

ISOTRON® Accelerometer

**ENDEVCO
MODEL
7253C-10**

Model 7253C-10

- Low Impedance Output
- Triaxial, Low Profile
- Replaceable Cable Assembly
- Light Weight (3.6 gm)
- Wide Bandwidth, Outstanding S/N
- Adhesive or Bolt Mounting
- BNC Output Connectors



Actual size

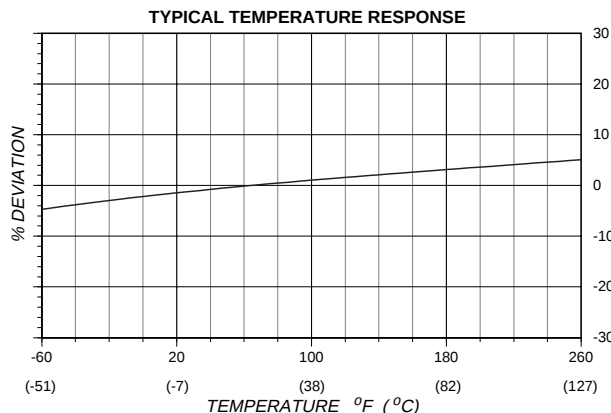
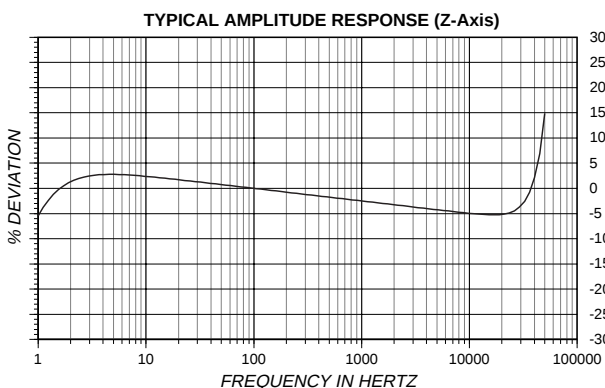
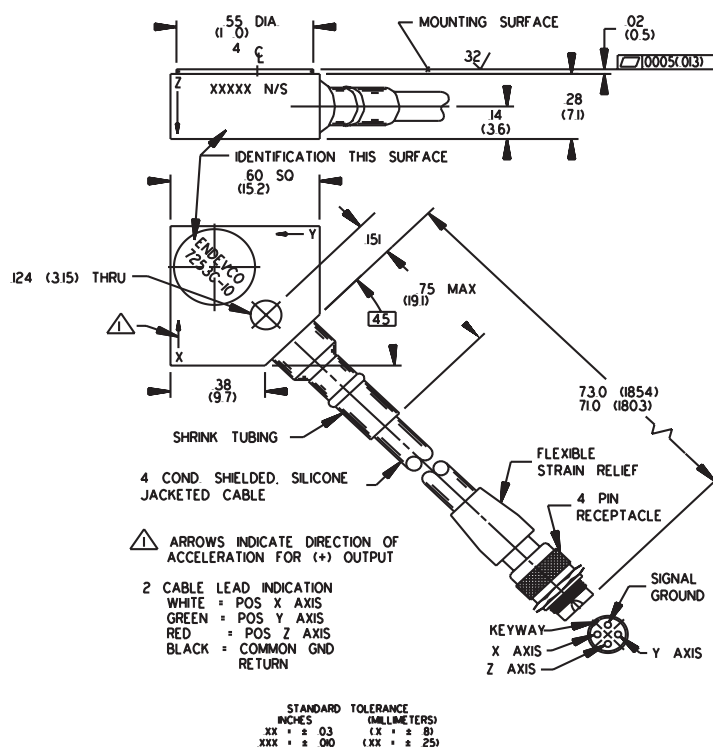


DESCRIPTION

The ENDEVCO® Model 7253C-10 is an extremely small, triaxial piezoelectric accelerometer with integral electronics, designed specifically for measuring vibration in three orthogonal axes on mini-structures and small objects. This accelerometer offers a high resonance frequency and wide bandwidth and its light weight (3.6 gm) practically eliminates mass loading effects. A factory-replaceable miniature cable assembly and an extension cable with 3 BNC output connectors are included. Model 7253C features both adhesive and bolt down capabilities.

