i-TEDS Accelerometer

Model 66A50, A11, A12

- **Smallest Triax with TEDS**
- **IEEE P1451.4 TEDS**
- **Light Weight (5.5 gm)**
- **Single Cable**
- **Milli-g's Resolution**
- **Hermetically Sealed**
- **Titanium Housing**
- **Case Isolation Option**

ENDEVCO
MODEL
66A50
A11
A12

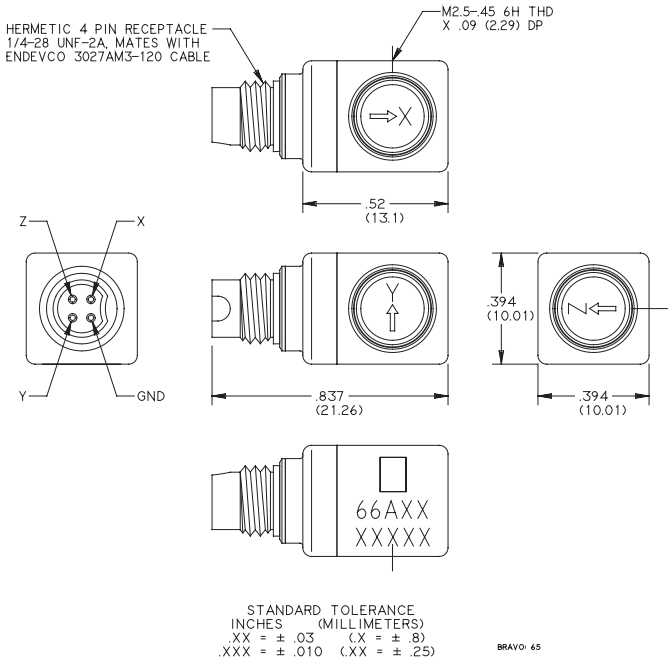
Actual size

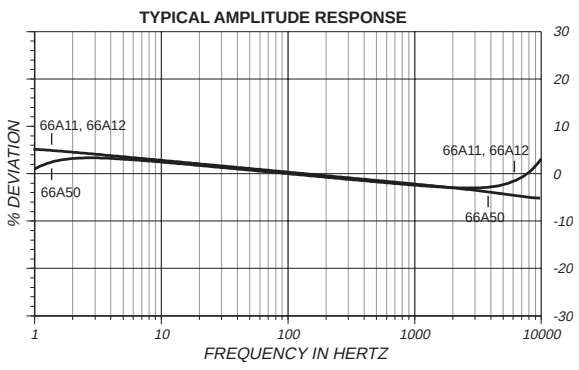
DESCRIPTION

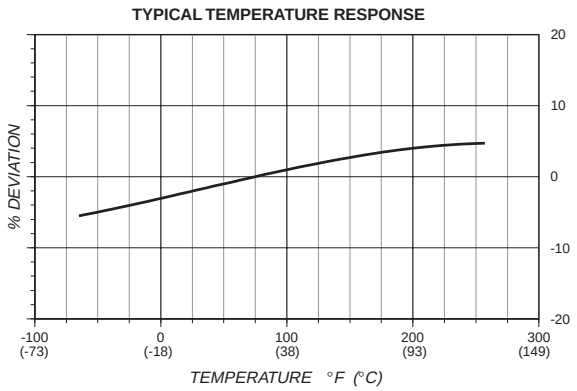
The ENDEVCO® Model 66AXX is a miniature triaxial piezoelectric accelerometer with integral hybrid electronics which features Smart ISOTRON® capabilities. One of the key design characteristics is the low unit-to-unit phase deviation at low frequency, ideal for modal analysis of large rigid bodies. The Smart ISOTRON® feature allows digital ID communication between a dedicated signal conditioner and the accelerometer which are IEEE P1451.4 compliant. Smart ISOTRON® dramatically reduces set-up time in multi-channel measurements.

The Model 66AXX features ENDEVCO's PIEZITE® crystal elements, operating in annular shear mode, which exhibit excellent output sensitivity stability over time. The Model 66AXX incorporates the transducer electronic data sheet (TEDS) which contains sensor specific and application specific information. This accelerometer incorporates three stand-alone, low noise internal hybrid signal conditioners, each operating in a two-wire system. Its low impedance voltage outputs are connected to the same cables that supply the required constant current power. A factory installed outer case can be ordered as an option for ground isolation.

