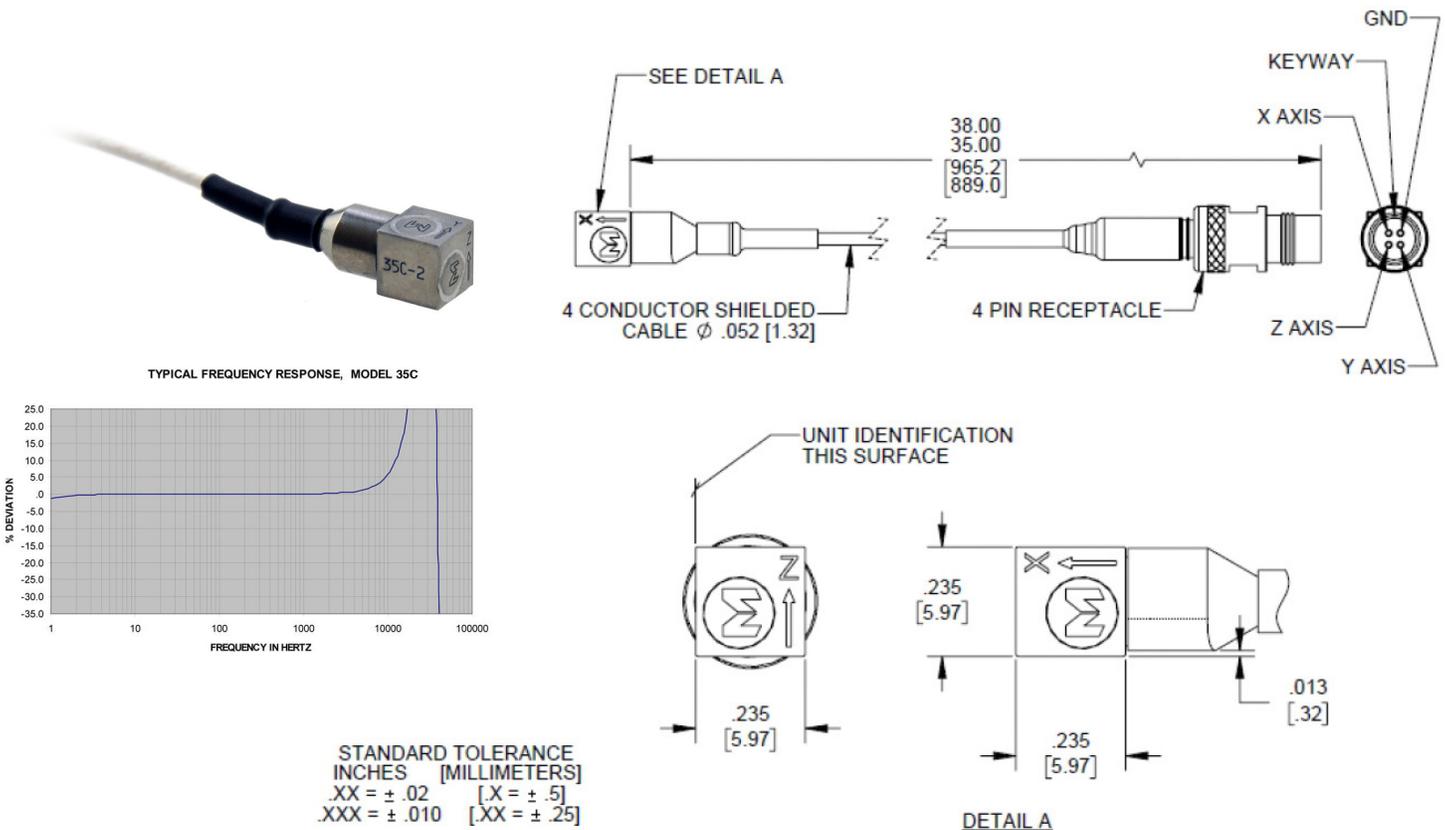


Isotron[®] accelerometer

Model 35C



Key features

- World's smallest triaxial IEPE accelerometer
- Hermetically sealed titanium case
- Miniature, 0.235 inch cube
- Lightweight, 0.76 grams
- Three sensitivity options available – 2.5, 5 and 10 mV/g
- Three-foot integral cable terminating to 4-pin connector
- Low noise floor
- Rated to IP68 standard

