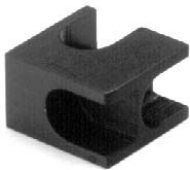




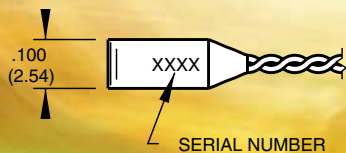
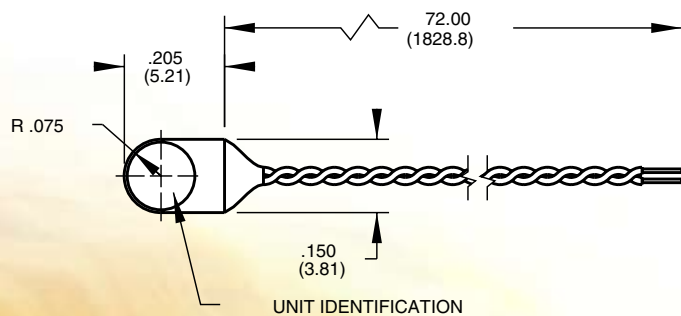
Model 25A Isotron[®] accelerometer

Features

- World's smallest Isotron[®]
- Light weight (0.2 gm)
- Flexible cable
- Low impedance output
- Excellent for printed circuit board and disk drive testing



Optional triaxial mounting block



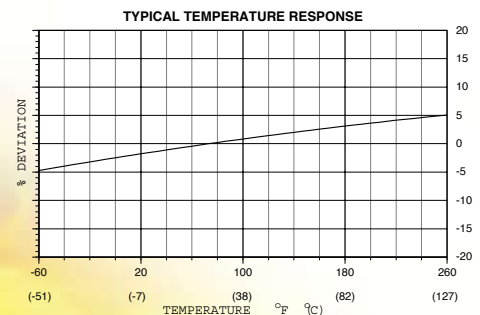
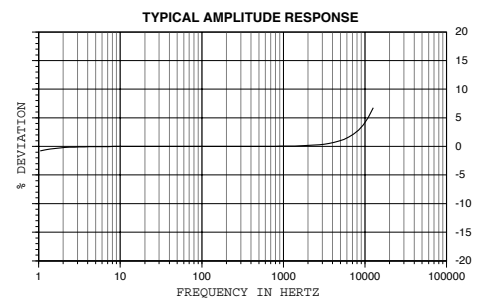
STANDARD TOLERANCE
INCHES (MILLIMETERS)
.XX = +/- .02 (X = +/- .5)
.XXX = +/- .010 (XX = +/- .25)

Description

The Endevco[®] Model 25A Isomin[™] is an extremely small, adhesive mounted piezoelectric accelerometer with integral electronics, designed specifically for measuring vibration on very small objects. The unit weighs only 0.2 gm, reducing unwanted mass loading effects. The unit comes with two pre-installed fine gage (34 AWG) wires as output leads. These leads can be easily repaired in the field, or a new lead assembly may be reinstalled at the factory. A heavier gage (28 AWG) cable is also provided for extension purpose. The Model 25A is ideal for measuring vibration in scaled models, small electronic components, and biomedical research. An optional triaxial mounting block (Model 2950M16) is available for setting up three-axis measurement.

The Model 25A features Endevco's Piezite[®] Type sensing element operating in shear mode. The internal electronics inside the accelerometer converts high impedance input into low impedance voltage output through the same cable that supplies the required 4 mA constant current power. Signal ground is isolated from the mounting surface of the unit by a hard anodized surface. A removal tool is included for proper removal in the field.

Endevco signal conditioner Models 133, 4416B, 2792B, 2793, 2775A are recommended for use with this accelerometer.



Model 25A Isotron[®] accelerometer

Endevco

SPECIFICATIONS

The following performance specifications conform to ISA-RP-37.2 (1964) and are typical values, referenced at +75°F (+24°C), 4 mA, and 100 Hz, unless otherwise noted. Calibration data, traceable to National Institute of Standards and Technology (NIST), is supplied.

| DYNAMIC CHARACTERISTICS | Units | |
|-------------------------|-------|--------------------------------|
| RANGE | g | ±1000 |
| VOLTAGE SENSITIVITY | | |
| Typical | mV/g | 5 |
| Minimum | mV/g | 4 |
| FREQUENCY RESPONSE | | See Typical Amplitude Response |
| RESONANCE FREQUENCY | kHz | 50 |
| AMPLITUDE RESPONSE [2] | | |
| ±5% | Hz | 2 to 8000 |
| ±1dB | Hz | 1 to 12 000 |
| TEMPERATURE RESPONSE | | See Typical Curve |
| TRANSVERSE SENSITIVITY | % | ≤ 5 |
| AMPLITUDE LINEARITY | % | < 2 to FULL SCALE |

