teach inputs

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

Teach input 1

Active switching state	High
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Outputs

Number of digital switching outputs	1 Piece(s)
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Switching outputs

Voltage type	DC
Switching current, max.	150 mA
Switching voltage	low: $\leq 2 V$

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)
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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 ($\varnothing \times L$)	12 mm x 65 mm
Thread size	M12 x 1 mm
Housing material	Metal
Metal housing	Nickel-plated brass
Ultrasonic transducer material	Piezoceramics (contains lead zirconium titanate (PZT))
Net weight	17 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

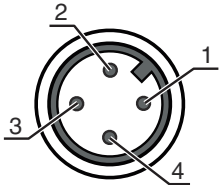
Degree of protection	IP 67
Protection class	III
Approvals	c UL US
Standards applied	IEC 60947-5-2

Electrical connection

Connection 1

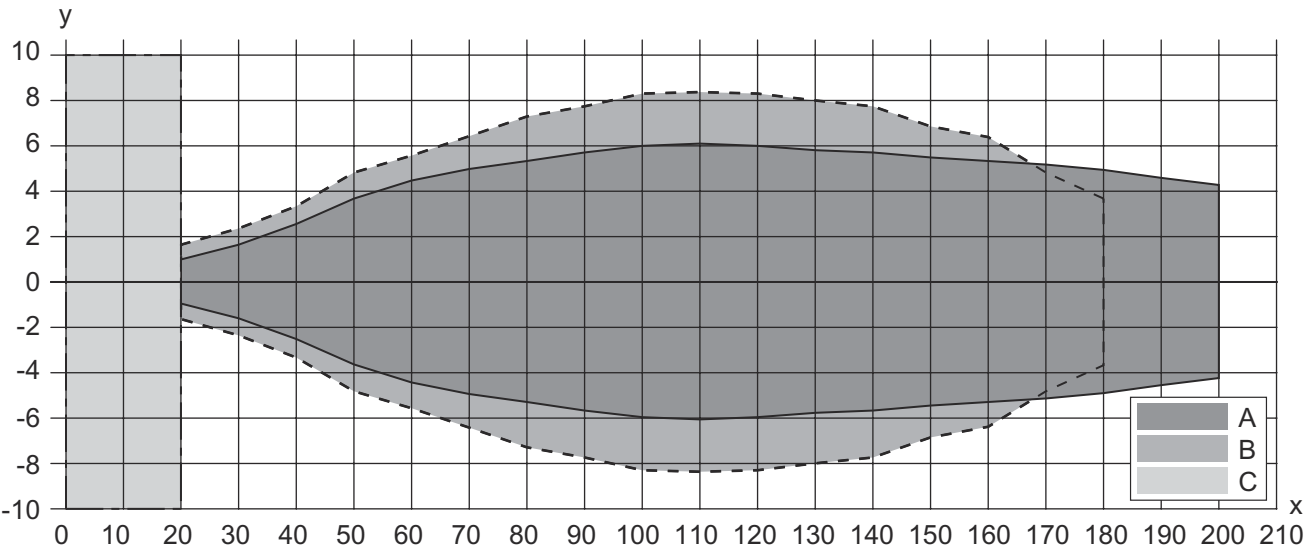
Function	Signal OUT
	Teach input
	Voltage supply
Type of connection	Connector
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Pin	Pin assignment
1	V+
2	IN 1
3	GND
4	OUT 1



Diagrams

Typ. response behavior



- x Object distance [mm]
- y Sound cone width [mm]
- A Plate 100 x 100 mm
- B Rod Ø 10 mm
- C Minimum distance in mm

Operation and display

LED	Display	Meaning
1	Green, continuous light	Operational readiness
	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
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 A: Analog current output V: Analog voltage output
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
	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
	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

Accessories

Mounting technology - Mounting brackets

	Part no.	Designation	Article	Description
	50113549	BT D12M.5	Mounting bracket	Diameter, inner: 12 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
	50111499	MC 012K	Clamp	Diameter, inner: 12 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.