34205A Accelerometer

±5 g to ±50 g
Superior Zero g Bias Stability
Low Noise – Wide Bandwidth

Triaxial Analog Accelerometers

The Measurement Specialties 34205A triaxial accelerometer offers precision measurements over the entire -40 to +85°C temperature range with superior bias stability and measurement resolution.

A tough, compact housing holds potted electronics and the small size and built-in power regulation allow the 34205A to fit where other accelerometers can't. Choose from range options of ±50, ±40, ±30, ±25, ±20, ±10, or ±5, and various bandwidth options to best suit your application.

The voltage output of the 34205A 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 34205A can be provided.

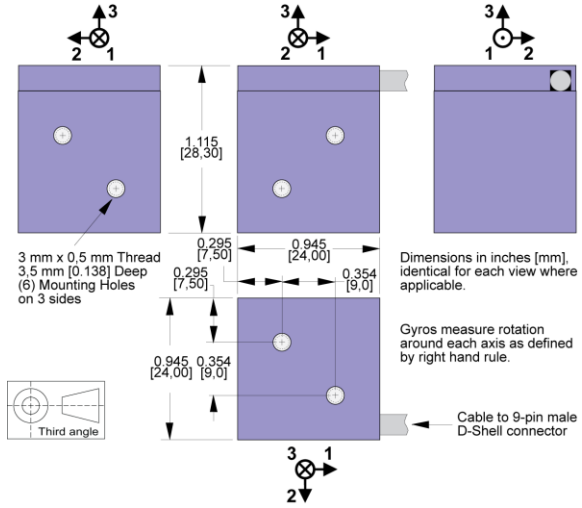
FEATURES

- Superior Zero g Bias Stability
- Low Noise
- Bandwidth to 2 kHz
- 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

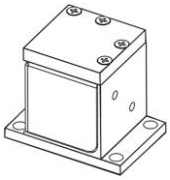
APPLICATIONS

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

dimensions

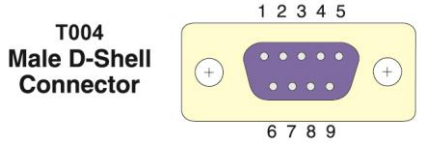


Two 3 mm x 0.5 mm threaded holes are provided on each of three orthogonal faces for mounting



Shown with mounting adapter 34170B (sold separately)

connections



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

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Performance Specifications

$T_A = T_{min}$ to T_{max} ; $8 \le V_S \le 18$ 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	±5		±50	g	On each axis. Must specify via Option Rnnn
Sensitivity					
At 25ºC, Option R050		40*		mV/g	Nom ±50 g; Precise values on cal certificate
Drift Tmin to Tmax			±2.0	%	Percent of sensitivity at 25ºC
Zero g Bias Level					
At 25 ºC		2.5		V	Precise values on cal certificate
Drift to Tmin or Tmax					
Option R050, R040, R030, R025, R020		±80	±200	mg	At 1.25ºC/min. temperature rate of change
Option R010, R005		±16	±40	mg	At 1.25ºC/min. temperature rate of change
Alignment					Precise values on cal certificate
Deviation from Ideal Axes		±0.35	±3.0	degrees	Can be compensated if required
Nonlinearity		±0.15	±0.5	% FSR	Best fit straight line
Frequency Response	0		2000	Hz	Upper cutoff per Option Bnnn, -3 dB pt ±10%
Noise Density					T_A = 25ºC
Option R050, R040, R030, R025, R020		50		µg/√Hz	
Option R010, R005		10		µg/√Hz	
Temperature Sensor					Accuracy ±1 ºC
Sensitivity		6.45		mV/ºC	
0ºC Bias Level		509		mV	
Outputs					
Output Voltage Swing	0.25		4.75	V	I_{OUT} = ±0.5 mA
Capacitive Drive Capability	500			pF	
Power Supply (V_S)					
Input Voltage Operating	+8		+18	V	Will withstand -20 V continuous or 36 V for <1 sec.
Input Current		33	50	mA	No load; quiescent
Rejection Ratio		>120		dB	DC
Temperature Range (T_A)	-40		+85	ºC	
Mass		35		grams	Precise values on cal certificate
Shock Survival	-5000		+5000	g	Any axis for 0.1 ms, powered or unpowered

*Scale linearly with range option Rnnn; see Ordering Information

ordering info

34205A - R050 - B2k0 - T004

Instrument
34205A

Range - Bandwidth

Range	Bandwidth
R050 : ±50 g	B2k0 : 0 to 2000 Hz
R040 : ±40 g	B1k4 : 0 to 1400 Hz
R030 : ±30 g	B944 : 0 to 944 Hz
R025 : ±25 g	B380 : 0 to 380 Hz
R020 : ±20 g	B208 : 0 to 208 Hz
R010 : ±10 g	B1k0 : 0 to 1000 Hz
R005 : ±5 g	B944 : 0 to 944 Hz
	B380 : 0 to 380 Hz
	B208 : 0 to 208 Hz

Termination
T004 : 4 ft. cable with DB9M
T000 : PCB Mount (Not shown, Call SI)
T*nnn* : Custom length, *nnn* ft. (Call SI)

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