

## LCM 100 Accelerometer

**BEST OF  
CLASS**



The JEWELL LCM accelerometer is a general-purpose acceleration sensor for industrial, commercial and aerospace applications. Engineered with micromachined components the LCM offers an attractive price/performance ratio. This 0.5G to 4G device meets the demanding needs of applications requiring 500G shock resistance and up to 500Hz bandwidth.

### LCM 100 Accelerometer Specifications

#### Performance

Input Range, g:	±0.5	±2.0	±4.0
Full Range Output (FRO), volts ±2% <sup>1</sup> :	±5.0	±5.0	±5.0
Nonlinearity, % FRO <sup>2</sup> :	0.20	0.20	0.20
Scale Factor, volts/g, nominal:	10.0	2.5	1.25
Scale Factor Temp Sensitivity, nominal:	0.50% of reading over the temperature range		
Bias, g, maximum:	0.05	0.10	0.10
Bias Temperature Sensitivity, G/°C, nominal:	0.003	0.003	0.003
Natural Frequency, Hz, nominal <sup>3</sup> :	100	100	100
Input-Axis Misalignment, °, maximum:	3.0	3.0	3.0
Resolution and Threshold, g:	0.005	0.005	0.005

#### Electrical

Input Voltage, VDC, <sup>4</sup> :	±12 to ±18		
Input Current, mA, nominal:	15		
Output Impedance, ohms, nominal:	100		
Noise, mV rms, maximum:	0.020	0.010	0.005

#### Environmental

Operating Temp Range:	-40° C to +85° C
Survival Temp Range:	-65° C to +85° C
Shock:	500 G, 0.5 msec
Vibration:	10 grms
Seal:	MIL-STD 202, Method 112
Weight:	4 oz.

<sup>1</sup> Full Range is defined "from negative full input acceleration to positive full input acceleration."

<sup>2</sup> Nonlinearity is specified as deviation of output referenced to theoretical best fit straight line, independent of misalignment.

<sup>3</sup> Output Phase angle = -90°, 10 Hz or 500 Hz also available.

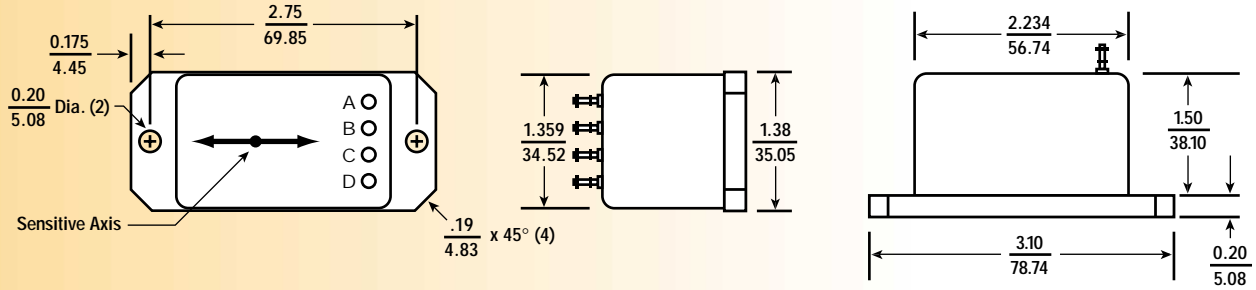
<sup>4</sup> Unit Power connections can be easily adapted for operations from single-ended, floating power supplies of 24 to 36 Volts DC.

### Applications

- ▶ Automotive Performance Testing
- ▶ Elevator Control
- ▶ Seismic Monitoring
- ▶ Machine Tool Control
- ▶ Flight Testing

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Dimensional Drawing for the LCM Accelerometer (Inch/mm)



Block Diagram for the LCM Inertial Sensor