Model 7253C features ENDEVCO's PIEZITE® Type P-8 crystal element, operating in annular shear mode, which exhibits excellent output sensitivity stability over time. Each axis of the accelerometer incorporates a low noise internal hybrid signal conditioner in a two-wire system, which transmits its low impedance voltage output through the same cable that supplies the constant current power. Signal ground is isolated from the mounting surface.

ENDEVCO Signal Conditioner Models 4416B, 133, 2792B, 2775A, 2793 or OASIS 2000 Computer-Controlled System are recommended for use with this accelerometer.



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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), 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	±500
VOLTAGE SENSITIVITY	mV/g	10
±5%		
FREQUENCY RESPONSE		See Typical Amplitude Response
RESONANCE FREQUENCY	kHz	80
AMPLITUDE RESPONSE		
±1dB	Hz	2 to 15 000
TEMPERATURE RESPONSE		See Typical Curve
TRANSVERSE SENSITIVITY	%	≤ 5
AMPLITUDE LINEARITY	%	1 to 500 g

OUTPUT CHARACTERISTICS

OUTPUT POLARITY		Acceleration applied in the direction of the arrow on the unit produces positive output
DC OUTPUT BIAS VOLTAGE	Vdc	+8.5 to +11.5
OUTPUT IMPEDANCE	Ω	≤ 100
RESIDUAL NOISE	equiv. g rms	0.002
2 Hz to 25 kHz, broadband		
GROUNDING		Signal ground connected to case but isolated from mounting surface

POWER REQUIREMENT

SUPPLY VOLTAGE	Vdc	+18 to +24
SUPPLY CURRENT	mA	+2 to +10
FULL SCALE OUTPUT VOLTAGE	V	±5
WARM-UP TIME	sec	< 3
To within 10% of final bias		

ENVIRONMENTAL CHARACTERISTICS

TEMPERATURE RANGE		-67°F to +257°F (-55°C to +125°C)
HUMIDITY		Epoxy sealed, non-hermetic
SINUSOIDAL VIBRATION LIMIT	g pk	1000
SHOCK LIMIT	g pk	2000
BASE STRAIN SENSITIVITY	equiv. g pk/μ strain	0.001
THERMAL TRANSIENT SENSITIVITY	equiv. g pk/°F (°C)	0.001 (0.0018)
ELECTROMAGNETIC SENSITIVITY	equiv. g rms/gauss	0.005

PHYSICAL CHARACTERISTICS

DIMENSIONS		See Outline Drawing
WEIGHT, W/O CABLE	gm (oz)	3.6 (0.13)
CASE MATERIAL		Anodized aluminum alloy case
CONNECTOR		4-Pin, Microtech
MOUNTING TORQUE	lbf-in (Nm)	8 (0.9)

CALIBRATION

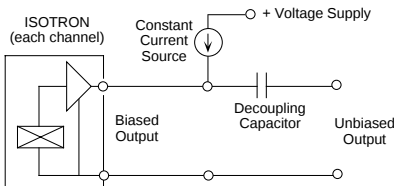
SUPPLIED:		
SENSITIVITY	mV/g	
MAXIMUM TRANSVERSE SENSITIVITY	%	
FREQUENCY RESPONSE	%	20Hz to 15 kHz
	dB	15 kHz to 50 kHz

ACCESSORIES

MODEL 3027AM3	EXTENSION CABLE, 3 BNC's
P/N 32622	REMOVAL TOOL
P/N 32279	PETRO WAX
P/N EH102	MOUNTING SCREW
P/N EHW95	WASHER (2)
P/N EHM464	HEX WRENCH

NOTES

- 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.
- 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.



Model 133 3-channel
Signal Conditioners



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.