Jewell Instruments

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%[1]:	±5.0	±5.0	±5.0
Nonlinearity, % FRO[2]:	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[3]:	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,[4]:	±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.		

[1] Full Range is defined "from negative full input acceleration to positive full input acceleration."
[2] Nonlinearity is specified as deviation of output referenced to theoretical best fit straight line, independent of misalignment.
[3] Output Phase angle = -90°, 10 Hz or 500 Hz also available.
[4] Unit Power connections can be easily adapted for operations from single-ended, floating power supplies of 24 to 36 Volts DC.

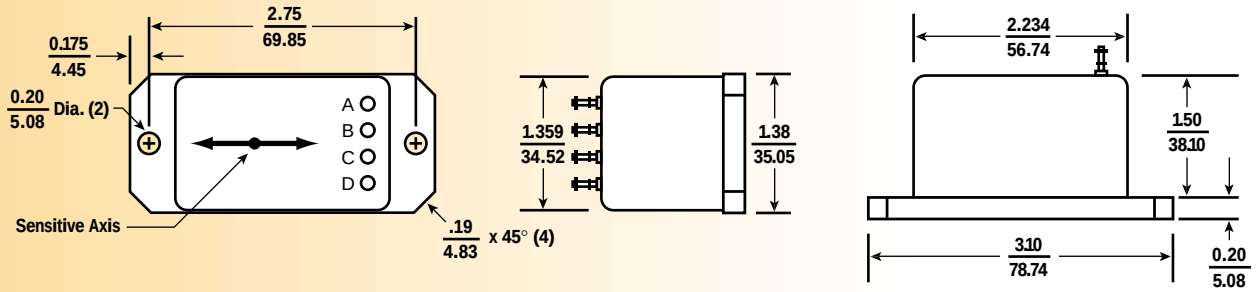
Applications

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

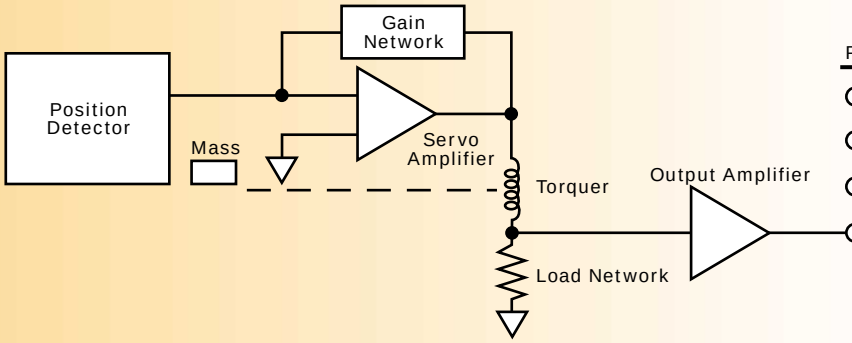
DSPM Industria sensori & trasduttori
Via Paolo Uccello 4 20148 Milano
Tel +39 02 48 009 757 Fax +39 02 48 002 070 info@dspmindustria.it www.dspmindustria.it

LCM 100 Accelerometer

Dimensional Drawing for the LCM Accelerometer (inch/mm)



Block Diagram for the LCM Inertial Sensor



Pin-Out

- (A) +12 to +18 VDC
- (B) -12 to -18 VDC
- (C) Power/Signal Com.
- (D) E_0 (volts/g)