Description

Endevco model 35C is an ultra-miniature, adhesive mounted triaxial piezoelectric accelerometer with integral electronics. Its tiny size, 0.235 inch cube, and light weight, 0.76 grams (sensor only), make it ideal for measuring vibration on very small objects. It is hermetically sealed for use in humid and dirty environments. The 35C has an integral three-foot cable that terminates to a single threaded 1/4-28 4-pin connector. The 35C is available in three sensitivities: 2.5 mV/g, 5 mV/g and 10 mV/g.

The 35C operates in annular shear mode which exhibits excellent output sensitivity stability over time. It is also designed with a very low noise floor that results in an outstanding signal to noise ratio for more accurate measurements. 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 accelerometer is case grounded. 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 2014/35/EU, EMC Directive

2014/30/EU, RoHS Directive 2011/65/EU and is eligible to bear the CE Mark.

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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	35C-2	35C-5	35C-10
Range [1]				
Nominal	g pk	±2800	±1400	±700
Minimum	g pk	±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	2 to 8000	2 to 8000	2 to 6000
±5%, x-axis	Hz	2 to 6000	2 to 5000	2 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 +13.5	
-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	2000	1600	2700
Spectral				
1 Hz	μg / √Hz	1600	1200	1100
10 Hz	μg / √Hz	300	160	300
100 Hz	μg / √Hz	70	40	80
1000 Hz	μg / √Hz	20	12	30
Grounding method		Signal ground connected to case		
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]	sec	<10		
Full scale output voltage	V	±7.0		
Base strain sensitivity	g pk/μ strain	0.002		
Environmental characteristics				
Temperature range	°F (°C)	-67 to +257 (-55 to +125)		
Humidity (5)		Hermetic, IP68		
Shock limit [6]	g pk	5000		
Electromagnetic sensitivity	equiv g rms/gauss	0.03		
Physical characteristics				
Dimensions		See outline drawing		
Weight, without strain relief and cable	grams (oz)	0.76 (0.027)		
Case material		Titanium		
Connector		4-pin Microtech style		
Mounting [7]		Adhesive		

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Physical characteristics (con't)	Units	35C-2	35C-5	35C-10
Cable				
Type			4 conductor, shielded	
Conductor gauge	AWG		38	
Conductor insulation			PFA Teflon [®]	
Jacket			White, PFA Teflon [®]	
Calibration data supplied				
Sensitivity, each axis	mV/g			
Bias, each axis	Vdc			
Frequency response, each axis	%	20 Hz to 8 kHz	20 Hz to 8 kHz	20 Hz to 6 kHz
	dB	8 kHz to 10 kHz	8 kHz to 10 kHz	6 kHz to 8 kHz

Accessories

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

Notes

- Specified limit of sensor at the entire operating temperature range
- Excessive current supply may cause permanent damage to accelerometer
- DC bias within 10% of final value
- Time interval between the moment the sensor is saturated and the moment bias returns within 10% of final value.
- The 35C has an IP68 waterproof rating (100m depth, 48 hour duration), except the output connector. The output connector mate may be protected with a sealant such as Silicone.
- 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.
- Cyanoacrylate adhesives are recommended for temporary mounting applications. To remove the accelerometer, soften the adhesive with the appropriate solvent and use the removal tool supplied with each accelerometer. Striking or applying excessive torque to break the glue bond will cause permanent damage to the transducer.
- All materials used have less than or equal to 1% TML (Total Mass Loss) and a CVC (Collected Volatile Condensed Mass) less than or equal to 0.1%, verified by NASA documentation.
- ZZZ or ZZZZ designates cable assembly length in inches.

Ordering information

- Maintain high levels of precision and accuracy using Endevco's factory calibration services. Call Endevco's inside sales force at 866-ENDEVCO for recommended intervals, pricing and turn-around time for these services as well as for quotations on our standard products. Model number definition:

