

13208A/23208A Accelerometer

±250 g, ±500 g
Accelerometers with
Wide Bandwidth to 10 kHz

Analog Accelerometer

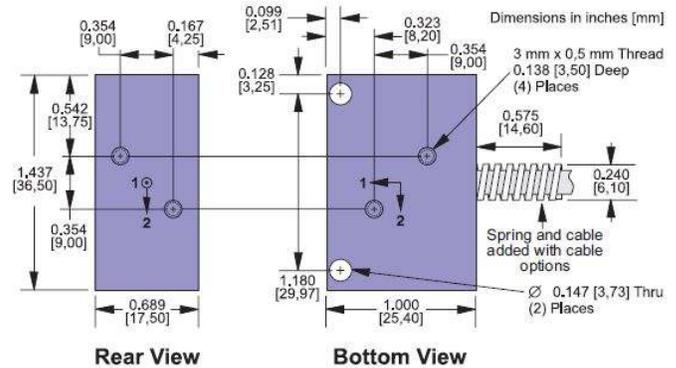
The Measurement Specialties 13208A (uniaxial) and 33208A (biaxial) analog accelerometers offer a frequency response from 0 to 10 kHz while accurately measuring ±250g or ±500g accelerations on one or two axes. Their tough, compact housing holds potted electronics and their small size and built-in power regulation allow installation where other accelerometers can't. Choose the bandwidth and range options best suited for your application.

The voltage output of the 13208A and 33208A 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, as well as the on-axis and transverse alignment parameters needed to ensure rapid and efficient system implementation. Increased offset compensation can be obtained with Option C002.

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



dimensions



Two through holes and four 3 mm x 0.5 mm threaded holes are provided for mounting.

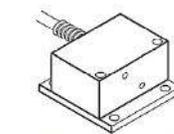
FEATURES

- Wide Bandwidth to 10 kHz
- High Accuracy and Linearity over Wide Temperature Range
- Rugged for Harsh Environments
- Small Size
- Built-in Power Supply Regulation
- Easy Installation
- Three Year Warranty

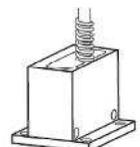
APPLICATIONS

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

Mounting
adapters
(sold
separately)

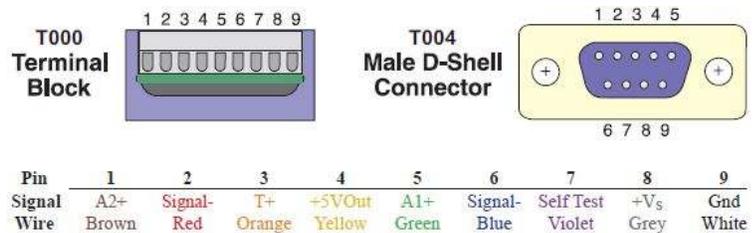


35173A Horizontal



35172A Vertical

connections



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13208A/23208A 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					On each axis. Must specify via Option Rnnn
Option R250		±250		g	
Option R500		±500		g	
Sensitivity At 25 °C					
Option R250		6.6		mV/g	Nominal
Option R500		3.3		mV/g	Nominal
Drift to T_{min} or T_{max}		±1 (TBD)		%	Percent of sensitivity at 25 °C
Zero g Bias Level					
At 25 °C		2.500		V	Precise values on cal certificate
Drift to T_{min} or T_{max} , Option C001		±2.5		g	At <1.25°C/min. temperature rate of change
Drift to T_{min} or T_{max} , Option C002		±500		mg	At <1.25°C/min. temperature rate of change
Alignment					
Deviation from Ideal Axes		±1.0	±3.0	degrees	Precise values on cal certificate. Can be compensated if required
Transverse Sensitivity		±0.25		%	Inherent sensor error, excluding misalignment
Nonlinearity		0.2	2	% FSR	Best fit straight line
Frequency Response	0		10	kHz	Upper cutoff per option Bnnn, -3 dB pt ±10%
Noise Density		2.8		mg/√Hz	10 Hz to 400 Hz
Self-Test Input Impedance	10			kΩ	Pullup. Logic "1" ≥3.5 V, Logic "0" ≤1.5 V; "0" causes self-test
Temperature Sensor					Accuracy ±1 °C over temperature
Sensitivity		6.45		mV/°C	
0°C Bias Level		509		mV	
Outputs					
Output Voltage Swing	0.25		4.75	V	$I_{out} = \pm 0.5$ mA
Capacitive Drive Capability	1000			pF	
Power Supply (V_S)					
Input Voltage Limits	-80		+80	V	-80 V continuous, >38 V if ≤550 ms, duty <1%
Input Voltage - Operating	+8.5		+36	V	Continuous
Input Current		15	20	mA	No load, quiescent
Rejection Ratio		>120		dB	DC
Temperature Range (T_A)	-40		+85	°C	
Mass		35		grams	Excludes cable; T000 values on cal certificate
Shock Survival	-4000		+4000	g	Any axis for 0.5 ms, powered or unpowered

*Scale linearly with range option Rnnn; see Ordering Information

ordering info

23208A - **R500** - **B1k0** - **T004** - **C002**

Instrument
23208A
13208A

Range
R500 : ±500 g
R250 : ±250 g

Bandwidth
B10k : 0 to 10 kHz
B5k0 : 0 to 5 kHz
B1k0 : 0 to 1 kHz

Termination
T004 : 4 ft. cable with DB9M
T000 : Terminal block
Tnnn : Custom length, nnn ft. (call SI)

Calibration
C001 : Std room temp calibration only
C002 : C001 cal plus -40 to +85°C offset compensation

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