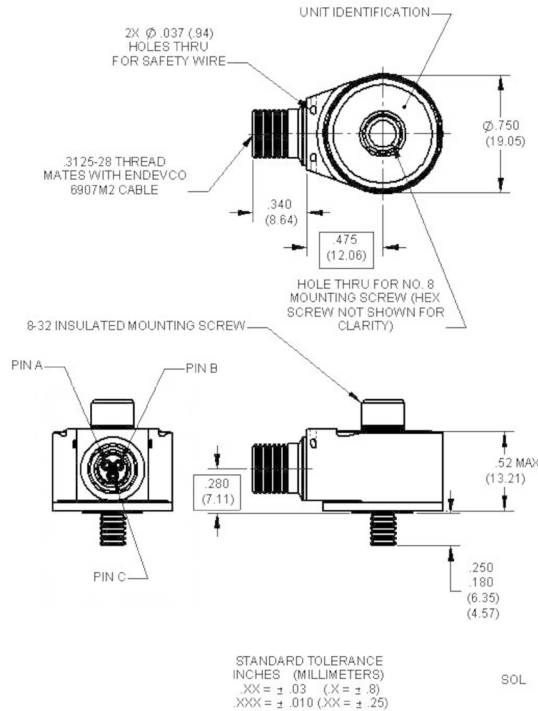


Isotron® accelerometer Model 7257AT



Key features

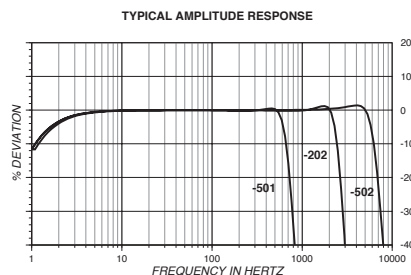
- Light weight (28 gm)
- Hermetically sealed
- 360° cable orientation
- Ground isolated
- Designed for flight test
- Biased at +2.5Vdc
- Operates from +15 to +32 Vdc
- Built-in 4-pole low pass filter

Model 7257AT is a small, hermetically sealed piezoelectric accelerometer with integral electronics, designed specifically for measuring vibration on flight test vehicles. This transducer offers the functions of a flight test accelerometer and an airborne charge amplifier in one small package. Its $\pm 2.5V$ full scale output is biased at +2.5Vdc, which can be interfaced directly with many telemetry systems. There is also a built-in 4-pole Butterworth low-pass filter to provide the necessary out-of-band signal suppression.

The model 7257AT features Endevco's Piezite® type P-8 crystal element, operating in annular shear mode, which exhibits excellent output sensitivity stability over time. The transducer can be powered by any +15 to +32Vdc supply commonly found on most flight vehicles. The unit case is electrically isolated from the mounting surface. Its center through-hole mounting configuration allows 360° cable orientation flexibility. The first suffix after the model number indicates acceleration sensitivity in mV/g, the second suffix indicates the low-pass filter upper corner frequency.

Six variations are available:

Model Number	mV/g	Hz
7257AT-010-501	10	500
7257AT-010-202	10	2000
7257AT-010-502	10	5000
7257AT-100-501	100	500
7257AT-100-202	100	2000
7257AT-100-502	100	5000



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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	-10	-100
Range	g	±250	±25
Voltage sensitivity	mV/g	10	100
Amplitude response			
±1 dB	Hz	0.4 to 10 000	1.5 to 6000
±3 dB	Hz	0.2 to 10 000	0.7 to 10 000
Phase response, ±5°	Hz	3 to 1500	10 to 1500
Frequency response		See typical response	
Resonance Frequency		40	
Amplitude Response	Hz	2 to 500 or 2000 or 5000	
Temperature response		+5 to - 15 over -55 to +100	
Transverse sensitivity	%	≤ 5	
Amplitude linearity	%	1 to full scale Amplitude non-linearity	

Output characteristics

Output polarity		Acceleration directed into base of unit produces positive output
DC output bias voltage	Vdc	+2.50 ± 0.1
Output impedance	Ω	≤ 50
Full scale output voltage	V	± 2.5
Residual noise		Typical equiv. g rms .003 (1 Hz to 10 kHz)
Overload recovery	ms	≤ 10
Grounding		Signal ground connected to case and
isolated from mounting surface.		

Power requirement

Supply voltage	Vdc	+15 to +32
Supply current	mA	<20
Warm-up time	sec	<10
To within 10% of final bias		

Environmental characteristics

Temperature range	°F (°C)	-67 to 212 (-55 to +100)
Humidity		Hermetic
Sinusoidal vibration limit	g pk	500
Shock limit	g pk	1000
Base strain sensitivity	eq. g pk/μstrain	0.04

Physical characteristics

Dimensions		See outline drawing
Weight	oz (gm)	28 (1.0)
Case material		Stainless steel
Connector [4]		Mates with model 6907M2 cable
Mounting torque	lbf-in	10 (1.1)

Calibration

Supplied		
Sensitivity	mV/g	
Maximum transverse sensitivity	%	
Frequency response	%	20 Hz to 10 kHz

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Accessories

Product	Description	7257AT
EHM689	Allen Wrench	Included
29156-3	Isolated Mounting Screw Assy, 8-32	Included
6907M2-XXX	Cable assembly	Optional

Notes

1. Model 6907M2 cable is designed specifically for use with Model 7257AT accelerometer. The instrumentation end of the cable is not terminated (pigtail) Specify length when placing order.
2. Maintain high levels of precision and accuracy using Endevco's factory calibration services. Call Endevco's inside sales force at 866-ENDEVCO for recommended intervals, pricing and turn-around time for these services as well as for quotations on our standard products.

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