Piezoresistive Angular Accelerometer

ENDEVCO MODEL 7302B

Model 7302B

- **5000 and 50 000 rads/s^2**
- **Low Cross Axis Sensitivity**
- **Rugged**



Not Actual Size

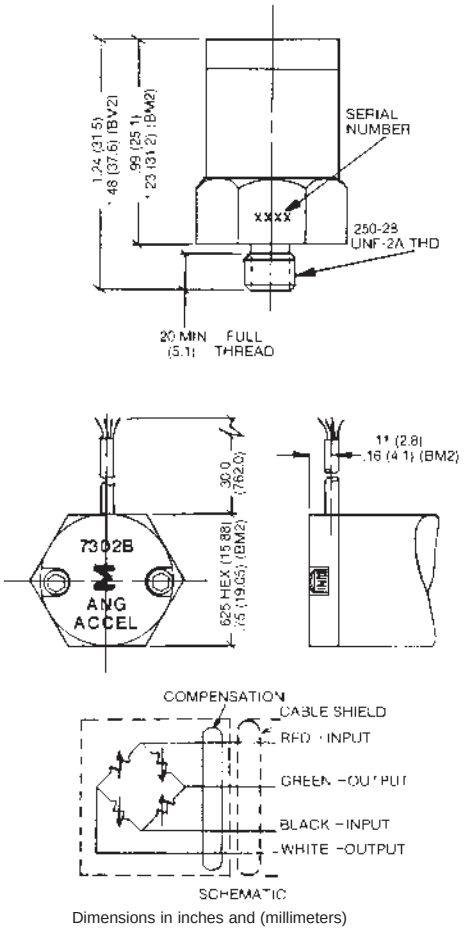
DESCRIPTION

The ENDEVCO® Model 7302B series of angular accelerometers are designed to provide accurate measurements of rotational accelerations. They are available in two ranges to best suit the intended application. The sensing system consists of a temperature compensated piezoresistive accelerometer, uniquely designed to reject cross axis angular and linear accelerations. The sensor is fluid-damped to optimize frequency and phase response within a 0° to 250°F (-17°C to 120°C) temperature range.

Applications for this accelerometer include the measurement of irregularities in shaft and drive train rotation for machine and turbine monitoring. In automotive crash studies, the Model 7302B can be mounted in anthropomorphic test dummies to measure rotational body accelerations experienced under impact.

The 7302B series provides a nominal 200 MV full scale output with 10 Vdc excitation voltage.

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



Dimensions in inches and (millimeters)

SPECIFICATIONS

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

DYNAMIC CHARACTERISTICS	Units	7302B-M2	7302B
PERFORMANCE RANGE	rads/s^2	5000	50 000
SENSITIVITY (AT 10 VDC EXCITATION) TYPICAL/MINIMUM/MAXIMUM	µV/rad/s^2	50/35/65	4.0/3.0 to 5.5
NON-LINEARITY & HYSTERESIS (TYPICAL)	%	±3.0	±1.0

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SPECIFICATIONS continued

DYNAMIC CHARACTERISTICS	Units	7302B-M2	7302B
FREQUENCY RESPONSE (±5%, TYPICAL)	Hz	0 to 100	1 to 600
MOUNTED RESONANT FREQUENCY, TYPICAL	Hz	1000	3000
DAMPING RATIO	%	0.2	0.05
TRANSVERSE ANGULAR SENSITIVITY (TYPICAL)	%	1	1
THERMAL SENSITIVITY SHIFT			
50°F to 200°F (Typical)	%		±3
25°F to 125°F (Typical)	%	±3	
ZERO MEASURAND OUTPUT (MAXIMUM)	mV	±20	±25
ELECTRICAL			
EXCITATION	Vdc	10.0	10.0
INPUT RESISTANCE, TYPICAL	Ω	2000	2400
OUTPUT RESISTANCE, TYPICAL	Ω	1600	1600
ISOLATION RESISTANCE, MINIMUM	MΩ	100	100
NOISE TYPICAL	µVrms	10	10
PHYSICAL			
CASE MATERIAL		Stainless Steel	Stainless Steel
ELECTRICAL CONNECTIONS			Four conductor No. 32 AWG Teflon® insulated leads, braided shield, silicone jacket, 30 ±3 in (76mm)
IDENTIFICATION			Manufacturer's logo, model number and serial number
MOUNTING TORQUE	LFB-IN (Nm)		approximately
WEIGHT	Grams	72	35
ENVIRONMENTAL			
TEMPERATURE RANGE, OPERATING			0°F to 250°F (-18C to 120°C)
SHOCK, ANGULAR	rad/s2	50 000	500 000
SHOCK, LINEAR	g	300	2500

NOTES
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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