SHENZHEN JINCI TECHNOLOGY CO.,LTD
Tel: 0755-27593409 **E-mail:** jinyi@jinci.cn

Ultrasonic Sensor Specifications

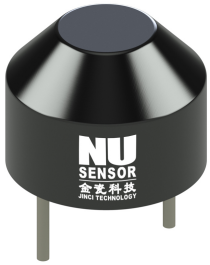
Product Name: Waterproof-Ultrasonic Sensor

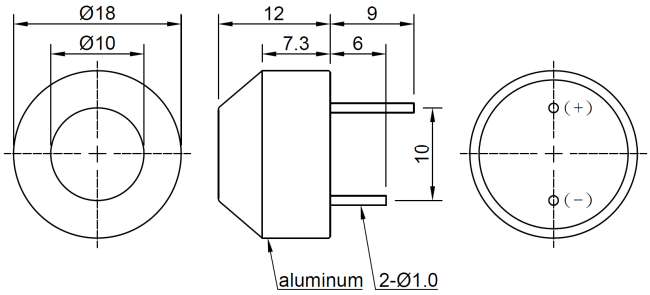
Product Model: NU40A18TR-1C2

Document Number: JC20260105

supplier :	Shenzhen JINCI Technology CO.,LTD	Purchaser :	
Writing :	Yuan Qunfu	Testing :	
Review :	Li Yongjian	Review :	
approve :	Jin Yi	approve :	
date :	2026.01.05	date :	

1. Product images and dimensions





2. Electrical Characteristics

	Description	Parameters	Remarks
1	Operating frequency	40KHz±2%	Room temperature 25±3 (°C)
2	Resistance/Phase		See attached figure, Figure 1.
3	Overall sensitivity		See attached figure, Figure 2.
4	Static capacitance	2000Pf±20%	1KHZ / 25±3°C
5	direction angle	85°±15°	-6dB
6	Maximum driving voltage	150Vp-p	Pulse width: 0.8 ms Interval: 60 ms
7	Operating temperature	-20~+80°C	
8	Storage temperature	-40~+85°C	

Shenzhen JINCI Technology CO.,LTD
Add.: Room 540, 5th Floor, Qianhai Science and Technology Innovation Center, Baoan District, Shenzhen.
Tel: 0755-27593409/27593630 **WeChat:** 13066828285 **C.P.:** JinYi
Web: www.jinci.cn www.nusensor.com **E-mail:** jinyi@jinci.cn **M.P.:** 13066828285

3. Environmental characteristics

	Project	Measurement Conditions	Result
1	Temperature characteristics	The product must be tested under short-circuit conditions; the ambient temperature should be stabilized at -40±3 (°C) for 30 minutes, then increased to 25±3 (°C) (room temperature) and stabilized for 30 minutes, and finally increased to +85±3 (°C) and stabilized for 30 minutes; all tests must be completed within 2 minutes of removing the product from the test chamber.	At the center frequency, within these three temperature ranges, the change in sensitivity compared to the initial value does not exceed 30%.
2	Damp heat test	The product must be tested under short-circuit conditions; Temperature: 60±2°C; Humidity: RH 90–95%; Time: 100 hours; After removal, allow to recover for 2 hours at normal atmospheric pressure.	At the center frequency, the change in sensitivity does not exceed 30% compared to the initial value.
3	Impact test	Acceleration: Sine wave 100G (980 m/s²) Direction: 3 directions (X/Y/Z) Number of shocks: 3 times per direction	At the center frequency, the change in sensitivity does not exceed 30% compared to the initial value.
4	Vibration test	Amplitude: 1.5 mm, Frequency: 10–70 Hz Sweep cycle: 5 minutes Duration: 3 hours in each of the three directions	At the center frequency, the change in sensitivity does not exceed 30% compared to the initial value.
5	High temperature test	The product must be tested under short-circuit conditions; It should be placed at a high temperature of +85℃ for 120 hours; After removal, it should be allowed to recover for 2 hours at normal atmospheric pressure.	At the center frequency, the change in sensitivity does not exceed 30% compared to the initial value.
6	Low temperature test	The product must be tested under short-circuit conditions; It must be stored at -40℃ for 120 hours; After removal, it must be allowed to recover for 2 hours at normal atmospheric pressure.	At the center frequency, the change in sensitivity does not exceed 30% compared to the initial value.
7	Temperature cycling	The product must be tested under short-circuit conditions; Low temperature: -40±3°C / 1 hour; High temperature: +85±3°C / 1 hour; Number of cycles: 50; After completion, remove and allow to recover for 2 hours at normal atmospheric pressure; Note: Low temperature first, then high temperature.	At the center frequency, the change in sensitivity does not exceed 30% compared to the initial value.
8	Drop test	Height: 1m. Dropped freely onto a concrete surface, 10 times.	At the center frequency, the change in sensitivity does not exceed 30% compared to the initial value.
Note: Each test is conducted independently, with a minimum of 5 test samples. The tests are performed under normal temperature conditions: T = 25 ± 3°C, H = 45–65% R.H.			

