

MODEL 13200C & 23200C ACCELEROMETER

SPECIFICATIONS

- ◆ DC Response, Capacitive Silicon MEMS
- ◆ Uniaxial (13200C) and Biaxial (23200C) Options
- ◆ $\pm 10g$ to $\pm 70g$ Dynamic Ranges
- ◆ Superior Zero g Bias Stability
- ◆ High Accuracy & Linearity

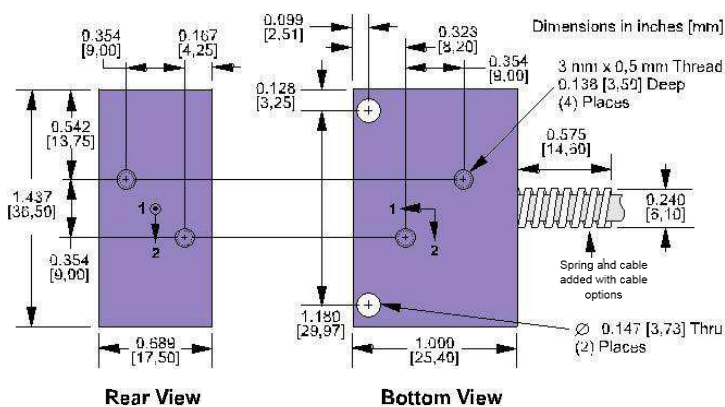
The Measurement Specialties 13200C and 23200C accelerometers include a temperature sensor in their small, rugged package. The small size and built-in power regulation allow the 13200C and 23200C to fit where other accelerometers can't. Choose the bandwidth and range options best suited for your application to measure $\pm 10g$, $\pm 15g$, $\pm 20g$, $\pm 25g$, $\pm 30g$, $\pm 35g$, $\pm 40g$, $\pm 50g$, or $\pm 70g$ accelerations on one or two axes

Tested over the -40 to $+85^{\circ}\text{C}$ temperature range, the accelerometers have a nominal full scale output swing of $\pm 2\text{V}$ with a zero g output level nominally at $+2.5\text{Vdc}$.

The voltage output for the 13200C and 23200C is directly proportional to the acceleration along the axis. Each DC-coupled output is fully scaled, referenced, and temperature compensated.

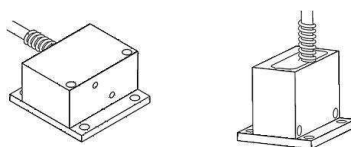
Unregulated DC power from $+8.5$ to $+36$ Volts is all that is required to measure acceleration and temperature. Reverse power voltages of up to -80V can be withstood indefinitely. Transients of $+80\text{V}$ for 550ms compatible with MIL-STD-704A can be withstood with full operation.

dimensions



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

Mounting adapters
(Sold separately)



FEATURES

- ◆ 8.5-36Vdc Excitation Voltage
- ◆ Rugged, Compact Package
- ◆ Precise Temperature Compensation
- ◆ Capacitive Silicon MEMS Element
- ◆ 9-Pin Connector Interface
- ◆ Self-Test Enabled

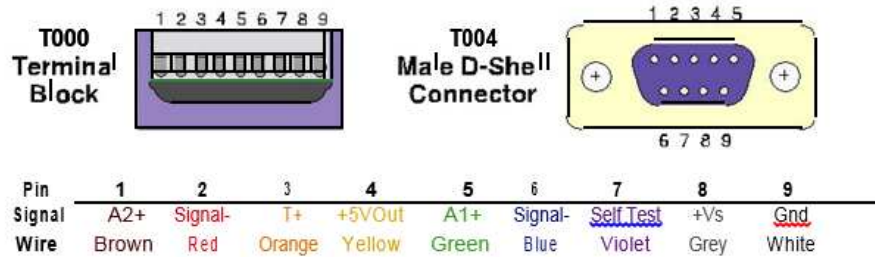
SPECIFICATIONS FOR 13200C AND 23200C- *improved specifications available upon request*

T_a = T_{min} to T_{max}; 8.5 ≤ V_s ≤ 36 V; Acceleration = 0 g unless otherwise noted; within one year of calibration.

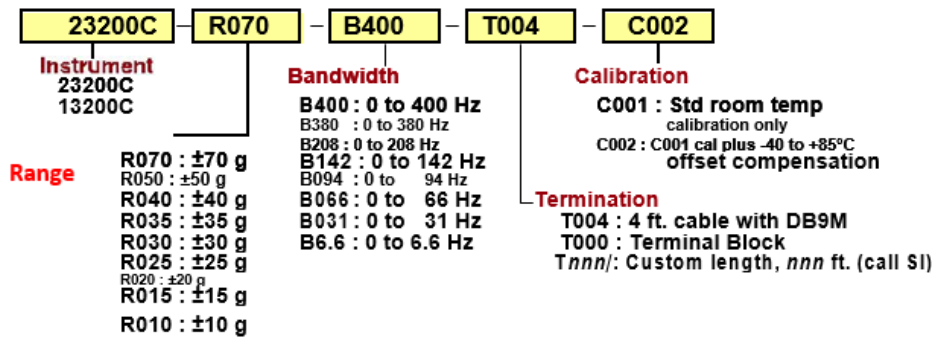
Parameter	Min	Typical	Max	Units	Conditions/Notes
Range					
Measurement Full Scale	±10		±70	g	On each axis. Must specify via Option Rnnn
Sensitivity					
At 25°C, Option R050		40 [†]		mV/g	Precise values on cal certificate
Drift T _{min} to T _{max}		±0.5		%	Percent of sensitivity at 25°C
Zero g Bias Level					
At 25°C		2.50 ±0.010		V	Precise values on cal certificate
Drift T _{min} to T _{max} , Option C001		1		g	At 1.25°C/min. temperature rate of change
Drift T _{min} to T _{max} , Option C002		60		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		400	Hz	Upper cutoff per Option Bnnn, -3dB pt ±10% 10 Hz to 400 Hz
Noise Density					
Option R070		1.8	3.5	mg/√Hz	
Option R050, R040		1.4	3.0	mg/√Hz	
Option R035, R030, R025, R020, R015, R010		1.1	3.0	mg/√Hz	
Self-Test Input Impedance					
	10			kΩ	Pullup. Logic "1" ≥ 3.5 V, Logic "0" ≤ 1.5 V
Temperature Sensor					
Sensitivity		6.45		mV/°C	Accuracy ±1°C
0°C Bias Level		509		mV	
Outputs					
Output Voltage Swing	0.50		4.50	V	I _{out} = ±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		12		mA	
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; see Ordering Information

CONNECTIONS



ORDERING INFORMATION



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