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







MEGGITT

CERTIFIED ISO 9001

ACCREDITED

APPLIES TO CALIFORNIA FACILITY

ENDEVCO

ENDEVCO
MODEL
66A50
A11
A12

i-TEDS Accelerometer

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	66A50	66A11	66A12
RANGE	g	±1000	±500	±50
VOLTAGE SENSITIVITY, Typical	mV/g	5	10	100
FREQUENCY RESPONSE			See Typical Curves	
RESONANCE FREQUENCY (66A50)	kHz		25 (35)	
AMPLITUDE RESPONSE				
± 5%	Hz		1 to 10,000 (z-axis)	
	Hz		1 to 6,000 (x,y)	
±1dB, typical	Hz		0.5 to 10,000 (all axes)	
TRANSVERSE SENSITIVITY [1]	%		≤ 5	
TEMPERATURE RESPONSE			See Typical Curve	
AMPLITUDE NON-LINEARITY	%		≤ 1	

OUTPUT CHARACTERISTICS				
OUTPUT POLARITY			See arrows on outline drawing	
DC OUTPUT BIAS VOLTAGE [2]	Vdc		+11.5 to +12.5	
OUTPUT IMPEDANCE	Ω		≤ 100	
FULL SCALE OUTPUT VOLTAGE			± 5	
RESOLUTION (2 Hz to 10 kHz broadband)	g rms	0.0012	0.0008	0.0004
GROUNDING			Signal ground is connected to the case [3]	

POWER REQUIREMENT				
COMPLIANCE VOLTAGE	Vdc		+ 22 to + 30	
SUPPLY CURRENT	mA		+ 2 to + 10	
WARM-UP TIME (to reach 90% of final bias)	sec		< 20	

ENVIRONMENTAL CHARACTERISTICS				
TEMPERATURE RANGE			- 67°F to + 257°F (- 55°C to + 125°C)	
HUMIDITY			Hermetically Sealed	
SINUSOIDAL VIBRATION LIMIT	±g pk	1000	500	200
SHOCK LIMIT [3]	g pk		10,000	
BASE STRAIN SENSITIVITY	eq. g/µstrain		< 0.001	
At 250 µstrain				
THERMAL TRANSIENT SENSITIVITY	eq. g /°F (/°C)		0.02 (0.04)	0.01 (0.02)

PHYSICAL CHARACTERISTICS	
DIMENSIONS	See Outline Drawing
WEIGHT gm (oz)	5.5 (0.19)
CASE MATERIAL	Titanium, CP
CONNECTOR [4]	Microtech DR-4S-4H
MOUNTING [5]	Adhesive or M2.5 Thread

CALIBRATION	
SUPPLIED, EACH AXIS	
VOLTAGE SENSITIVITY	mV/g
MAXIMUM TRANSVERSE SENSITIVITY	%
FREQUENCY RESPONSE	%
	20 Hz to 6 kHz

ACCESSORY

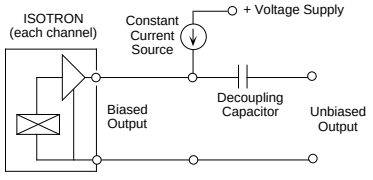
Model 3027AM3 (10 ft)	TRIAXIAL CABLE, 85°C 3 BNC's at instrumentation end
P/N EH775	Screw, cap, Hex Soc., M2.5-.45 x 6mm
Petro Wax	

OPTIONAL ACCESSORIES

Model 3027AM4-120 (10 ft)	TRIAXIAL CABLE, 125°C (Transducer extension cable, mates with Model 3027AM3)
Model 32227	Petro Wax
Model 31849	DAAK Deluxe Accelerometer Adhesive Kit
M1 Option	Electrical Isolation, Case [3]

NOTES

1. 3% Maximum Transverse sensitivity available upon request.
2. +22 Vdc minimum must be available to the accelerometer to ensure full-scale operation at the temperature extremes.
3. Case Isolation available as the M1 option.
4. Shock pulses of short duration may excite sensor resonance.
5. Microtech DR-4S-4H receptacle mates with Endevco Model 3027AM3 cable assembly.
6. Be careful not to apply abusive forces when removing the accelerometer from structure.
7. 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.

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