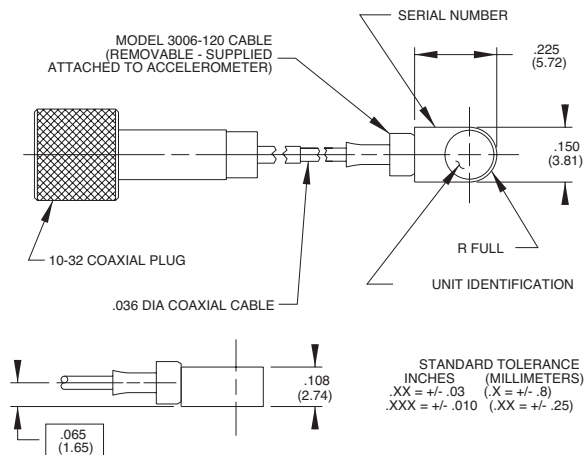
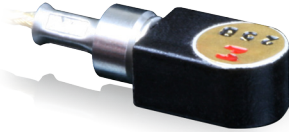


# Isotron<sup>®</sup> accelerometer

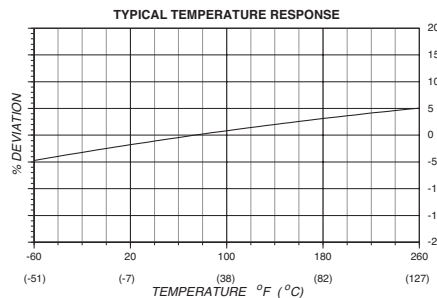
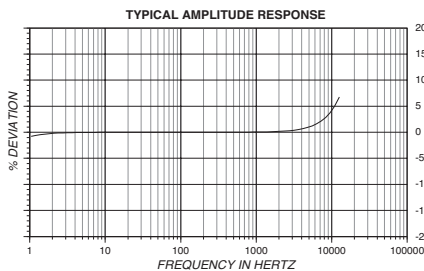
## Model 25B



Model 25B 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 model 25B offers a flexible, detachable coaxial cable which can be replaced by the user in the field. This feature provides extended service life when repetitive installations or heavy use are expected. Model 25B is ideal for measuring vibration in scaled models, small electronic components, and biomedical research. Model 25A is available if integral wires are desired in place of the removable cable. An optional triaxial mounting block (model 2950M16) is available for setting up three-axis measurement.

The Model 25B features Endevco's Piezite<sup>®</sup> type P-8 sensing element operating in shear mode. The internal electronics inside the accelerometer convert 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 123, 133, 4416B, 4999, 2793, and 2775B or 6634C or Oasis 2000 (4990A-X with cards 428 and/or 433) computer controlled system are recommended for use with these accelerometers.



### Key features

- Low impedance output
- World's smallest Isotron
- Detachable coaxial cable
- Light weight (0.2 gm)
- Ground isolated

#### Our measurement product competencies:

Piezoelectric accelerometers | Piezoresistive accelerometers | [Isotron accelerometers](#) | Variable capacitance accelerometers | Pressure transducers | Acoustic sensors | Electronic instruments | Calibration systems | Shakers | Modal hammers | Cable assemblies

# Isotron<sup>®</sup> accelerometer

## Model 25B

### Specifications

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

| Dynamic characteristics               | Units               | 25B  |
|---------------------------------------|---------------------|--|
| Range                                 | g                   | ±740   |
| Voltage sensitivity                   |                     |  |
| Typical                               | mV/g                | 5  |
| Minimum                               | mV/g                | 4  |
| Frequency response                    |                     | See typical amplitude response                                   |
| Resonance frequency                   |                     |  |
| Typical                               | kHz                 | 50   |
| Minimum                               | kHz                 | 45   |
| Amplitude response                    |                     |  |
| ±5%                                   | Hz                  | 2 to 8000  |
| ±1 dB                                 | Hz                  | 1 to 12 000  |
| Temperature response                  |                     | See typical curve  |
| Transverse sensitivity                | %                   | ≤ 5  |
| Amplitude linearity                   | %                   | < 2 to full scale  |
| <b>Output characteristics</b>         |                     |  |
| Output polarity                       |                     | Acceleration directed into base of unit produces positive output |
| DC output bias voltage                | Vdc                 | +8.5 to +11.5  |
| -67°F to +257°F (-55°C to +125°C)     | %                   | ±5 typical   |
| Output impedance                      | Ω                   | ≤ 600  |
| Full scale output voltage             | V                   | ±3.7   |
| Residual noise                        | equiv. g rms        | ≤ 0.007  |
| Grounding                             |                     | Signal ground isolated from mounting surface                     |
| <b>Power requirement</b>              |                     |  |
| Supply current [1]                    | mA                  | +3.5 to +4.5   |
| Voltage                               | Vdc                 | +18 to +24   |
| Warm-up time                          | sec                 | < 3  |
| <b>Environmental characteristics</b>  |                     |  |
| Temperature range                     | °F (°C)             | -67 to +257 (-55 to +125)  |
| Humidity                              |                     | Epoxy sealed, non-hermetic                                       |
| Sinusoidal vibration limit (survival) | g pk                | 1000   |
| Shock limit (survival) [2]            | g pk                | 2000   |
| Base strain sensitivity               | equiv. g pk/μstrain | 0.002  |
| Electromagnetic sensitivity           | equiv. g rms/gauss  | 0.09   |
| Acoustic sensitivity at 140 dB SPL    | equiv. g            | 0.008  |
| <b>Physical characteristics</b>       |                     |  |
| Dimensions                            |                     | See outline drawing  |
| Weight without cable                  | oz (gm)             | 0.01 (0.2)   |
| Case material                         |                     | Aluminum alloy, hard anodized                                    |
| Mounting [3]                          |                     | Adhesive   |
| <b>Calibration</b>                    |                     |  |
| Supplied:                             |                     |  |
| Sensitivity                           | mV/g                |  |
| Transverse sensitivity                | %                   |  |
| Frequency response                    | %                   | 20 Hz to 12 kHz  |

Endevco®

# Isotron® accelerometer

## Model 25B

### Accessories

| Product  | Description                     | 25B      |
|----------|---------------------------------|----------|
| 3006-120 | Cable assembly, 10 ft, attached | Included |
| 32279    | Mounting wax                    | Included |
| 31836    | Removal tool                    | Included |
| 2950M16  | Triaxial mounting block         | Optional |
| 123      | Signal conditioner              | Optional |
| 133      | Signal conditioner              | Optional |

### 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. See Tech Paper 290 for more details.
- 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. To remove an epoxy-mounted accelerometer, first soften the epoxy with an appropriate solvent and then twist the unit off with the supplied removal wrench. Striking or applying excessive torque to break the glue bond will cause permanent damage to the transducer. Damage to sensors caused by inappropriate removal procedures are not covered by Endevco's warranty.
- Follow the instruction manual carefully when replacing the cable assembly in the field.
- Maintain high levels of precision and accuracy using Endevco's factory calibration services. Call Endevco's inside sales force at +1 (866) 363-3826 for recommended intervals, pricing and turn-around time for these services as well as for quotations on our standard products.

### Contact

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 Tel: +1 (866) 363-3826  
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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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