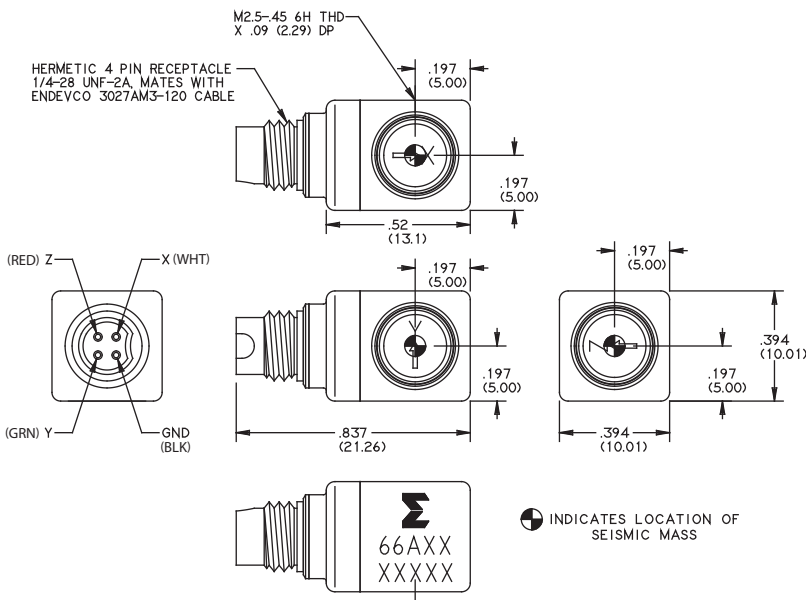




Model 66A50, A11, A12 TEDS accelerometer

Features

- **NEW!** 66A50-R, A11-R, A12-R available as replacement sensor
- IEEE P1451.4 TEDS
- Light weight
- Single cable
- Hermetically sealed
- Titanium housing
- Case isolation option available

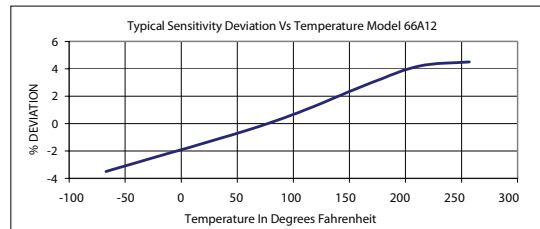
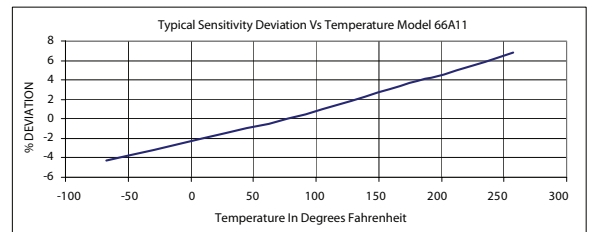
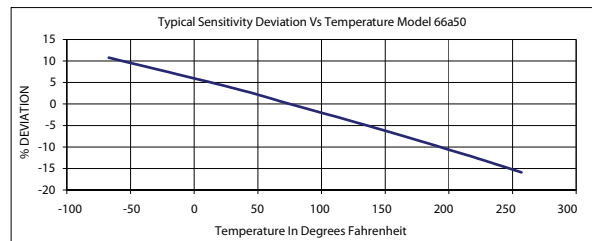


Description

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 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 for ground isolation. [1]

Endevco signal conditioner models 133, 2793, or OASIS 2000 computer-controlled system are recommended for use with this accelerometer.



Model 66A50, A11, A12 i-TEDS accelerometer

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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.

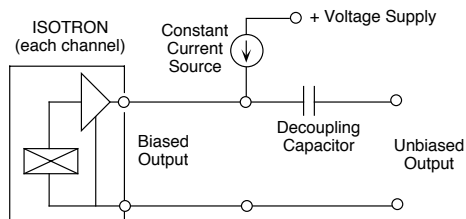
Dynamic characteristics	Units	66A50	66A11	66A12
Range	g	±1000	±500	±50
Voltage sensitivity	mV/g	5	10	100
Resonance frequency	kHz	55	60	45
Amplitude response (glue mounted) ±1 dB	Hz	0.4 to 14 000	0.4 to 14 000	1.5 to 10 000
Amplitude response (adhesive tape mounted) ±1 dB	Hz	0.5 to 6000	0.5 to 6000	1.5 to 6000
Transverse sensitivity	%	≤5	≤5	≤5
Temperature response	See typical curve			
Amplitude nonlinearity	%	≤1	≤1	≤1
Output characteristics				
Output polarity		See arrows on outline drawing		
DC output bias voltage [2] room temperature, 75°F [23°C] -67°F to +257°F [-55°C to +125°C]	Vdc Vdc	+10 to +13 +8 to +16	+12.3 to +14 +7.5 to +16	+12.3 to +14 +7.5 to +16
Output impedance	Ω	≤100	≤100	≤100
Full scale output voltage	V	±5	±5	±5
Resolution (2 Hz to 10 kHz broadband)	g rms	0.006	0.0008	0.0004
Overload recovery, 2x of full scale	ms	---	1000	2000
Grounding		Signal ground connected to case		
Power requirement				
Compliance voltage	Vdc	+ 23 to + 30	+ 23 to + 30	+ 23 to + 30
Supply current	mA	+2 to +10	+2 to +10	+2 to +10
Warm-up (to reach 90% of final bias)	sec	<20	<20	<20
Environmental characteristics				
Temperature range				
Operating		-67°F to +257°F [-55°C to +125°C]		
Digital communication		+32°F to +185°F [0°C to +85°C]		
Humidity		Hermetically sealed		
Sinusoidal vibration limit	±g pk	1000	1000	1000
Shock limit [3]	g pk	10 000	10 000	10 000
Base strain sensitivity	eq. g/μstrain	< 0.0003	< 0.0003	< 0.0003
Thermal transient sensitivity	eq. g /°F	0.005	0.005	0.002
Physical characteristics				
Dimensions		See outline drawing		
Weight	gm (oz)	5.0 (0.17)		
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 6000 Hz	

Model 66A50, A11, A12 i-TEDS accelerometer

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Accessories

Product	Description	66A50, A11, A12	66A12-R
3027AM3-120	Triaxial cable, 85°C, 3 BNC's at instrumentation end [6]	Included	Optional
EH755	Screw, cap	Included	Included
EH761	Screw, set	Included	Included
3027AVM13-120	Triaxial extension cable, +200°C cable [6]	Optional	Optional
32279	Mounting wax	Included	Optional
133	Signal conditioner	Optional	Optional
2793	Isotron signal conditioner	Optional	Optional
4990A-1	OASIS 2000 computer-controlled system	Optional	Optional



Notes:

- 66M5 (10 mV/g) and 66M6 (100 mV/g) available. Units have case isolation and must be specified at time of order.
- +22 Vdc minimum must be available to the accelerometer to ensure full-scale operation at the temperature extremes.
- Shock pulses of short duration may excite sensor resonance.
- Microtech DR-4S-4H receptacle mates with Endevco model 3027AM3 and 3027AVM13 cable assemblies.
- Be careful not to apply abusive forces when removing the accelerometer from structure.
- The 3027AVM13-XXX cable assembly should be used as a 250°F (125°C) extension cable for cable 3027AM3-120 where the accelerometer is used near its upper temperature extreme, 250°F (125°C). Cable length is specified by the model suffix, in inches. A 120-inch cable, model 3027AVM13-120, is the standard length. The supplied cable with the accelerometer, 3027AM3-120, is rated for use up to only 185°F (85°C).
- 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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