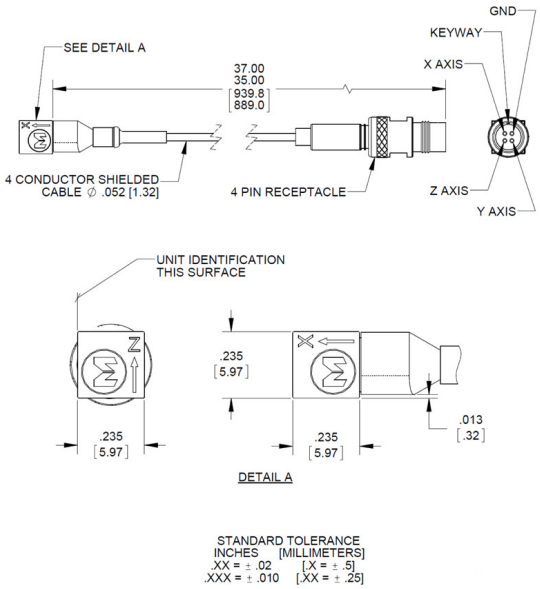
Endevco®

Isotron® accelerometer
Model 35B

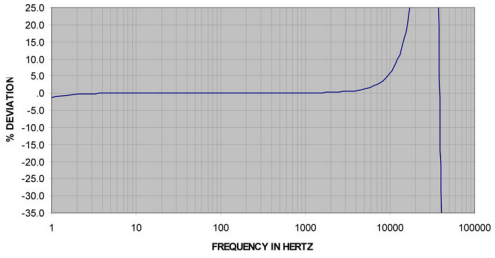


Endevco model 35B is an ultra-miniature, adhesive mounted triaxial piezoelectric accelerometer with integral electronics. Its tiny size, 0.235 inch cube, and light weight, 0.55 grams (sensor only), make it ideal for measuring vibration on very small objects. The 35B has an integral three-foot cable that terminates to a single threaded ¼-28 4-pin connector. The 35B is available in three sensitivities – 2.5 mV/g, 5 mV/g and 10 mV/g.

The model 35B features Endevco' s Piezite Type P-8 ceramic crystal operating in radial shear model which exhibits excellent output sensitivity stability over time. The accelerometer incorporates an internal hybrid signal conditioner in a two-wire system, which transmits its low impedance voltage output through the same cable that supplies the required constant current power. The case is isolated from the mounting surface by an anodized coating over the accelerometer's aluminum housing. A removal tool is included with the accelerometer to ensure proper removal in the field.

This product is fully compliant to the European Union's Low Voltage Directive, 2006/95/EC and EMC Directive 2004/108/EC and is eligible to bear the CE Mark.

TYPICAL FREQUENCY RESPONSE, MODEL 35B



Key features

- World's smallest triaxial IEPE accelerometer
- Anodized aluminum housing providing case isolation
- Miniature, 0.235 inch cube
- Lightweight, 0.55 grams
- Three sensitivity options available – 2.5, 5 and 10 mV/g
- Three-foot integral cable terminating to 4-pin connector

Meggitt Sensing Systems

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

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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	35B-2	35B-5	35B-10
Range [1]				
Nominal	g	±2800	±1400	±700
Minimum	g	±1800	±900	±450
Voltage sensitivity				
Nominal	mV/g	2.5	5	10
Tolerance	%		+40/-20	
Frequency response				
Resonance frequency				
Typical	kHz		40	
Minimum	kHz		30	
Amplitude response				
±5%, z- and y-axis	Hz	1.5 to 8000	1.5 to 8000	1.5 to 6000
±5%, x-axis	Hz	1.5 to 6000	1.5 to 5000	1.5 to 4000
Typical frequency response			See typical frequency response curve	
Transverse sensitivity	%		≤5	
Amplitude linearity	%		<2	

Electrical characteristics		
Output polarity		Acceleration in the direction of the arrow produces positive output
DC output bias voltage		
Room temperature, +75°F (+24°C)	Vdc	+7.5 to +10.5
-67°F to +257°F (-55°C to +125°C)	Vdc	+7.0 to +16.0
Output impedance	Ω	≤700
Noise floor		
Broadband		
1 Hz to 10000 Hz	µg rms	10000 / 4000 / 2000
Spectral		
1 Hz	µg / √Hz	4000 / 1700 / 1000
10 Hz	µg / √Hz	500 / 200 / 120
100 Hz	µg / √Hz	50 / 30 / 20
1000 Hz	µg / √Hz	20 / 8 / 5
Grounding method		Case is isolated from mounting surface through anodized coating
Power requirements		
Supply voltage	Vdc	+24 to +28
Supply current [2]	mA	+3.5 to +4.5
Warm-up time [3]	sec	<3
Recovery time [4]	µsec	<10
Full scale output voltage	V	±7.0

Environmental characteristics		
Temperature range	°F (°C)	-67 to +257 (-55 to +125)
Humidity		Epoxy sealed, non-hermetic
Vibration limit (sinusoidal motion) [5]	G	TBD
Shock limit [6]	g pk	3000
Electromagnetic sensitivity	equiv g rms/gauss	0.03

Physical characteristics		
Dimensions		See outline drawing
Weight, without strain relief and cable	grams (oz)	0.55 (0.02)
Case material		Anodized aluminum
Connector		4-pin Microtech style
Mounting [7]		Adhesive

Calibration data supplied			
Sensitivity, each axis	mV/g		
Bias, each axis	Vdc		
Frequency response, each axis	%	20 Hz to 8 kHz	20 Hz to 6 kHz

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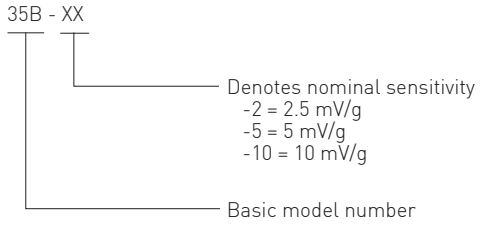
Accessories

Product	Description	35B
42952	Removal tool	Included
C-003-CA-005-ZZZZ [8]	Cable assembly 4-pin to 3 BNC	Optional
3027AM3-ZZZ [8]	Cable assembly 4-pin to 3 BNC	Optional
123	Signal conditioner	Optional
133	Signal conditioner	Optional

Notes

1. Specified limit of sensor at the entire operating temperature range
2. Excessive current supply may cause permanent damage to accelerometer
3. DC bias within 10% of final value
4. Time interval between the moment the sensor is saturated and the moment bias returns within 10% of final value.
5. Destructive limit.
6. Destructive limit. Shock is a one-time event. Shock pulses of short duration may excite transducer resonance. Shock level above the sinusoidal vibration limit may produce temporary zero shift that will result in erroneous velocity or displacement data after integration.
7. Cyanoacrylate adhesives are recommended for temporary mounting applications. To remove the accelerometer, soften the adhesive with the appropriate solvent and use the remove tool supplied with each accelerometer. Striking or applying excessive torque to break the glue bond will cause permanent damage to the transducer.
8. ZZZ or ZZZZ designates cable assembly length in inches
9. Maintain high levels of precision and accuracy using Meggitt's factory calibration services. Call Meggitt'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.
10. Model number defintion:



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