

Model 752A12 / A13 ISOTRON® accelerometer

Features

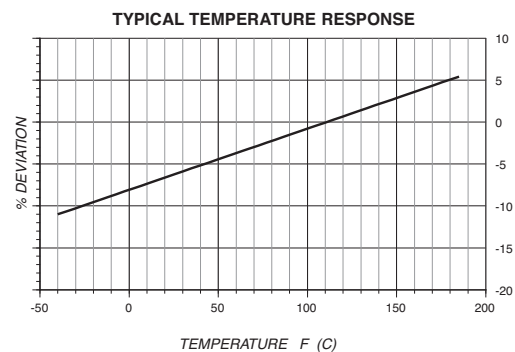
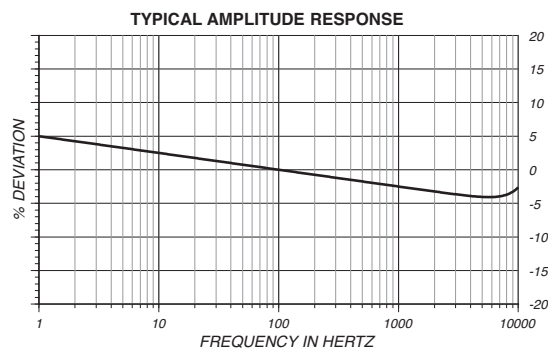
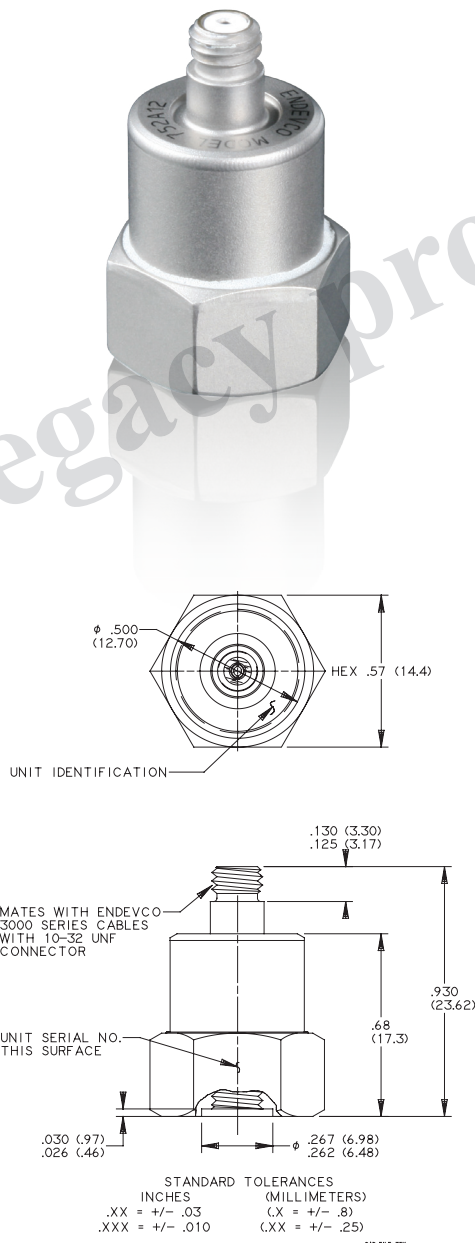
- Built-in IEEE P1451.4 TEDS
- Hermetically sealed, rugged
- Exceptional resolution
- Wide bandwidth (flat to 10 kHz)
- Aerospace, automotive and general laboratory applications

Description

The Endevco model 752A is a lightweight piezoelectric accelerometer with integral electronics, which features IEEE P1451.4 Transducer Electronic Data Sheet (TEDS) capabilities. This accelerometer offers exemplary dynamic range and frequency response, and maintains excellent phase characteristics over its entire operating frequency range. Model 752A also demonstrates outstanding shock survivability. This unit is designed to withstand most rough handling in laboratory environments without sustaining internal damage. This unit features a 10-32 top connector and a hex mounting base utilizing a 10-32 mounting stud.

The model 752A can be powered by any signal analyzer that features a 2 to 10 mA constant current supply. The model 752A features Endevco's PIEZITE® Type P-8 crystal element. Signal ground is isolated from the mounting surface. The model 752A is available in a 100 mV/g version, 752A12 and a 1V/g version, 752A13.

