

Series 600 Environmental Grade Transducer

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

Features

50 kHz Electrostatic Ultrasonic Sensor
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 Grade
Ultrasonic Sensor

*PID# 607285 – Series 600 Environmental Grade
Ultrasonic Sensor w/Parylene

*RoHS Compliant

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

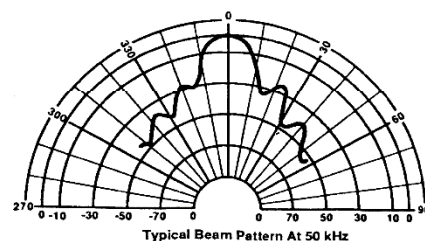
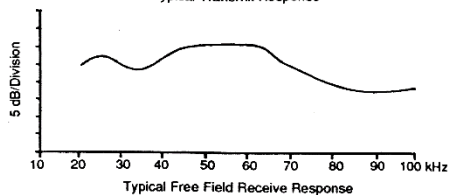
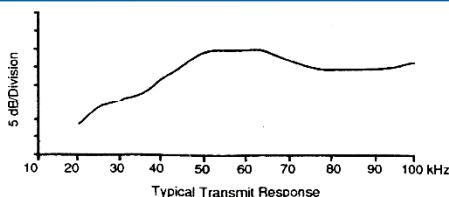


Description

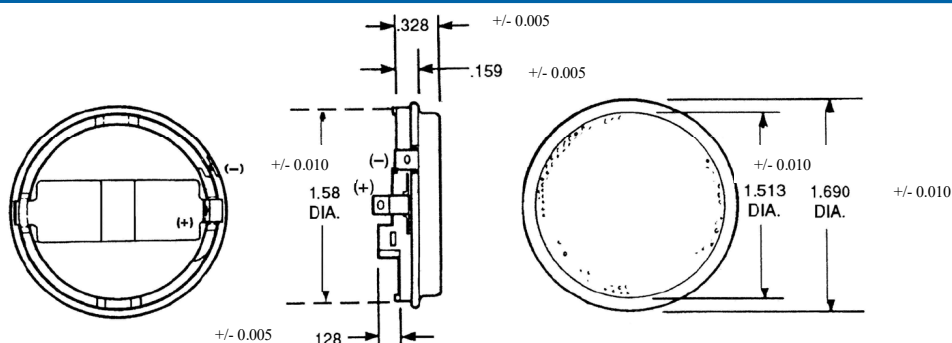
The Series 600 ultra-sensitive ultrasonic sensors feature ranging capability from 2.5 cm to 15.2 m when used with SensComp drive electronics. They are ideally suited for demanding applications where the most sensitivity possible is the highest priority. These ultrasonic sensors are among the best available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

The PID 607285 has added protection of the Parylene conformal coating making this ultrasonic sensor splash resistant and able to operate more efficiently in harsh chemical environments containing organic and inorganic solvents. Additionally, the Parylene coating provides extended protection against corrosion and mechanical abrasion.

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

Typical: 15° at -6dB

Transmitting Sensitivity

at 50.0 kHz; 0dB re 20 μ Pa at 1 meter
(300 VAC_{PP}; 150 VDC bias)

Receiving Sensitivity

at 50.0 kHz; 0dB = 1 volt/Pa
(150 VDC bias)

Distance Range

Resolution ($\pm$ 1% over entire range) $\pm$ 3mm to 3m
($\pm$ 0.12 to 10 ft)

Weight

Notes:

[1] Lines which may occasionally appear in foil have no effect on product functionality or performance.

[2] Variations in die depth may result in minor variations of tolerances.

[3] Any variation in the appearance of the 304 stainless steel sheen is merely an outcome of the manufacturing process. There is no difference in functionality or corrosion properties.

Suggested DC Bias Voltage V

Suggested AC Driving Voltage 200V peak

Combined Voltage V max

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

Operating Temperature -40 to +85° C
(-40 to 185° 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

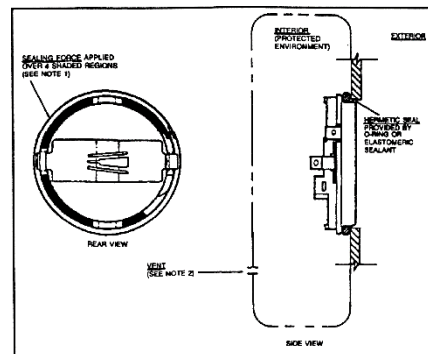
Housing 304 Stainless Steel

Environmental Characteristics & Exposures

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

After each test, the ultrasonic sensors 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 minutes.
- 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.

SENSCOMP PRODUCT SPECIFICATION SHEET DISCLAIMER NOTICE

Information provided in this document is proprietary to SensComp, Inc. ("SensComp") and SensComp reserves the right to make corrections, enhancements, improvements and other changes to its products, specification sheets and data, and to discontinue any product at any time, without further notice. Buyer should obtain the latest relevant information before placing an order and should verify that such information is current and complete. All products are sold subject to SensComp's terms and conditions of sale in effect at the time of order acknowledgment.

SensComp disclaims any and all liability for any errors, inaccuracies or incompleteness contained in any specification sheet or in any other disclosure relating to any product. Information contained herein is strictly for reference and subject to change without notice. SensComp is not liable for any damages that the reader or any third person might suffer as a result of the reader ignoring this warning.

SensComp makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose. SensComp disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential, or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for a particular purpose, non-infringement, and merchantability.

Any performance specs are believed to be reliable but are not verified, and buyer must conduct and complete all performances and other testing of the products, alone and together, with, or installed in any end-product. Buyer shall not rely on any data and performance specs or parameters provided by SensComp.

SensComp assumes no liability for applications assistance or the design of Buyer's products. Buyer is responsible to independently determine suitability of any products and to test, verify and validate its products, designs and applications using SensComp's products or components. To minimize the risks associated with Buyer's products and applications, Buyer should provide adequate design and operation safeguards.

The information provided by SensComp here under is provided "as is, where is" and with all faults, and the entire risk associated with such information is entirely with buyer. SensComp does not grant, explicitly or implicitly, to any party any patent rights, licenses, or any other IP rights, whether with regard to such information itself or anything described by such information.

SensComp products have been subject to limited testing and are not authorized for use in aircraft, aviation, nuclear, medical, or safety-critical applications including, but not limited to, life support, and where a failure of the SensComp product would reasonably be expected to cause severe personal injury or death.