ISOTRON® Accelerometer

ENDEVCO MODEL 25B

Model 25B

- **Low Impedance Output**
- **World's Smallest ISOTRON®**
- **Detachable Coaxial Cable**
- **Light Weight (0.2 gm)**
- **Ground Isolated**

DESCRIPTION

The ENDEVCO® 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 "B" version of Model 25 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. As with the "A" version, Model 25B 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 25B features ENDEVCO's PIEZITE® Type 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. A 4,000 g's full scale range is available in the 25BM1 version.

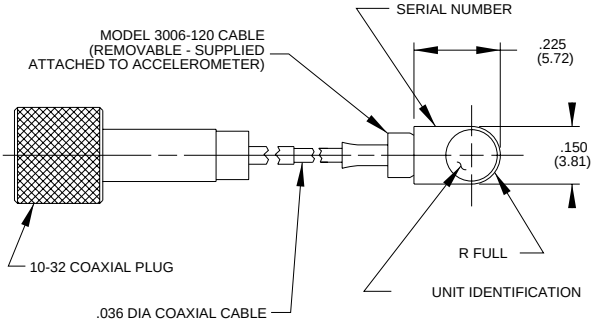
ENDEVCO Signal Conditioner Models 133, 4416B, 2792B, 2793, 2775A (set to 4 mA ± 0.5 mA), are recommended for use with this accelerometer.

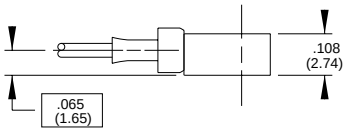


Actual size



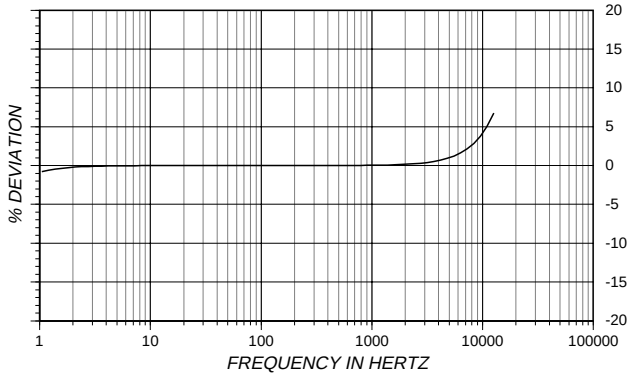
Optional triaxial mounting block



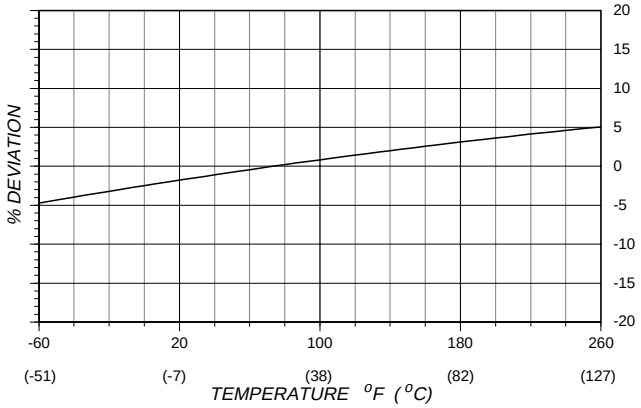


STANDARD TOLERANCE
INCHES (MILLIMETERS)
.XX = +/- .03 (.X = +/- .8)
.XXX = +/- .010 (.XX = +/- .25)

TYPICAL AMPLITUDE RESPONSE



TYPICAL TEMPERATURE RESPONSE



MEGGITT

ENDEVCO

ENDEVCO MODEL 25B

ISOTRON® Accelerometer

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 F. S.

OUTPUT CHARACTERISTICS		
OUTPUT POLARITY		Acceleration directed into the base of the unit produces positive output
DC OUTPUT BIAS VOLTAGE	Vdc	+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	Vdc	+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	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

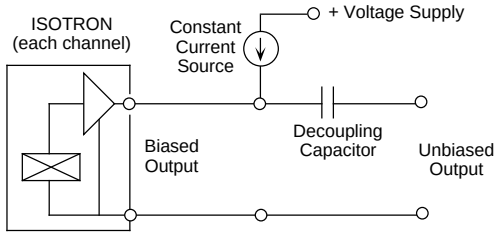
Model 3006-120 (10 ft)	CABLE ASSEMBLY [4]
P/N 31836	REMOVAL TOOL

OPTIONAL ACCESSORIES

Model 2950M16	TRIAXIAL MOUNTING BLOCK
P/N 31849	ADHESIVE MOUNTING KIT
P/N EJ21	10-32 TO BNC ADAPTOR

NOTES

1. Excessive current supply may cause permanent damage to accelerometer.
2. 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.
3. 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. An adhesive mounting kit (P/N 31849) is available as an option from Endevco. 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.
4. Follow the Instruction Manual carefully when replacing the cable assembly in the field.



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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