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600 Series Environmental Transducer

SensComp's Series 600 Environmental Grade electrostatic transducer is specifically intended for operation in air at ultrasonic frequencies. This transducer is identical to the 600 Series Instrument Grade Transducer except that the outer housing is made of 304 stainless steel for harsh environments.

Features

50 kHz Electrostatic Transducer
Beam Angle of 15° at -6 dB
Ranges from 6" to 35'
Excellent Receive Sensitivity
Better Suited for Harsh Environments
Stainless Steel Housing, Perforated Protective Cover.
Specifically Intended for Operation in Air at Ultrasonic Frequencies

Part No.

PID# 607281 – Series 600 Environmental Transducer

Benefits

Able to Range from 6" to 35'
Excellent Receive Sensitivity

Applications

Level Measurement, Proximity Detection, Presence Detection, Robotics, Educational Products
Operation in Outdoor Environments

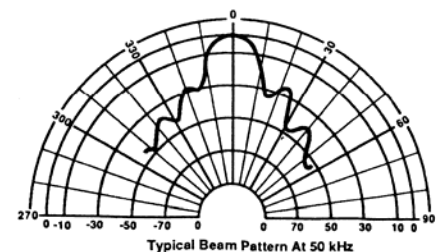
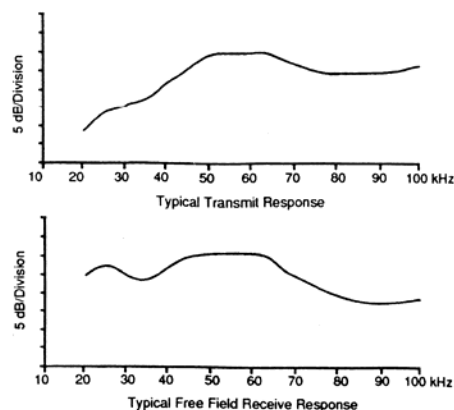
Specifications



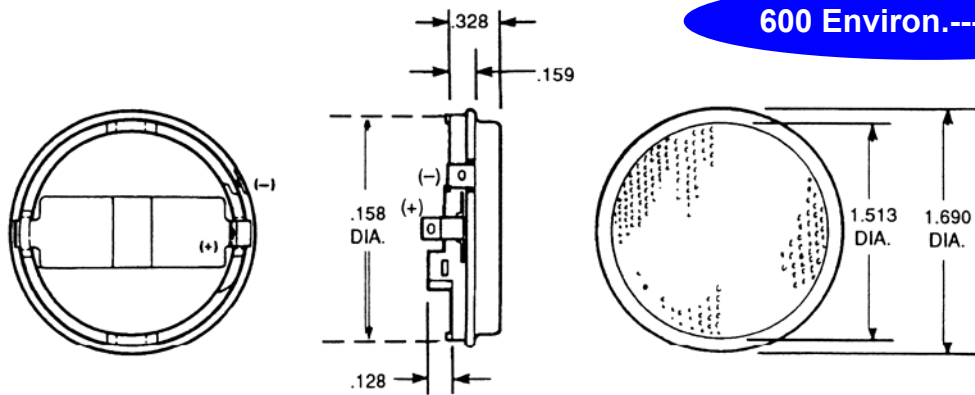
Description

The Series 600 ultra sensitive transducers feature ranging capability from 2.5 cm to 15.2 m when used with SensComp drive electronics. They are ideally suited for demanding applications where the most sensitivity possible is the highest priority. These ultrasonic transducers are among the best available when detecting soft targets. They have a broad band frequency response.

Transmit/Receive Response & Beam Pattern



Note: dB normalized to on-axis response.
Note: Curves are representative only. Individual responses may differ.



Specifications

Usable Frequency Range

Transmitting See Graph

Receiving See Graph

Beam Pattern See Graph

Typical: 15° at -6dB

Transmitting Sensitivity 110 dB min

at 50.0 kHz; 0dB re 20 μ Pa at 1 meter

(300 VAC_{PP}; 150 VDC bias)

Receiving Sensitivity -42 dB min

at 50.0 kHz; 0dB = 1 volt/Pa

(150 VDC bias)

Distance Range 0.15 to 10.7 M

(0.5 to 35 feet)

Resolution ($\pm 1\%$ over entire range) ± 3 mm to 3m

(± 0.12 to 10 ft)

Weight 8.2 gm (0.29 oz)

Suggested DC Bias Voltage 200V

Suggested AC Driving Voltage 200V peak

Combined Voltage 400V max

Capacitance at 1 kHz (typical) 400–500 pf
(at 150 VDC bias)

Operating Temperature -30 to +70° C
(-20 to 160° F)

Storage Temperature -40 to 120° C
(-40 to 250° F)

Relative Humidity (non condensing) 5% - 95%

Dimension

Thickness 0.46 inch

Diameter 1.69 inch

Standard Finish

Foil Gold

Housing 304 Stainless Steel

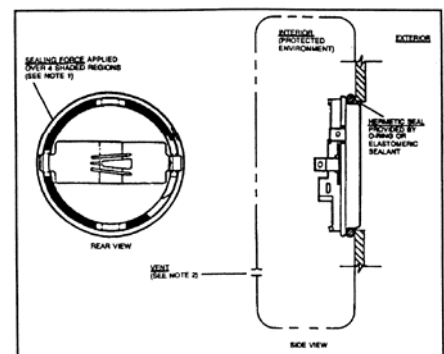
Specifications subject to change without notice

Environmental Characteristics & Exposures

Note: The following tests were performed in an environmentally controlled test facility with the transducer housed in a custom designed test enclosure. The test enclosure protects the transducer sides and back from exposure to any foreign matter. The rear of the transducer is vented to atmosphere pressure.

After each test, the transducers were cleaned and dried as necessary. Measurements were then taken at room temperature.

- Storage Temperature -40 TO 120° C (-40 to 250° F)
- Salt Spray Exposure (96 hours) 5% salt spray solution at 95°
- Shock and Vibration 50 G peak in each direction along 3 perpendicular axes, pulse duration: 6.5 ms; 6 G's RMS 20-2000 Hz for 6 minute.
- Water Immersion (24 hours) (vent hole sealed)
- Freeze/Thaw Cycle (4 cycles) Spray with water, drain, expose to -20° F (-30° C) for 20 minutes, allow to warm to room temperature.
- Chemical Exposure Gasoline, acetone, sulphur dioxide. Samples sprayed with/ exposed to chemical, then placed in 120° F (49° C) / 90% relative humidity environment for 24 hours.



No claims are made for performance without an enclosure providing protection equal to or better than the test enclosure described above. Similarly, no claim is made for performance in any other environments or under any other condition than those controlled conditions described herein.

For more information, visit our website: www.senscomp.com

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