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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

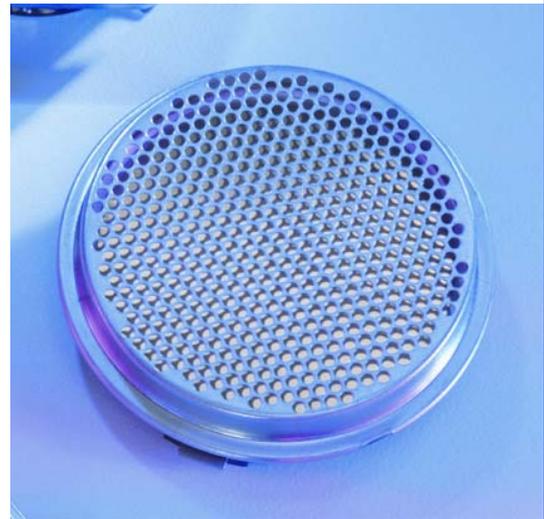
Benefits

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

Applications

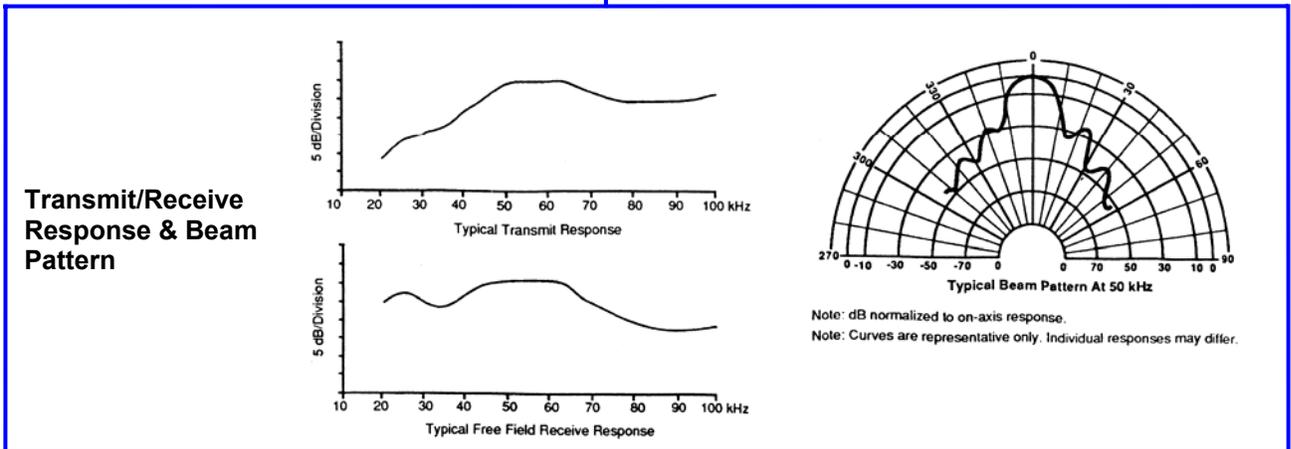
- Level Measurement, Proximity Detection, Presence Detection, Robotics, Educational Products
- Operation in Outdoor Environments

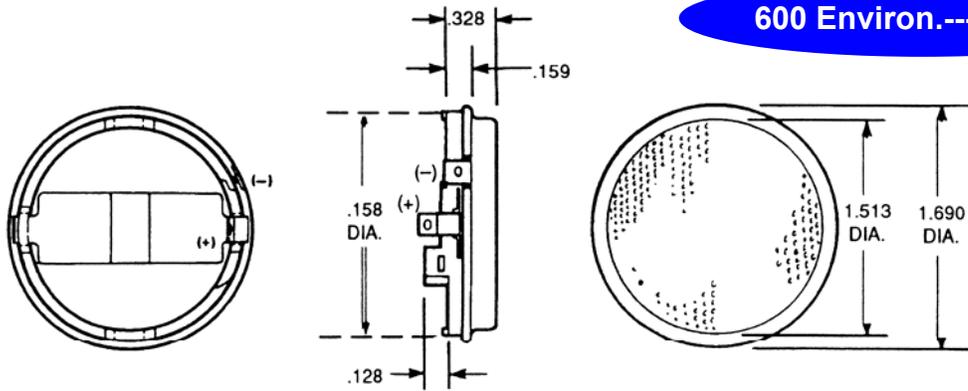
Specifications



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.





Specifications

Usable Frequency Range		Suggested DC Bias Voltage	200V
Transmitting	See Graph	Suggested AC Driving Voltage	200V peak
Receiving	See Graph	Combined Voltage	400V max
Beam Pattern	See Graph	Capacitance at 1 kHz (typical)	400–500 pf
Typical: 15° at -6dB		(at 150 VDC bias)	
Transmitting Sensitivity	110 dB min	Operating Temperature	-30 to +70° C
at 50.0 kHz; 0dB re 20 µPa at 1 meter		(-20 to 160° F)	
(300 VAC _{PP} ; 150 VDC bias)		Storage Temperature	-40 to 120° C
Receiving Sensitivity	-42 dB min	(-40 to 250° F)	
at 50.0 kHz; 0dB = 1 volt/Pa		Relative Humidity (non condensing)	5% - 95%
(150 VDC bias)		Dimension	
Distance Range	0.15 to 10.7 M	Thickness	0.46 inch
	(0.5 to 35 feet)	Diameter	1.69 inch
Resolution (± 1% over entire range)	± 3mm to 3m	Standard Finish	
	(± 0.12 to 10 ft)	Foil	Gold
Weight	8.2 gm (0.29 oz)	Housing	304 Stainless Steel
		Steel	

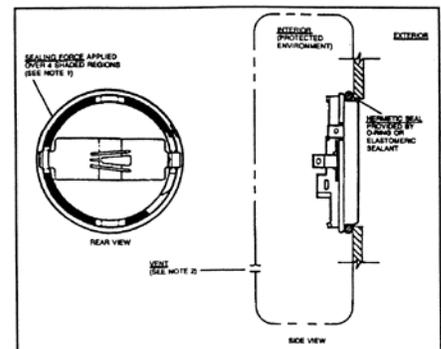
Specifications subject to change without notice

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.