

ISOTRON® Accelerometer

**ENDEVCO
MODEL
35A**



Model 35A

- Low-Impedance Output
- World's Smallest Triaxial ISOTRON
- Lightweight (1.1 gm)
- Flexible, Replaceable Cable
- Ground-Isolated



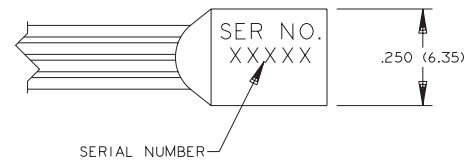
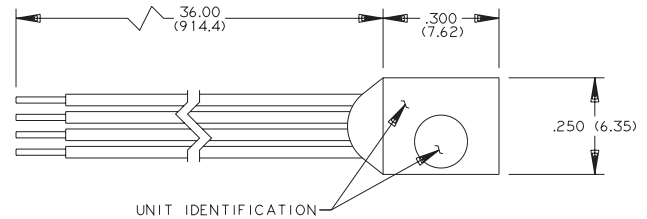
Actual size

DESCRIPTION

The ENDEVCO® Model 35A is an extremely small, adhesive-mounted piezoelectric accelerometer with integral electronics, designed specifically for measuring vibration in three orthogonal axes on very small objects. The unit weighs only 1.1 gm, reducing unwanted mass-loading effects. The unit comes with 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 4-conductor cable is attached to the ends of these leadwires, which is terminated with three BNC connectors. The Model 35A is ideal for measuring vibration in scaled models, small electronic components, and biomedical research.

The Model 35A features ENDEVCO's PIEZITE®-Type sensing element operating in shear mode. The internal amplifiers inside the accelerometer convert high-impedance charge input into low-impedance voltage output. The low-impedance output is transmitted through the same wires that supply 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.

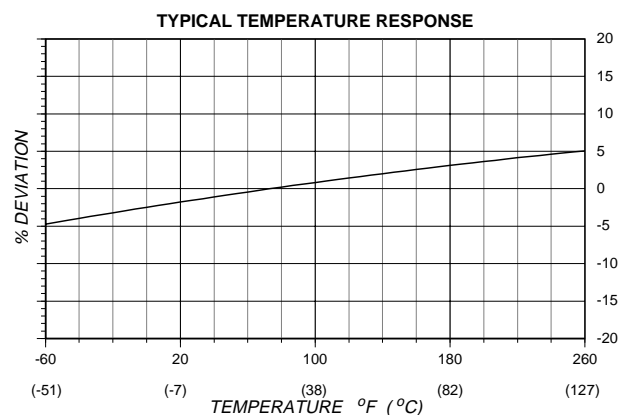
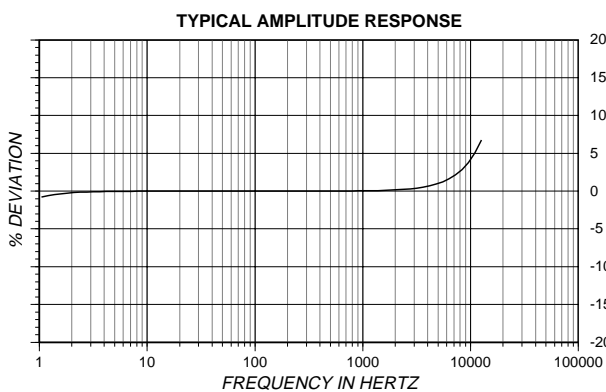
ENDEVCO Signal Conditioner Models 133, 4416B, 2792B, 2793, 2775A (set to 4 mA ± 0.5 mA), are recommended for use with this accelerometer.



BLK = G=GROUND
RED = Z=AXIS
GRN = Y=AXIS
WHT = X=AXIS

STANDARD TOLERANCE
INCHES (MILLIMETERS)
.XX = ± .02 (X = ± .5)
.XXX = ± .010 (XX = ± .25)

BRAVO: 35A



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SPECIFICATIONS (each axis)

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	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)	1.1 (0.04)
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 3027AM5	CABLE ASSEMBLY, 3 BNC's [4]
P/N 31662	REMOVAL TOOL
PETRO WAX	

OPTIONAL ACCESSORIES

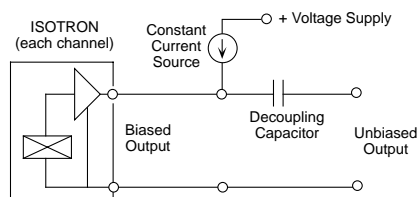
P/N 31849	ADHESIVE MOUNTING KIT
PETRO WAX	32227

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. An adhesive mounting kit (P/N 31849) is available as an option from Endevco. When removing a cyanoacrylate-mounted accelerometer, first soften the glue 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 on the accelerometer, and they are spliced together with the supplied cable assembly at the factory.
- 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.