

34208A Accelerometer

±250, ±500 g
Wide Bandwidth to 10 kHz
Precision Aligned



Triaxial Analog Accelerometers

The Measurement Specialties 34208A triaxial accelerometer offers precision measurements over the entire -40 to +85°C temperature range. Each axis is precisely aligned within 0.75 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 34208A to fit where other accelerometers can't. Choose from range options of ±250 or ±500 g, and bandwidth options of 1, 2.5, 5, or 10 kHz to best suit your application.

The voltage output of the 34208A 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 ±2.25 volts. The zero g output level is nominally +2.5 volts. Custom versions of the 34208A can be provided.

FEATURES

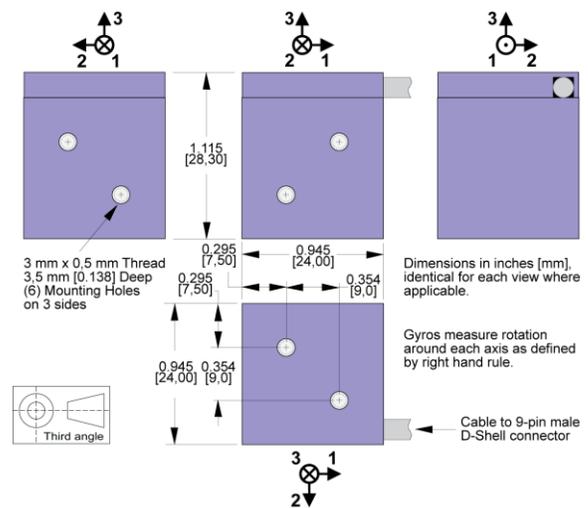
- Bandwidth to 10 kHz
- Precision Aligned
- High Accuracy and Linearity over Wide Temperature Range
- Rugged for Harsh Environments
- NIST Traceable Calibration
- Built-in Power Supply Regulation
- Easy Installation
- Three Year Warranty

APPLICATIONS

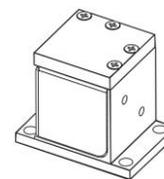
- Shock/Safety Testing
- Construction Equipment
- Research & Development
- Test & Measurement
- Military/Aerospace

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dimensions



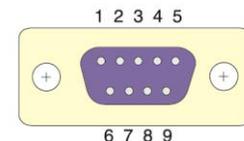
Two 3 mm x 0.5 mm threaded holes are provided on each of three orthogonal faces for mounting



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

34208A 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; specify with Option Rnnn
Option R250		±250		g	
Option R500		±500		g	
Sensitivity at 25°C					Precise values on cal certificate
Option R250		±6.6		mV/g	
Option R500		±3.3		mV/g	
Drift T_{min} to T_{max}		±1 (TBD)		%	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}		±1000		mg	At 1.25°C/min. temperature rate of change
Alignment					Precise values on cal certificate
Deviation from Ideal Axes			±0.75	degrees	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
Temperature Sensor					Accuracy ±1 °C
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	-20		+38	V	-20 V continuous
Input Voltage Operating	+8.5		+36	V	
Input Current		15	20	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	-4000		+4000	g	Any axis for 0.5 ms, powered or unpowered

*Scale linearly with Range Option Rnnn

ordering info

34208A - **R500** - **B1k0** - **T004**

Instrument

Range
R500 : ±500 g
R250 : ±250 g

Bandwidth
B10k : 0 to 10 kHz
B5k0 : 0 to 5 kHz
B2k5 : 0 to 2.5 kHz
B1k0 : 0 to 1 kHz

Termination

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

北京赛斯维测控技术有限公司
北京市朝阳区望京西路48号
金隅国际D座302
电话 : +86 010 8477 5646
传真 : +86 010 5894 9029
邮箱 : sales@sensorway.cn
<http://www.sensorway.cn>