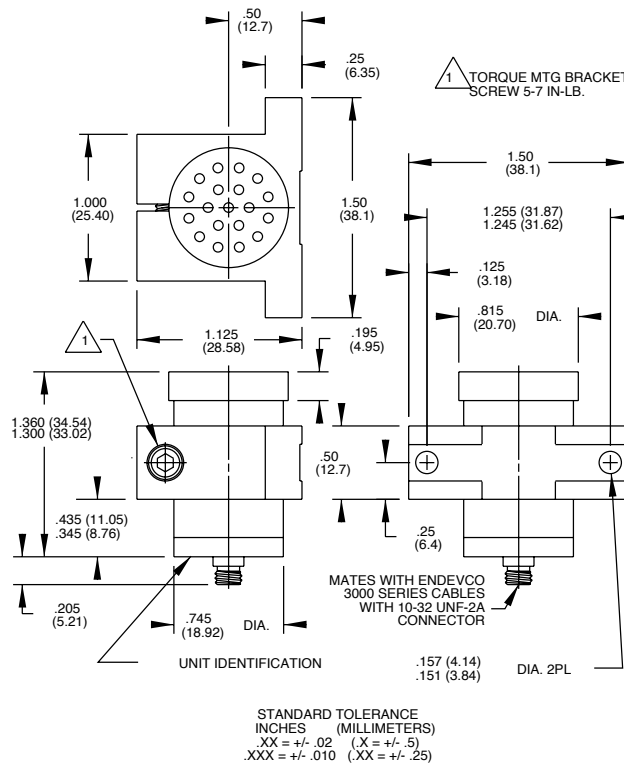
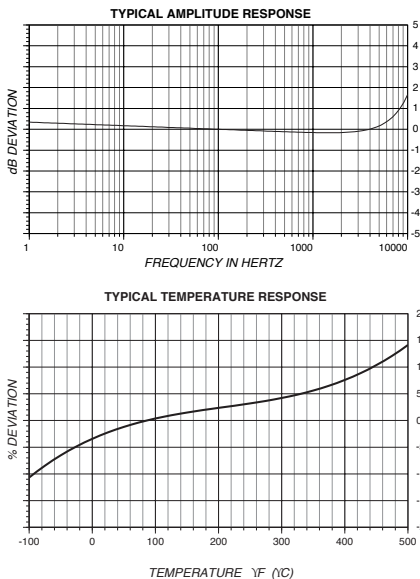
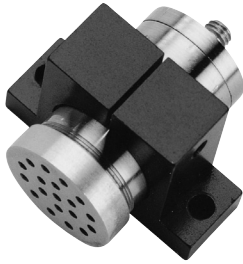


Piezoelectric microphone

Model 2510



Key features

- Requires no external power
- Hermetically sealed
- Vibration compensated
- Operational range, 100 to >180 dB SPL
- High intensity acoustic measurement
- High temperature to +500°F (+260°C)

The Endevco® model 2510 microphone measures high intensity acoustic noise and very low pressure fluctuations. The rugged, hermetically sealed construction and extremely wide temperature range -67°F to +500°F (-55°C to +260°C) make this transducer extremely useful over a wide range of environmental conditions, including insensitivity to altitude changes, and the transducer has vibration compensation incorporated into the sensing element. The microphone is a self-generating device that requires no external power source for operation.

The model 2510 features a very thick diaphragm that prevents puncturing or damage due to particle impact, accidental mishandling, or high pressure pulses. Insulation between the transducer and mounting surface prevents data-degrading ground loops. The model 2510 is intended primarily to operate into charge amplifiers. Long cables may be used between the transducer and charge converter without affecting charge sensitivity. Although the basic design is directed toward maximizing charge characteristics, the model 2510 also gives excellent results when operated into voltage amplifiers.

Endevco signal conditioner models 2775A, 2721B or 2680 are recommended for use with this high impedance microphone.

Piezoelectric microphone

Model 2510

Specifications

The following performance specifications are typical values, referenced at +75°F (+24°C) and 100 Hz, unless otherwise noted.

| DYNAMIC CHARACTERISTICS | | Units |
|--------------------------------------|------------------------------|---|
| CHARGE SENSITIVITY, Typical | | |
| | pC rms @ 140 dB SPL [1] | 31 |
| | pC rms/psi [2] | 1069 |
| | pC rms/N/m ² [3] | 0.155 |
| | dB re 1 pC rms @ 1 μ bar | -33.1 |
| RANGE | dB SPL | 100 to >180 |
| FREQUENCY RESPONSE | | See Typical Amplitude Response |
| RESONANCE FREQUENCY | kHz | 30 |
| AMPLITUDE RESPONSE | | |
| ± 1 dB | Hz | 2 to 4 kHz |
| ± 3 dB | Hz | 1 to 10 kHz |
| TEMPERATURE RESPONSE | | See Typical Curve |
| AMPLITUDE LINEARITY | | |
| 120 to 164 dB SPL | dB | 0.5 |
| ELECTRICAL CHARACTERISTICS | | |
| RESISTANCE | M Ω | $\geq 20\,000$ |
| CAPACITANCE | pF | 5200 |
| GROUNDING | | Case ground insulated from mounting bracket. Case isolated from mounting bracket by 1 M Ω , minimum |
| ENVIRONMENTAL CHARACTERISTICS | | |
| TEMPERATURE RANGE | | -67°F to +500°F (-55°C to +260°C) |
| HUMIDITY | | Hermetically Sealed |
| VIBRATION SENSITIVITY | | |
| Up to 2 kHz | | < Output of unit at 105 dB SPL @ 1 g pk |
| SINUSOIDAL VIBRATION LIMIT | g pk | 150 |
| SHOCK LIMIT | g pk | 1000 |
| PHYSICAL CHARACTERISTICS | | |
| DIMENSIONS | | See Outline Drawing |
| WEIGHT | gm (oz) | 57 (2.0) |
| CASE MATERIAL | | Stainless Steel |
| CONNECTOR | | Coaxial, 10-32 Type, Mates Endevco 3000 Series Cables |
| MOUNTING TORQUE | lbf-in (Nm) | 10 (1.1) |
| CALIBRATION | | |
| SUPPLIED: | | |
| CHARGE SENSITIVITY | pC rms @ 140 dB SPL | |
| CAPACITANCE | pF | |

Piezoelectric microphone

Model 2510

ACCESSORIES

Model 3090C-120 (10ft) CABLE ASSEMBLY
Model EH303 MOUNTING SCREW, 6-32, Two each

NOTES

1. Reference: 0 dB = 0.0002 μ bar rms (dyne/cm² rms) =
 20×10^{-9} N/m² rms = 20 μ Pa rms.
2. 140 dB SPL = 2.9×10^{-2} psi rms.
3. 140 dB SPL = 200 N/m² rms.
4. Maintain high levels of precision and accuracy using Endevco's factory calibration services. Call Endevco's inside sales force at 866-ENDEVCO for recommended intervals, pricing and turn-around time for these services as well as for quotations on our standard products.

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