Shenzhen JINCI Technology CO.,LTD
Add.: Room 540, 5th Floor, Qianhai Science and Technology Innovation Center, Baoan District, Shenzhen.
Tel: 0755-27593409/27593630 **WeChat:** 13066828285 **C.P.:** JinYi
Web: www.jinci.cn www.nusensor.com **E-mail:** jinyi@jinci.cn **M.P.:** 13066828285

4. Precautions

1) This product can only be used in gaseous environments and not in liquids.
2) When conducting environmental characteristic tests on the product, the tests must be performed under short-circuit conditions as required.
3) To prevent accidents caused by operational failure, the secondary product design should include failure prevention features.
4) If an enclosure is added to this product, a soft rubber ring should be used to separate the enclosure from the sensor. To avoid affecting the sensor's vibration, the front surface of the sensor must remain free; otherwise, the sensor's performance will change.
5) To prevent sensor malfunction, operational failure, or performance degradation, avoid using this product under the following or similar conditions:
   a. Strong impact or vibration;
   b. Prolonged exposure to high temperature and high humidity environments;
   c. In corrosive gases or sea breeze;
   d. In environments containing soluble organic substances;
   e. In dusty environments;
   f. Exceeding the allowable input voltage.
6) To prevent additional stress on the lead wires, do not apply external force to the newly soldered lead wires. If it is necessary to do so, please clamp the base of the lead wires first.
7) The warranty period is one year from the date of product delivery. Defective sensors caused by the manufacturer's responsibility during the warranty period can be replaced free of charge. The following situations are not covered by the warranty:
   a. Improper use or handling by the user;
   b. Modifications or repairs made by the user;
   c. Any other circumstances not attributable to the manufacturer, such as natural disasters, accidents, etc.

This quality guarantee only applies to product replacement. Any losses resulting from the failure or malfunction of the sensor, as well as the costs of replacing the product, are not covered by this warranty.

5. Attached figures

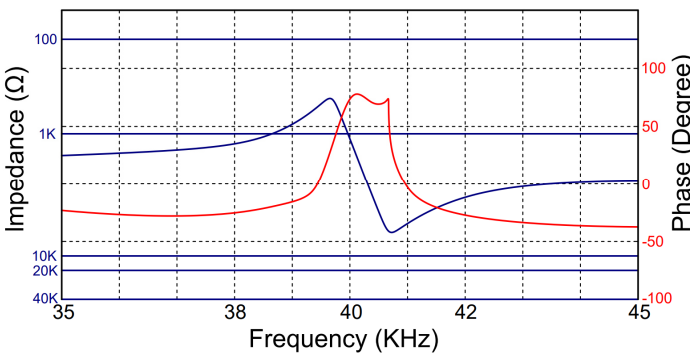


Figure 1.

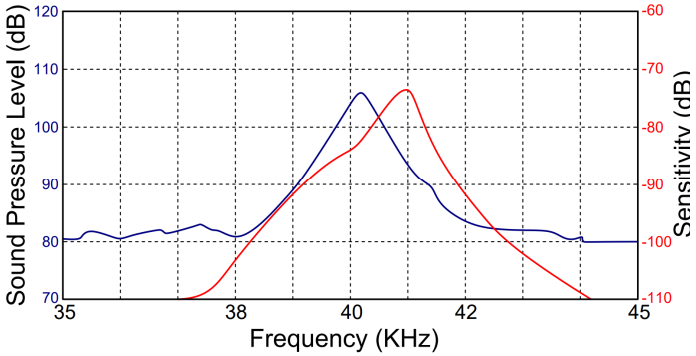
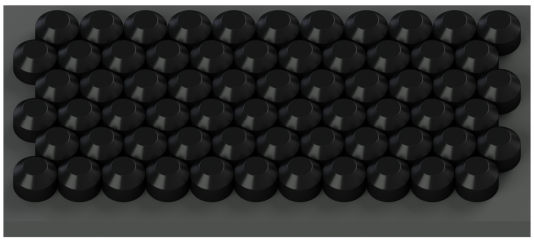


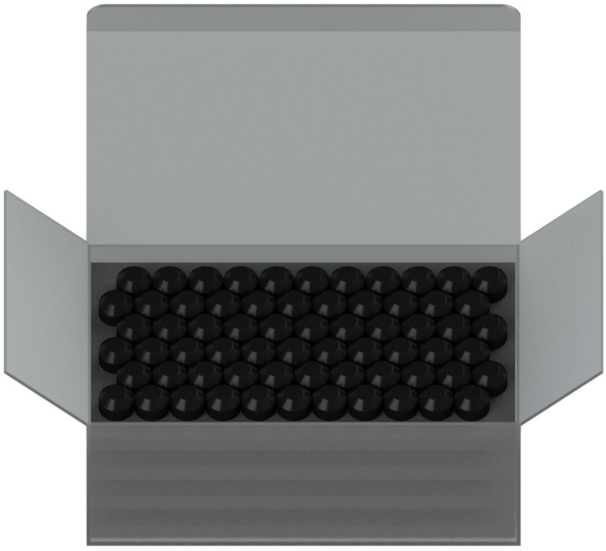
Figure 2.

Shenzhen JINCI Technology CO.,LTD
Add.: Room 540, 5th Floor, Qianhai Science and Technology Innovation Center, Baoan District, Shenzhen.
Tel: 0755-27593409/27593630 **WeChat:** 13066828285 **C.P.:** JinYi
Web: www.jinci.cn www.nusensor.com **E-mail:** jinyi@jinci.cn **M.P.:** 13066828285

6. Packaging details



66 pcs/board



4 boards, total quantity: 264 pcs
Inner box dimensions: 220mm*120mm*110mm



8 inner boxes, quantity: 2112 pieces
Outer carton: 46cm*25cm*23cm

Shenzhen JINCI Technology CO.,LTD
Add.: Room 540, 5th Floor, Qianhai Science and Technology Innovation Center, Baoan District, Shenzhen.
Tel: 0755-27593409/27593630 **WeChat:** 13066828285 **C.P.:** JinYi
Web: www.jinci.cn www.nusensor.com **E-mail:** jinyi@jinci.cn **M.P.:** 13066828285