Endevco signal conditioner models 133, 2775B, 2793, 4416B, 4999, 6634C or OASIS 2000 (4990A-X with cards 482B, 433, 428) 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) and 100 Hz, unless otherwise noted. Calibration data, traceable to National Institute of Standards and Technology (NIST), is supplied.

Dynamic characteristics	Units	752A12	752A13
Range	g	±50	±5
Voltage sensitivity, typical	mV/g	100	1000
Tolerance	%	±20	±25
Frequency response		See typical curve	See typical curve
Amplitude response			
±5%	Hz	1 to 8000	1 to 8000
±1dB	Hz	0.5 to 10 000	0.3 to 10 000
Phase response <5° [1]	Hz	1	2
Phase response <10°	Hz	0.2	1
Resonance (nom.)	kHz	28	28
Transverse sensitivity	%	≤ 5	≤ 5
Temperature response		See typical curve	See typical curve
Amplitude linearity	%	≤ 1	≤ 1
Output characteristics			
Output polarity		Provide positive output when acceleration is in the direction of the sensitive axis.	
Output connection		See connection diagram	
DC output bias voltage	Vdc	+7 to +14	+7 to +14
Output impedance			
from 2 to 3 mA	Ω	≤ 300	≤ 300
3 to 10 mA	Ω	≤ 100	≤ 100
Full scale output voltage	V pk	±5	±5
Residual noise (1 Hz to 10 kHz bandwidth)	μ g rms	150 (max)	50 (max)
Grounding		Signal ground is connected to the case and isolated from the mounting surface	
Power requirements			
Constant current	mA	+2 to +10	+2 to +10
Supply voltage (including transients) [2]	Vdc	+20 to +30	+20 to +30
Warm-up time (to reach 10% of final bias)	sec	< 5	< 5
Environmental characteristics			
Temperature range			
Operating		-4°F to +185°F (-20°C to +85°C)	
Storage		-40°F to +257°F (-20°C to +125°C)	
Humidity		Hermetically sealed	Hermetically sealed
Sinusoidal vibration limit (without damage)	g	±300	±300
Shock limit (without damage) [3]	g pk	5000	5000
Base strain sensitivity (at 250 μstrain)	eq. g / μstrain	< 0.001	< 0.001
Thermal transient sensitivity	eq. g / °F / °C)	0.02 (0.05)	0.02 (0.05)
Electromagnetic noise	eq. g / Gauss	0.0002	0.0002
Physical characteristics	Units	752A12	752A13
Dimensions		See outline drawing	
Weight	oz (gm)	0.45 (13)	0.45 (13)
Case material		Titanium inner/outer case	Titanium inner/outer case
Connector [4]		Coaxial receptacle w/ 10-32 UNF thread designed to mate w/ Endevco model 3000 series cables	
Calibration			
Supplied:			
Sensitivity	mV/g		
Transverse sensitivity (7g pk, 12 Hz)	%		
Frequency response		20 Hz to 8 kHz	20 Hz to 8 kHz



APPLIES TO CALIFORNIA FACILITY

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Accessories

Product	Description	752 A12/A13
3061A-120	Cable assembly, 10 ft	Included
2981-12	Mounting stud, 10-32, hex I.D.	Included
2981-3	Stud, 10-32 adapter	Optional
15071	Adapter stud 1/4-28 UNF to 10-32 UNF	Optional
2981-4	Mounting stud, 10-32 to 5 mm	Optional
133	Signal conditioner	Optional
2775B	Signal conditioner	Optional
2793	Isotron signal conditioner	Optional
4416B	Signal conditioner	Optional
4999	Signal conditioner	Optional
6634C	Signal conditioner	Optional
4990A-X	Oasis 2000 computer-controlled system with cards 428, 433 and/or 482B. Only 482B card supports i-TEDS	Optional

Notes:

1. Phase deviation from unit to unit $\pm 2^\circ$.
2. 21 Vdc minimum must be available to the accelerometer to ensure full-scale operation at the temperature extremes.
3. Shock pulses of short duration may excite transducer resonance. Shock level above the sinusoidal vibration limit may produce temporary zero shift, which will result in erroneous velocity or displacement data after integration.
4. Coaxial 10-32 receptacle mates with Endevco model 3061A-120 cable.
5. 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.