Preliminary

34205A

SPECIFICATIONS

- **±5 g to ±50 g Triaxial Accelerometer**
- **Superior Zero g Bias Stability**
- **Low Noise - Wide Bandwidth**

Precisely Measure Real-World Accelerations

Measurement Specialties 34205A accelerometer provides the accuracy required by most measurement applications without any compensation. Critical applications requiring higher accuracy can use the alignment data provided on the calibration certificate to compensate for any small residual error.

Choose the bandwidth and range options best suited for your application to mea-sure ±5 g, ±10 g, ±20 g, ±25 g, ±30 g, ±40 g, or ±50 g accelerations on each of three axes.

Each axial sensor has been tested over the -40 to +85°C temperature range and has a nominal full scale output swing of ±2.25 volts. The zero g output level is nominally +2.5 volts. Precise values for each axis are available on the included calibration certificate.

FEATURES AND BENEFITS

High Accuracy and Linearity over Wide Temperature Range
The voltage output for each axis of the 34205A is directly proportional to the acceleration along that axis. Each DC-coupled output is fully scaled, referenced, and temperature compensated over the entire -40 to +85°C temperature range.

CalibrationCertificate
Each 34205A is supplied with a calibration certificate listing sensitivity and offset, as well as the on-axis and transverse alignment parameters needed to ensure rapid and efficient system implementation. The alignment data can be used to compensate the measured values to achieve an even higher level of sensor accuracy.

Small Size
Complete conditioned triaxial accelerometer in less than a cubic inch.

-Built-In Power Supply Regulation
Unregulated DC power from +8 to +18 volts is all that is required to measure accelerations on all axes.

Suitable for Harsh Environments
The 34205A is robust and can be used in harsh environments. The unit is packaged in a rugged aluminum housing and will survive 5000 g powered or unpowered.

Warranty
These Measurement Specialties accelerometers come with a three-year factory warranty.

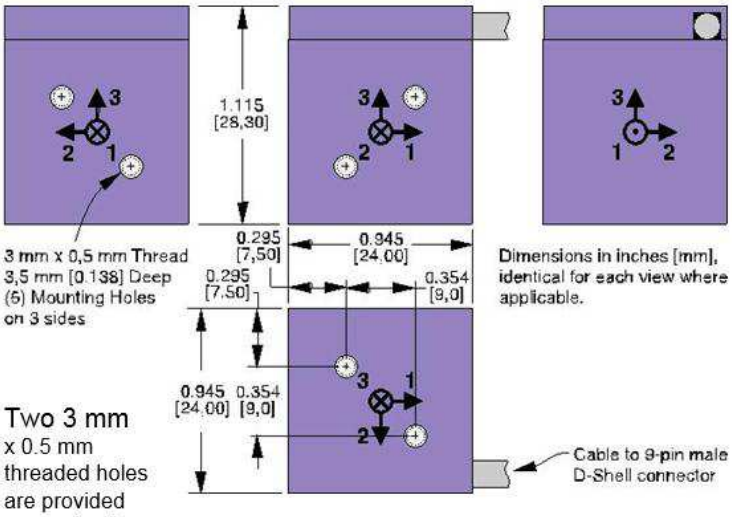
SPECIFICATIONS FOR 34205A - *improved specifications available upon request*

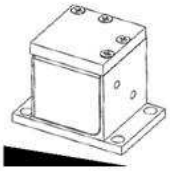
Ta = Tmin to Tmax; 8 ≤ Vs ≤ 18 V; Acceleration = 0 g unless otherwise noted; within one year of calibration.

Parameter	Min	Typical	Max	Units	Conditions/Notes
Range Measurement Full Scale	±5		±50	g	On each axis. Must specify via Option Rnnn
Sensitivity					
At 25°C, Option R050		40†		mV/g	Nom ±50 g. Precise values on cal certificate
Drift T_{min} to T_{max}			±2.0	%	Percent of sensitivity at 25°C
Zero g Bias Level					
At 25°C		2.5 ±0.010		V	Precise values on cal certificate
Drift T_{min} to T_{max}:					
Option R050, R040, R030, R025, R020		±80	±200	mg	At <1.25°C/min temperature rate of change
Option R010, R005		±16	±40	mg	At <1.25°C/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 =25°C
Option R050, R040, R030, R025, R020		50		µg/√Hz	
Option R010, R005		10		µg/√Hz	
Temperature Sensor					Accuracy ±1°C typical
Sensitivity		6.45		mV/°C	
0°C Bias Level		509		mV	
Outputs					
Output Voltage Swing	0.50		4.50	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	°C	
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*

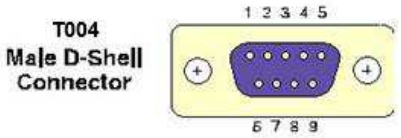
MECHANICAL





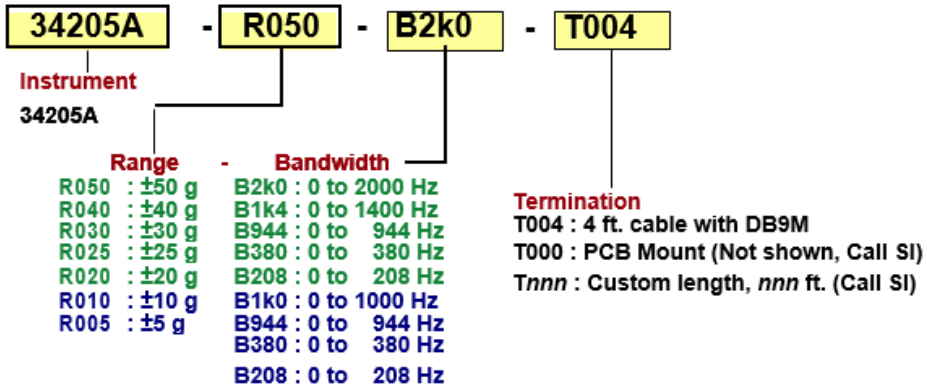
Shown with 34170B ⟋ mounting adapter ↓ (sold separately)

CONNECTIONS



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

ORDERING INFORMATION



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