

Piezoresistive Accelerometer

**ENDEVCO
MODEL
7265A/A-HS**

Model 7265A/A-HS

- **Small Size**
- **20 and 100 g Full Scale**
- **Damped**
- **DC Response**
- **Motion Studies**



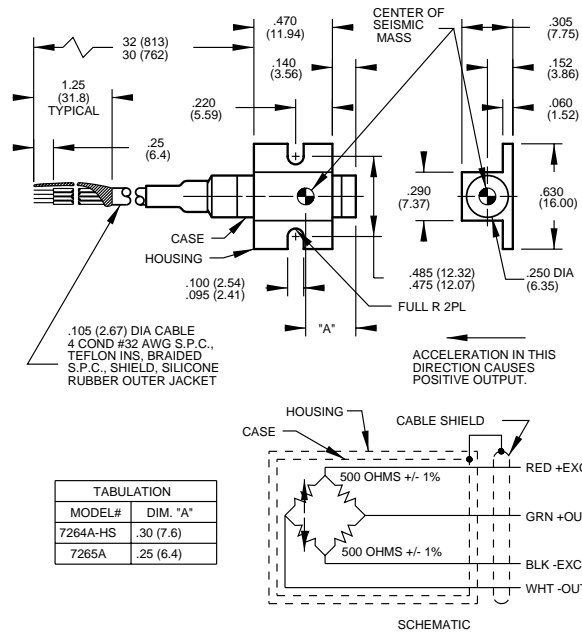
DESCRIPTION

The ENDEVCO® Model 7265A series, with sensitivity up to 25 mV/g, is a family of very low mass (6 gram), piezoresistive accelerometers designed for flutter testing, biomedical motion studies, and similar applications requiring high sensitivity, good low frequency response and minimum mass loading.

The Model 7265A series has viscous damping to extend the useful high frequency range and to reduce the effects of spurious high frequency excitation. Mechanical stops prevent damage when the transducer is subjected to overrange shock. The Model 7265A series utilizes two of ENDEVCO's PIEZITE® P-11 silicon gages and two fixed resistors in a full-bridge circuit. This configuration provides a low impedance output of 500 mV full scale with 10 Vdc excitation.

The Model 7265A has a sensitivity of 5 mV/g and a full scale of 100 g. The Model 7265A-HS (high sensitivity) has a very high sensitivity of 25 mV/g with a full scale of 20 g.

ENDEVCO Model 136 Three-Channel System, Model 4430A or OASIS 2000 Computer-Controlled System are recommended as signal conditioner and power supply.



TABULATION	
MODEL#	DIM. "A"
7264A-HS	.30 (7.6)
7265A	.25 (6.4)

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

SPECIFICATIONS

PERFORMANCE CHARACTERISTICS: All values are typical at 75°F (+24°C), 100 Hz and 10 Vdc excitation unless otherwise specified. Calibration data, traceable to the National Institute of Standards (NIST), is supplied.

	Units	7265A	7265A-HS
RANGE	g pk	±100	±20
SENSITIVITY (at 100 Hz)	mV/g Typ (Min)	5 (3.75)	25 (20)
AMPLITUDE RESPONSE [1]			
± 5%	Hz	0 to 800	0 to 500
± 1dB	Hz	0 to 2000	0 to 1000
MOUNTED RESONANCE FREQUENCY [1]	Hz	2700	1400
DAMPING RATIO [2]		0.707	0.707
NON-LINEARITY AND HYSTERESIS (% of reading, to full range)	% Max	±2	±2

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SPECIFICATIONS—continued PERFORMANCE CHARACTERISTICS

	Units	7265A	7265A-HS
TRANSVERSE SENSITIVITY	% Max	5	5
ZERO MEASURAND OUTPUT [3]	mV Max	±50	±50
THERMAL ZERO SHIFT			
From 0 to 150°F (-18°C to +66°C)	mV Max	±25	±25
THERMAL SENSITIVITY SHIFT			
At 0°F and 150°F (-18°C and +66°C)	% Typ	-5	-5
WARM-UP TIME	Minutes Max	2	2

ELECTRICAL

EXCITATION [4] [5]	10.0 Vdc, 15 Vdc maximum
INPUT RESISTANCE [4] [6]	750 ohms
OUTPUT RESISTANCE [4] [6]	900 ohms
FIXED RESISTORS	500 ohms ±1%
INSULATION RESISTANCE	100 megohms minimum at 100 Vdc; between sensors, cable shield and housing

PHYSICAL

CASE, MATERIAL	Anodized aluminum alloy
ELECTRICAL, CONNECTIONS	Integral cable, four conductor No. 32 AWG, Teflon® insulated leads, braided shield, silicone jacket
IDENTIFICATION	Manufacturer's logo, model number and serial number
MOUNTING/TORQUE	Slots for two 2-56 mounting screws/5 lbf-in (0.6 Nm)
WEIGHT	7265A weighs 5 grams, 7265A-HS weighs 5.9 grams. (cable weighs 9.2 grams/meter)

ENVIRONMENTAL

ACCELERATION LIMITS (in any direction) [7]			
Static	g	2000	2000
Sinusoidal Vibration	g pk	1000	200
Shock (half-sine pulse)	g	2000	2000
TEMPERATURE			
Operating	0°F to 150°F (-18°C to +66°C)		
Storage	-65°F to +185°F (-54°C to +85°C)		
HUMIDITY	Unaffected. Unit is hermetically sealed		
ALTITUDE	Unaffected		

CALIBRATION DATA SUPPLIED

SENSITIVITY (at 100 Hz and 10 g pk)	mV/g
FREQUENCY RESPONSE	20 Hz to 1000 Hz, % deviation reference 100 Hz
ZERO MEASURAND OUTPUT	mV
MAXIMUM TRANSVERSE SENSITIVITY	% of sensitivity
MOUNTED RESONANCE FREQUENCY	Hz
INPUT AND OUTPUT RESISTANCE	Ohms

ACCESSORIES

EHM178	ALLEN WRENCH
EHW200	(2) SIZE-2 FLAT WASHERS
EH3	(2) 2-56 X 1/4 INCH SOCKET HEAD CAP SCREWS

OPTIONAL ACCESSORIES

24328	4 CONDUCTOR SHIELDED CABLE
7955	TRIAxIAL MOUNTING BLOCK

NOTES

- Frequency Response is ±5%, typical, over entire operating temperature range, 0 Hz to 200 Hz for Model 7265A and 0 Hz to 125 Hz for Model 7265A-HS. The sensitivity increase at the mounted resonant frequency is less than 10%, reference 100 Hz.
- Damping ratio is 2.1/0.3, typical, at 0°/150°F (-18°/+66°C).
- Zero Measurand Output (ZMO) is the transducer output with 0 acceleration applied.
- Rated excitation is 10.0 Vdc. The strain gage elements have a positive temperature coefficient of resistance of approximately 0.5% per °F. Power supply current regulating capability should be carefully considered when operating at low temperature extremes, especially when exciting more than one transducer from a single supply.

- Other excitation voltages may be used to 15.0 Vdc. Specify at time of order to obtain a more accurate calibration.
- Measured at approximately 1 Vdc. Bridge resistance increases with applied voltage due to heat dissipation in the strain gage elements.
- The safety sleeve should be kept on the unit when not in use to prevent possible handling damage.
- 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.

NOTE: Tighter specifications available on special 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.