

34201A Accelerometer

Precision Aligned

±1 g to ±2 g

Zero g Bias Stability ±2 mg

Very Low Noise 110 µg/√Hz

Triaxial Analog Accelerometers

The Measurement Specialties 34201A triaxial accelerometer offers precision measurements over the entire -40 to +85°C temperature range with superior bias stability and approximately 100 µg measurement resolution. Each axis is precisely aligned within 0.15 degree of the theoretical ideal to minimize errors due to misalignment or transverse sensitivity.

A tough, compact housing holds potted electronics and the small size and built-in power regulation allow the 34201A to fit where other accelerometers can't. Choose from range options of ±2, ±1.5, or ±1 g and various bandwidth options to best suit your application.

The voltage output of the 34201A is directly proportional to the acceleration along the axis. Each DC-coupled output is fully scaled, referenced, and temperature compensated. Users are supplied with a calibration certificate listing sensitivity and offset for each sensor.

The accelerometers have a nominal full scale output swing of ±2 Volts. The zero g output level is nominally +2.5 Volts. Custom versions of the 34201A can be provided.

FEATURES

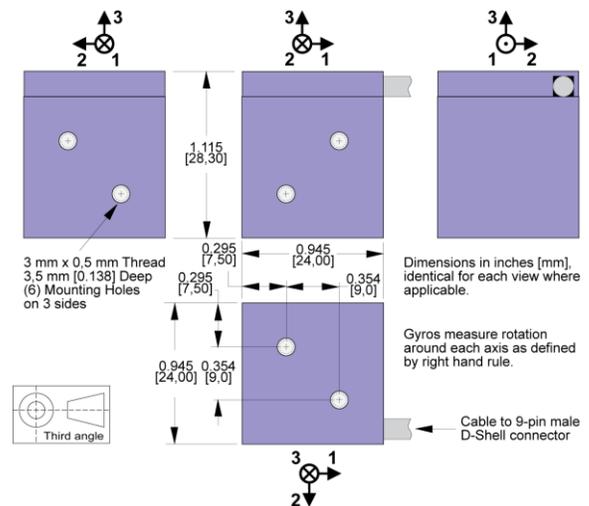
- Low Noise
- Superior Zero g Bias Stability
- Precision Alignment
- High Accuracy and Linearity over Wide Temperature Range
- Rugged for Harsh Environments
- NIST Traceable Calibration
- Small Size

APPLICATIONS

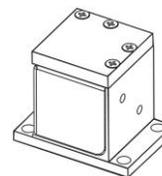
- Vehicle Dynamics
- Construction Equipment
- Research & Development
- Test & Measurement
- Military/Aerospace



dimensions



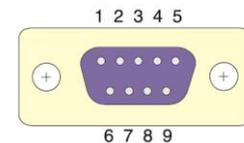
Two 3 mm x 0.5 mm threaded holes are provided on each of three orthogonal faces for mounting



Shown with mounting adapter 34170B (sold separately)

connections

T004
Male D-Shell
Connector



Pin	1	2	3	4	5	6	7	8	9
Signal	A1+	Signal-	A2+	+5 V Out	A3+	T+	Self Test-L	+Vs	Gnd
Wire	Brown	Red	Orange	Yellow	Green	Blue	Violet	Grey	White

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34201A Accelerometer

Performance Specifications

$T_A = T_{min}$ to T_{max} ; $8.5 \leq V_S \leq 36$ V; Acceleration = 0 g unless otherwise noted; within one year of calibration. Improved specifications available upon request.

PARAMETERS	Min	Typical	Max	Units	Conditions/Notes
Range: Measurement Full Scale		±2.0		g	On each axis. Must specify via Option Rnnn
Sensitivity					
At 25°C, Option R002		1000*		mV/g	Precise values on cal certificate
Drift T_{min} to T_{max}		±0.3		%	Percent of sensitivity at 25°C
Zero g Bias Level					
At 25 °C		2.5		V	Precise values on cal certificate
Drift to T_{min} or T_{max}		±2	±6	mg	At 1.25°C/min. temperature rate of change
Alignment					Precise values on cal certificate
Deviation from Ideal Axes		±0.15	±0.5	degrees	Can be compensated if required
Transverse Sensitivity		±0.25		%	Inherent sensor error, excluding misalignment
Nonlinearity		±0.2	±1.25	% FSR	Best fit straight line
Frequency Response	0		2100	Hz	Upper cutoff per option Bnnn, -3 dB pt ±10%
Noise Density		110		µg/√Hz	
Self-Test Input Impedance	5			kΩ	Pullup. Logic "1" ≥ 3.5 V, Logic "0" ≤ 1.5 V
Temperature Sensor					Accuracy ±1 °C
Sensitivity		6.45		mV/°C	
0°C Bias Level		509		mV	
Outputs					Series 100Ω for capacitance tolerance
Output Voltage Swing: R001, R1.5	0.05		4.95	V	>1 MΩ load
Output Voltage Swing: R002	0.55		4.8	V	>1 MΩ load; limits typically reach 0.2 V to 4.95 V
Power Supply (V_S)					
Input Voltage Limits	-20		+36	V	-20 V continuous, >30 V if ≤100 ms, duty <1%
Input Voltage Operating	+8.5		+36	V	
Input Current		13		mA	No load; quiescent
Rejection Ratio		>120		dB	DC
Temperature Range (T_A)	-40		+85	°C	
Mass		35		grams	Precise values on cal certificate
Shock Survival	-3500		+3500	g	Any axis for 0.5 ms, powered or unpowered

*Scale linearly with range option Rnnn; see Ordering Information

ordering info

34201A - R002 - B094 - T004

Instrument

Range

R002 : ±2 g
R1.5 : ±1.5 g
R001 : ±1 g

Bandwidth

B2k1 : 0 to 2100 Hz
B1k4 : 0 to 1400 Hz
B944 : 0 to 944 Hz
B380 : 0 to 380 Hz
B208 : 0 to 208 Hz
B142 : 0 to 142 Hz
B094 : 0 to 94 Hz
B066 : 0 to 66 Hz
B031 : 0 to 31 Hz
B6.6 : 0 to 6.6 Hz

Termination

T004 : 4 ft. cable with DB9M
T000 : PCB mount (Not shown, call SI)
Tnnn: Custom length, nnn ft. (call SI)

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