ISOTRON® Accelerometer

ENDEVCO MODEL 7257AT

Model 7257AT

- **Designed for Flight Test**
- **Biased at +2.5Vdc**
- **Operates from +15 to +32 Vdc**
- **Built-in 4-pole Low Pass Filter**
- **Light Weight (28 gm)**
- **Hermetically Sealed**
- **360° Cable Orientation**
- **Ground Isolated**



Actual size

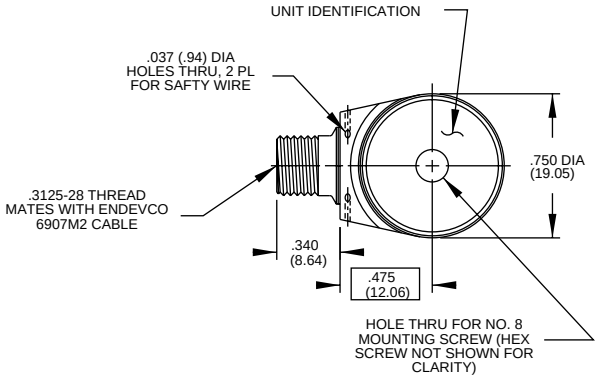
DESCRIPTION

The ENDEVCO® 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 ±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.

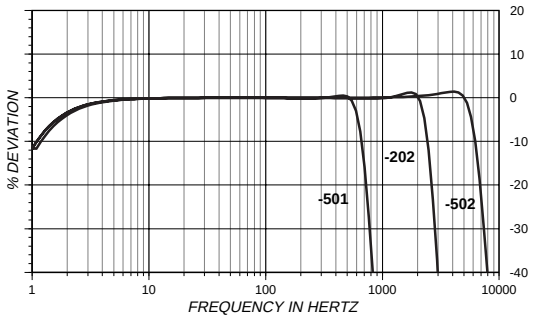
Six variations are available:

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



STANDARD TOLERANCE
INCHES (MILLIMETERS)
.XX = +/- .03 (.X = +/- .8)
.XXX = +/- .010 (.XX = +/- .25)

TYPICAL AMPLITUDE RESPONSE



ENDEVCO MODEL 7257AT

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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), 4 mA, and 100 Hz, unless otherwise noted. Calibration data, traceable to National Institute of Standards and Technology (NIST), is supplied.

DYNAMIC CHARACTERISTICS	Units	-010	-100
RANGE	g	±250	±25
VOLTAGE SENSITIVITY ±10%	mV/g	10	100
FREQUENCY RESPONSE		See Typical Amplitude Response	
RESONANCE FREQUENCY	kHz	40	
AMPLITUDE RESPONSE ±5%	Hz	2 to 500, or 2 000, or 5 000	
TEMPERATURE RESPONSE	%	+5 to -15 over -55°C to +100°C	
TRANSVERSE SENSITIVITY	%	≤ 5	
AMPLITUDE LINEARITY	%	≤1 to full scale	

OUTPUT CHARACTERISTICS		
OUTPUT POLARITY		Acceleration directed into base of unit produces positive output
DC OUTPUT BIAS VOLTAGE	Vdc	+2.5, ±0.05
OUTPUT IMPEDANCE	Ω	≤ 50
FULL SCALE OUTPUT VOLTAGE	V	±2.5
RESIDUAL NOISE 1 Hz to 10 kHz, broadband	equiv. g rms	0.003
OVERLOAD RECOVERY	ms	≤ 10
GROUNDING		Signal ground isolated from mounting surface

POWER REQUIREMENT		
SUPPLY VOLTAGE	Vdc	+15 to +32
SUPPLY CURRENT	mA	<20
WARM-UP TIME To within 10% of final bias	sec	<10

ENVIRONMENTAL CHARACTERISTICS		
TEMPERATURE RANGE		-67°F to +212°F (-55°C to +100°C)
HUMIDITY		Hermetic
SINUSOIDAL VIBRATION LIMIT	g pk	500
SHOCK LIMIT	g pk	1000
BASE STRAIN SENSITIVITY	equiv. g pk/µstrain	0.04

PHYSICAL CHARACTERISTICS		
DIMENSIONS		See Outline Drawing
WEIGHT	gm (oz)	28 (1.0)
CASE MATERIAL		Stainless steel
CONNECTOR		Mates with Endevco Model 6907M2 Cable
MOUNTING TORQUE	lbf-in (Nm)	10 (1.1)

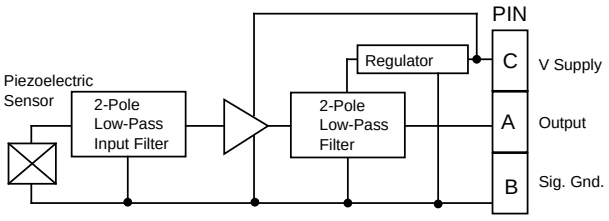
CALIBRATION		
SUPPLIED:		
SENSITIVITY	mV/g	
MAXIMUM TRANSVERSE SENSITIVITY	%	
FREQUENCY RESPONSE	%	20 Hz to 10 kHz

ACCESSORIES

EHM 689	ALLEN WRENCH
P/N 29156-3	8-32 ISOLATED MOUNTING SCREW

OPTIONAL ACCESSORIES

Model 6907M2-XXX	CABLE ASSEMBLY [1]



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.

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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