

**BEST OF
CLASS**



The Jewell Instruments LCF-501 Series accelerometers are configured specifically to yield a combination of high accuracy and ruggedness in railway applications. The inertial sensor moving system is supported by a taut-band torsional suspension, which is floated in a silicon damping fluid. This provides extreme ruggedness in high vibration (or long term low level vibration) and shock environments. The LCF moving system suspension has a proven history of successful railway applications with thousands of railway train control accelerometers in use worldwide.

LCF-501-1-5131

Performance

Input Range, g	±1g
Full Range Output (FRO)	±5V ±0.5%
Nonlinearity	0.02% FRO maximum
Scale Factor	5V/g nominal
Scale Factor Temp. Sensitivity	60 PPM/°C maximum
Bias	0.004g maximum
Bias Temperature Sensitivity	50 µg/°C maximum
Natural Frequency	75 Hz minimum
Damping Ratio	0.5 to 0.8
Cross Axis Sensitivity	0.00002g/g maximum
Transverse Axis Misalignment	±1° maximum
Resolution and Threshold	1µg maximum

Electrical

Input Voltage	±15 Volts DC ±20%
Input Current	±15mA maximum
Output Impedance	100 ohms nominal
Noise	0.005 Volts rms maximum

Environmental

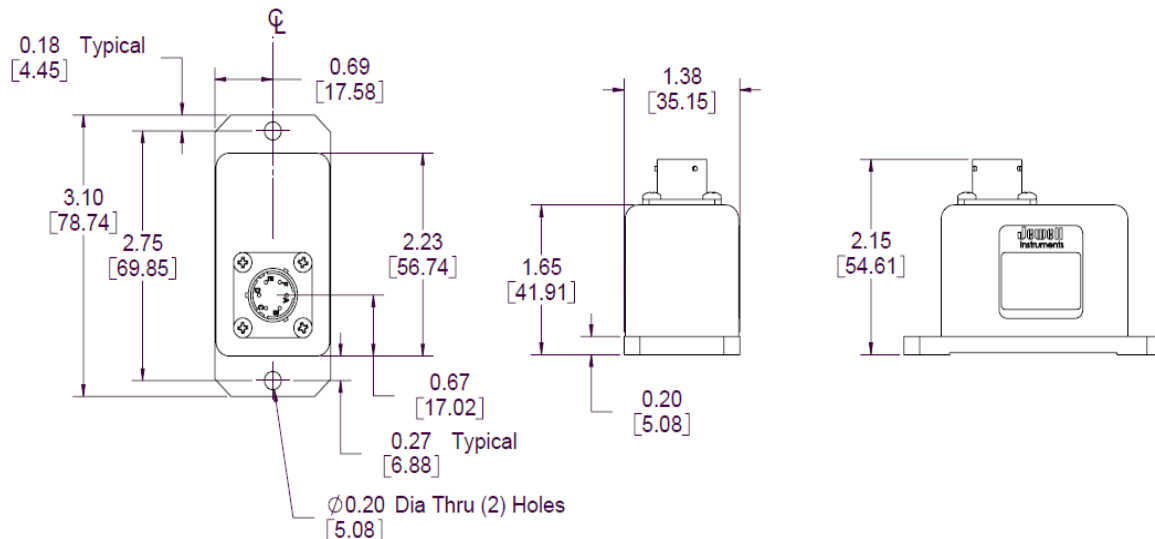
Temperature Range, Operating	-40°C to +80°C
Temperature Range, Survival	-60°C to +90°C
Shock Survival	100g. rms, ½ sine
Seal	MIL-Std-202, Method 112
Weight	8 oz.

Applications

- Railcar Acceleration Control
- Geophysical Testing
- Platform Orientation

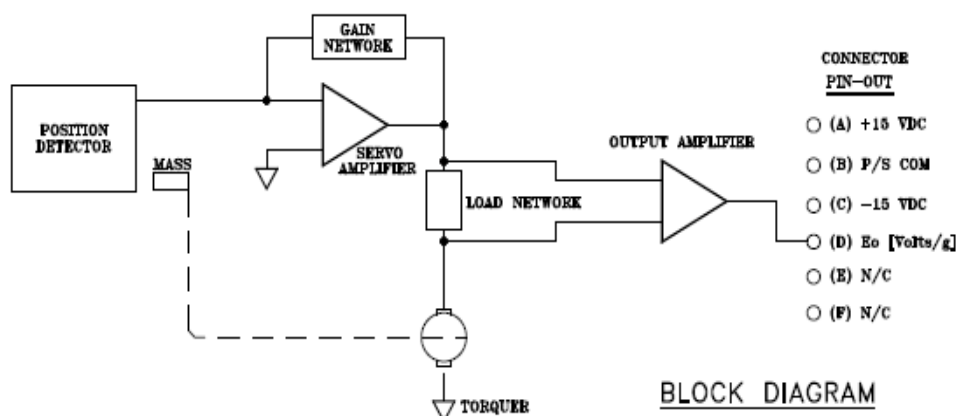
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Dimensional Drawing for the LCF Accelerometer (inch/mm)



Block Diagram for the LCF Inertial Sensor

OUTLINE DIAGRAM



BLOCK DIAGRAM