**Air Ultrasonic Ceramic Transducers**

**400ST/R160**

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**Specification**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>400ST160</td>
<td>Transmitter</td>
</tr>
<tr>
<td>400SR160</td>
<td>Receiver</td>
</tr>
</tbody>
</table>

**Center Frequency**

- **400ST160**: 40.0 ± 1.0 KHz
- **400SR160**: 40.0 ± 1.0 KHz

**Bandwidth (-6dB)**

- **400ST160**: 2.0 KHz
- **400SR160**: 2.5 KHz

**Transmitting Sound Pressure Level**

- at 40.0KHz; 0dB re 0.0002 µbar per 10Vrms at 30cm
- 120dB min.

**Receiving Sensitivity**

- at 40.0KHz 0dB = 1 volt/µbar
- -65dB min.

**Capacitance at 1KHz**

- ±20%
- 2400 pF

**Max. Driving Voltage**

- (cont.) 20Vrms

**Total Beam Angle**

- -6dB 55° typical

**Operation Temperature**

- -30 to 80°C

**Storage Temperature**

- -40 to 85°C

All specification taken typical at 25°C

Closer frequency tolerance can be supplied upon request.

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**Models available:**

<table>
<thead>
<tr>
<th>No.</th>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>400ST/R160</td>
<td>Aluminum Housing</td>
</tr>
<tr>
<td>2</td>
<td>400ST/R16B</td>
<td>Black Al. Housing</td>
</tr>
<tr>
<td>2</td>
<td>400ST/R10P</td>
<td>Plastic Housing</td>
</tr>
<tr>
<td>3</td>
<td>400ST/R16F</td>
<td>Al. Housing w/Solid Grid</td>
</tr>
</tbody>
</table>

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**Dimensions:** dimensions are in mm

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**Impedance/Phase Angle vs. Frequency**

Tested under 1Vrms Oscillation Level

- **400SR160 Impedance**
- **400SR160 Phase**
- **400ST160 Impedance**
- **400ST160 Phase**

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**Sensitivity/Sound Pressure Level**

Tested under 10Vrms @30cm

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**Beam Angle:** Tested at 40.0Khz frequency
Air Ultrasonic Ceramic Transducers

**400SR160 Receiver**

**400ST160 Transmitter**

**Sensitivity Variation vs. Loaded Resistor**

**SPL Variation vs. Driving Voltage**

**Center Frequency Shift vs. Loaded Resistor**

**Center Frequency Shift vs. Driving Voltage**

**Sensitivity Variation vs. Temperature**

**SPL Variation vs. Temperature**

**Center Frequency Shift vs. Temperature**

- **Loaded Resistor (Ohm):** 1K, 3.9K, 10K, 39K, 100K, 390K
- **Sensitivity (dB):** -80, -75, -70, -65, -60, -55, -50, -45, -40
- **Vrms:** 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30
- **Temperature (Degree C):** -40, -30, -20, -10, 0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100
- **Fc Variation %:** -3.0, -2.0, -1.0, 0.0, 1.0, 2.0, 3.0