OUTPUT CHARACTERISTICS

| | | |
|---------------------------|-----------------|--|
| OUTPUT POLARITY | | Acceleration directed into the base of the unit produces positive output |
| DC OUTPUT BIAS VOLTAGE | V _{dc} | +8.5 to +11.5 |
| OUTPUT IMPEDANCE | Ω | ≤ 600 |
| FULL SCALE OUTPUT VOLTAGE | V | ±5.0 |
| RESIDUAL NOISE | equiv. g rms | ≤ 0.007 |
| GROUNDING | | Signal ground isolated from mounting surface. |

POWER REQUIREMENT

| | | |
|--------------------|-----------------|--------------|
| SUPPLY CURRENT [1] | mA | +3.5 to +4.5 |
| VOLTAGE | V _{dc} | +18 to +24 |
| WARM-UP TIME | sec | < 3 |

ENVIRONMENTAL CHARACTERISTICS

| | | |
|-----------------------------|----------------------|-----------------------------------|
| TEMPERATURE RANGE | | -67°F to +257°F (-55°C to +125°C) |
| HUMIDITY | | Epoxy sealed, non-hermetic |
| SINUSOIDAL VIBRATION LIMIT | g pk | 500 |
| SHOCK LIMIT [2] | g pk | 2000 |
| BASE STRAIN SENSITIVITY | equiv. g pk/μ strain | 0.002 |
| ELECTROMAGNETIC SENSITIVITY | equiv. g rms/gauss | 0.09 |

PHYSICAL CHARACTERISTICS

| | | |
|---------------|---------|-------------------------------|
| DIMENSIONS | | See Outline Drawing |
| WEIGHT | gm (oz) | 0.2 (.01) |
| CASE MATERIAL | | Aluminum Alloy, Hard Anodized |
| MOUNTING [3] | | Adhesive |

CALIBRATION

| | | |
|------------------------|------|-----------------|
| SUPPLIED: | | |
| SENSITIVITY | mV/g | |
| TRANSVERSE SENSITIVITY | % | |
| FREQUENCY RESPONSE | % | 20 Hz to 12 kHz |

ACCESSORIES

| | |
|------------------------|----------------------------------|
| Model 3024-120 (10 ft) | CABLE ASSEMBLY, TWISTED PAIR [4] |
| P/N 31275 | REMOVAL TOOL |
| P/N 32227 | MOUNTING WAX |

OPTIONAL ACCESSORIES

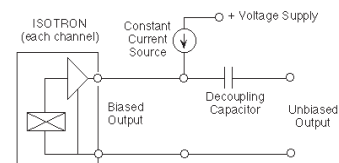
| | |
|---------------|-------------------------|
| Model 2950M16 | TRIAXIAL MOUNTING BLOCK |
|---------------|-------------------------|

NOTES

- Excessive current supply may cause permanent damage to accelerometer.
- Short duration shock pulses, such as those generated by metal-to-metal impacts, may excite transducer resonance and cause linearity errors. Send for TP290 for more details.
- Depending on the dynamic and environmental requirements, adhesives such as petro-wax, hot-melt glue, and cyanoacrylate epoxy (super glue) may be used to mount the accelerometer

temporarily to the test structure. When removing an epoxy-mounted accelerometer, first soften the epoxy with an appropriate solvent, then twist the unit off with the supplied removal tool. Failure to heed this caution may cause permanent damage to the transducer, which is not covered under warranty.

- Small gage wires are soldered to the terminals at the factory. They are to be spliced together with the supplied cable assembly in the field for extension purpose.
- Maintain high levels of precision and accuracy using Endevco's factory calibration services. Call Endevco's inside sales force at 800-982-6732 for recommended intervals, pricing and turn-around time for these services as well as for quotations on our standard products.



Continued product improvement necessitates that Endevco reserve the right to modify these specifications without notice. Endevco maintains a program of constant surveillance over all products to ensure a high level of reliability. This program includes attention to reliability factors during product design, the support of stringent Quality Control requirements, and compulsory corrective action procedures. These measures, together with conservative specifications have made the name Endevco synonymous with reliability.



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