i-TEDS Accelerometer

ENDEVCO MODEL 63C12/C13

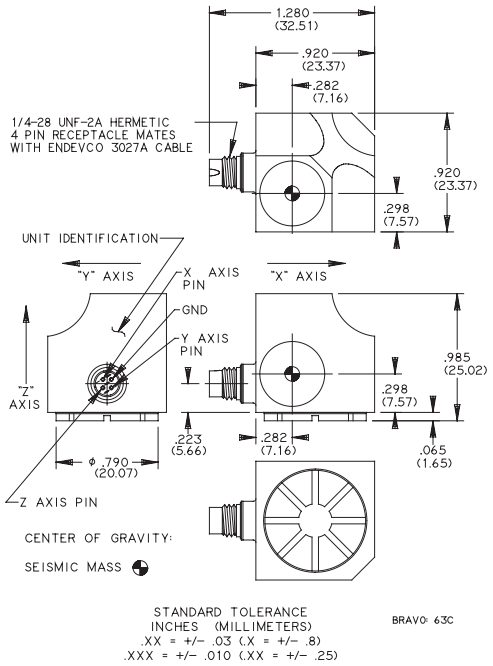
Model 63C12 and 63C13

- **Triaxial, Smart ISOTRON**
- **Designed for Modal Analysis**
- **Outstanding Phase and Amplitude Response**
- **Light Weight, Single Cable, Rugged, Low Cost**

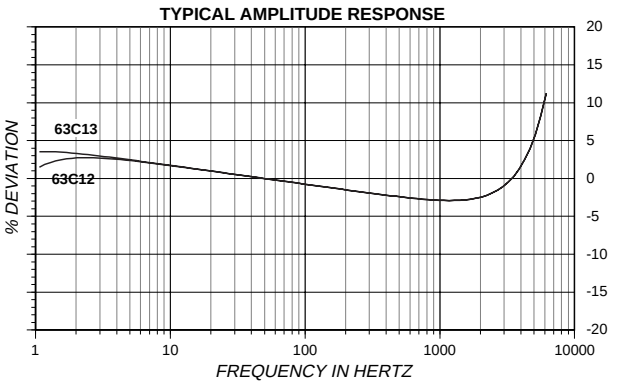
ACTUAL SIZE

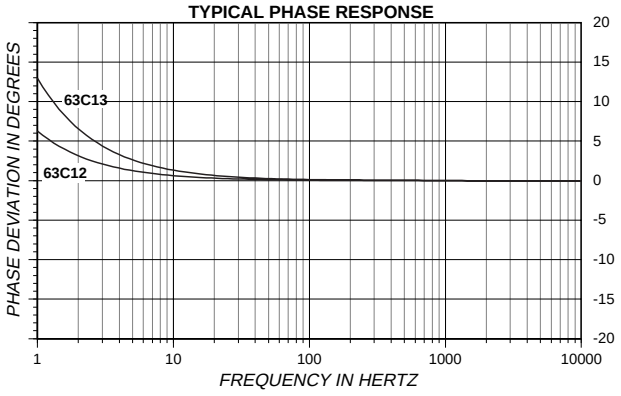
DESCRIPTION

The ENDEVCO® Model 63C is a compact triaxial piezoelectric accelerometer with integral electronics, which features Smart ISOTRON capabilities. This accelerometer offers exemplary dynamic range and frequency response, and maintains good phase characteristics over its entire operating temperature. Model 63C is designed for low frequency, low g modal analysis applications. The Model 63CXX features ENDEVCO's PIEZITE® Type P-8 crystal element, which offers the highest transduction efficiency without sacrificing ruggedness. This accelerometer features low unit-to-unit phase deviation at low frequencies, ideal for modal studies of large rigid bodies. The Smart ISOTRON features enables a dedicated signal conditioner to communicate digitally with the accelerometers TEDS (Transducer Electronic Data Sheet) compliant to the proposed IEEE 1451.4 standard. Its low impedance voltage outputs are connected to the same 4-wire cable that supplies the required constant current power. Signal ground is isolated from the mounting surface.



