Delivery Specification	No.	Page
Part Name Ceramic Ultrasonic Sensor NU40C16T/R-1	CNE-NU-40C-16F1	1/3

DATE :

TO :

AGENT :

ULTRASONIC TRANSDUCER

S P E C I F I C A T I O N

DRAWN BY	CHECKED BY	APPROVED BY

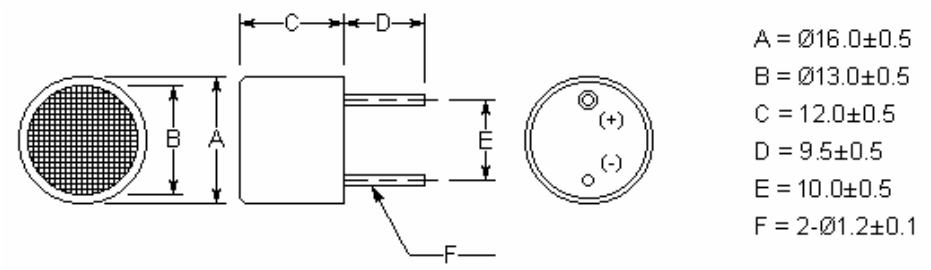
Delivery Specification	No. CNE-NU-40C-16F1	Page 2/3
Part Name Ceramic Ultrasonic Sensor NU40C16T/R-1		

1.SCOPE

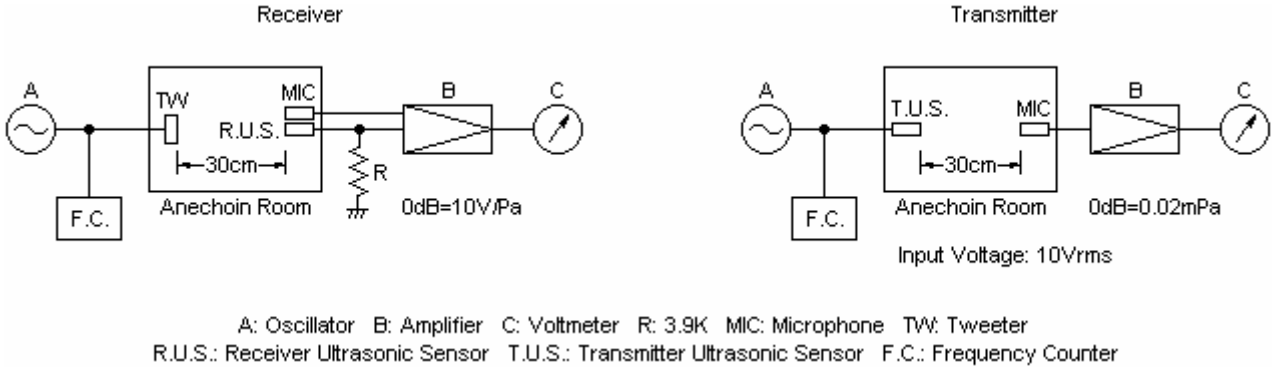
This specification shall cover the characteristics of the ceramic ultrasonic sensor with NU40C16T/R-1

NU40C16T-1 : Transmitter NU40C16R-1 : Receiver

2.OUTLINE DIMENSIONS (UNIT: mm)



3.TEST CIRCUIT



A: Oscillator B: Amplifier C: Voltmeter R: 3.9K MIC: Microphone TW: Tweeter
R.U.S.: Receiver Ultrasonic Sensor T.U.S.: Transmitter Ultrasonic Sensor F.C.: Frequency Counter

4.CHARACTERISTICS

Part number	NU40C16T-1	NU40C16R-1
Construction	Open structure type	Open structure type
Using Method	Transmitter	Receiver
Center frequency	40.0±1.0KHz	40.0±1.0KHz
Sound pressure level	114dB min.	----------
Sensitivity	----------	-68dB min.
Capacitance	2500Pf±20%	2500Pf±20%
Maximum input voltage	80Vp-p	80Vp-p
Directivity	60° (-6dB)	60°(-6dB)
Min./Max. sensing range	0.3~15M	0.3~15M
Resolution	9mm	9mm
Operating temperature	-20°C~+70°C	-20°C~+70°C
Storage Temperature	-40°C~+85°C	-40°C~+85°C
Weight	2.2g	2.2g

5. ENVIRONMENTAL CHARACTERISTICS

5.1 Sound Pressure Level and Sensitivity shall not change by more than 15dB in temperature range of -20°C to 70°C, at a relative humidity of 30%.

5.2 Sound Pressure Level and Sensitivity shall not change by more than 6dB in the humidity of 10% to 90%, At the temperature of 25°.

5.3 MOISTURE

Keep the sensor at 40°C±2°C and 90°C to 95°C R.H for 96±4 hours. Then, release the sensor into the room conditions for 24 hour prior to the measurement. It shall fulfill the specifications in Table 1.

5.4 VIBRATION

Subject the sensor to the vibration for 1 hour each in the X.Y and Z axes with the amplitude of 1.5mm at 10 to 55 Hz. It shall fulfill the specifications in Table 1.

5.5 HIGH TEMPERATURE EXPOSURE

Subject the sensor to 80±5°C for 24±1 hours. then, release the sensor into the room conditions for 1 hour prior to the measurement. It shall meet the specifications in Table 1.

5.6 LOW TEMPERATURE EXPOSURE

Subject the sensor to -30±5°C for 24±1 hours. Then release the sensor into the room conditions for 1 hour prior to the measurement. It shall meet the specifications in Table 1.

TABLE 1

ITEM	SPECIFICATION
Center Frequency	Within 0.5KHz Compared With Initial Values
Sound Pressure Level	Within 3dB Compared With Initial Values
Sensitivity	Within 3dB Compared With Initial Values

※ NOTES

- This sensor is designed for use in air. Do not use this sensor in fluid.
- To prevent sensor malfunctions, operational failure or any deterioration of its characteristics, do not use this sensor in the following, or similar conditions.

A. In strong shock or vibration.
B. In high temperature and humidity for a long time.
C. In corrosive gases or sea breeze.
D. In an atmosphere of organic solvents.

In dirty and dusty environments that may contaminate the sensor front.