ENDEVCO Signal Conditioner Models 133, 2792B or 2793 are recommended for use with this accelerometer.





ENDEVCO
MODEL
63C12/C13

i-TEDS Accelerometer

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	63C12	63C13
RANGE	g	±50	±5
VOLTAGE SENSITIVITY, Typical	mV/g	100	1000
FREQUENCY RESPONSE		See Typical Curves	
Amplitude Response			
±5%	Hz	.5 to 2000	
±1dB	Hz	0.3 to 4000	
Resonance Frequency	Hz	30 000	
TRANSVERSE SENSITIVITY	%	≤ 5	
TEMPERATURE RESPONSE		See Typical Curve	
AMPLITUDE NONLINEARITY [1]	%	≤ 1	

OUTPUT CHARACTERISTICS			
OUTPUT POLARITY		Positive output when acceleration is in direction of sensative axis	
DC OUTPUT BIAS VOLTAGE	Vdc	+12 ±1	
OUTPUT IMPEDANCE	Ω	<120	
FULL SCALE OUTPUT VOLTAGE		±5	
RESIDUAL NOISE	eq. g rms	0.00013	0.00006
0.5 Hz to 10 kHz bandwidth			
GROUNDING		Signal ground is connected to the case, case is isolated from the mounting surface	

POWER REQUIREMENT			
COMPLIANCE VOLTAGE	Vdc	+20 to +30	
SUPPLY CURRENT	mA	+2 to +10	
WARM-UP TIME (to reach 90% of final bias)	sec	< 20	< 5

ENVIRONMENTAL CHARACTERISTICS			
TEMPERATURE RANGE		-67°F to +257°F (-55°C to +125°C)	
HUMIDITY		Hermectically sealed	
SINUSOIDAL VIBRATION LIMIT	g	±500	
SHOCK LIMIT	g pk	5000	
BASE STRAIN SENSITIVITY	eq. g/µstrain	0.0001	
At 250 µstrain			
THERMAL TRANSIENT SENSITIVITY	eq. g /°F (/°C)	.003 (0.006)	.025 (0.045)

PHYSICAL CHARACTERISTICS			
DIMENSIONS		See Outline Drawing	
WEIGHT	gm (oz)	44 (1.75)	
CASE MATERIAL		Titanium	
CONNECTOR		Microtech DR-4S-4H receptacle mates with Endevco Model 3027A Series Cable	
MOUNTING		Adhesive	

CALIBRATION		
SUPPLIED:		
VOLTAGE SENSITIVITY	mV/g	
MAXIMUM TRANSVERSE SENSITIVITY	%	
FREQUENCY RESPONSE	%	20 Hz to 5 kHz

ACCESSORIES

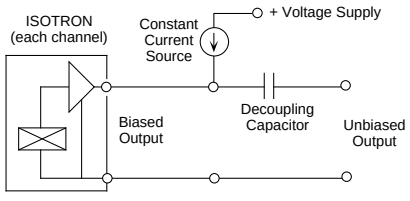
Model 3027AM3-120 (10 ft)	TRIAXIAL CABLE ASSEMBLY, 3 BNC's
Petro Wax	

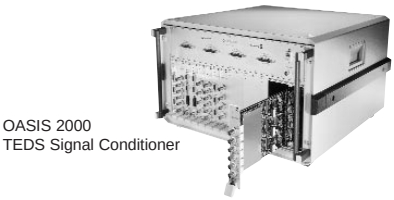
OPTIONAL ACCESSORIES

Model 3027AM4-120 (10 ft)	TRANSDUCER EXTENSION CABLE, BETWEEN TRANSDUCER AND 3027AM3
Model 3027A-120	TRIXIAL CABLE ASSEMBLY, PIGTAILS
P/N 32227	PETRO WAX

NOTES

1. 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.
2. 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.




OASIS 2000
TEDS Signal Conditioner

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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