

LSM Series Accelerometers have 100,000 hour MTBF reliability and up to 20g full scale sensing range



If space is a concern, the Jewell **LSM Series** accelerometer is the solution for you. The LSM offers equivalent features to the LSA in a smaller package - approximately 1" cube. Its wide input range and bandwidth features meet the demanding needs of a variety of aerospace applications.

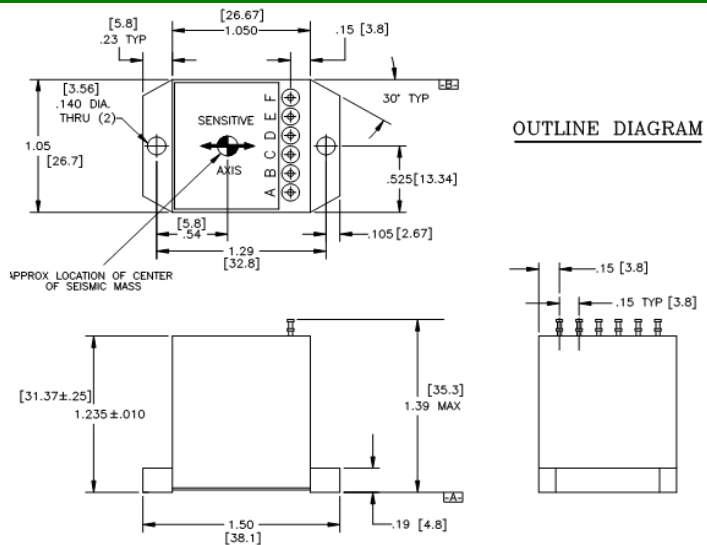
Features & Benefits

- ±0.5g to ±20.0g Full Range
- Filtering up to 200 Hz Bandwidth with 0.6 Damping
- Satellite Application Reliability
- Better than 20 µg Res at 10g Full Scale
- -55°C to +95°C Operating Temp Range

Applications

- Satellite Nutation Sensing
- Radar Leveling
- Train Braking and Banking
- Autopilot Systems
- Train Performance Testing
- Performance Testing
- Wind Shear Detection Systems
- Mars Rover
- Thermal Vacuum Chamber (product) Testing

Outline Drawing: Dimensional Drawing for the LSM Accelerometer (inch/mm)



Block Diagram: LSM Accelerometer

| | |
|-------|--------------------------|
| Pin F | Self-Test |
| Pin E | Current Output |
| Pin D | E _o (Volts/g) |
| Pin C | -VDC Power |
| Pin B | Power Common |
| Pin A | +VDC Power |

LSM Accelerometer Specifications

PERFORMANCE

| | | | | | | |
|--|-------|-------|-------|-------|--------|--------|
| Input Range, g (Note 1) | ± 0.5 | ± 1.0 | ± 2.0 | ± 5.0 | ± 10.0 | ± 20.0 |
| Full Range Output (FRO V± 1.0%) | ± 5.0 | ± 5.0 | ± 5.0 | ± 5.0 | ± 5.0 | ± 5.0 |
| Non Linearity (%FRO' Max.) (Note 2) | 0.05 | 0.05 | 0.05 | 0.10 | 0.10 | 0.25 |
| Scale Factor (V/g, Nom.) | 10.0 | 5.0 | 2.5 | 1.0 | 0.5 | 0.25 |
| Scale Factor Temp Sens (PPM/°C, Max.) | 200 | 200 | 200 | 200 | 200 | 200 |
| Bias, g, (Max.) | 0.050 | 0.010 | 0.010 | 0.010 | 0.020 | 0.050 |
| Bias Temp. Sens., (µg/°C) | 50 | 50 | 50 | 100 | 100 | 200 |
| Natural Frequency, Hz, (Nom.) (Note 3) | 70 | 100 | 140 | 100 | 140 | 160 |
| Bandwidth (-3db), Hz, (Nom.) | 70 | 100 | 140 | 100 | 140 | 160 |
| Input-Axis Misalignment, °(Max.) | ± 1.0 | ± 1.0 | ± 1.0 | ± 1.0 | ± 1.0 | ± 1.0 |
| Resolution and Threshold, µg | 10 | 10 | 10 | 10 | 20 | 50 |

ELECTRICAL

| | | | | | | |
|-----------------------------------|------------|----|------|----|------|------|
| Input Voltage (Vdc Nom.) (Note 4) | ±12 to ±18 | | | | | |
| Input Current (mA, Nom.) | 10.0 | | | | | |
| Output Impedance (Ohms, Nom.) | 10k | 5k | 2.5k | 5k | 2.5k | 2.5k |
| Noise, mV rms (Max.) | 5.0 | | | | | |

ENVIRONMENTAL

| | | | | | | |
|-----------------------|-------------------------|--|--|--|--|--|
| Operating Temp Range: | -55°C to +95°C | | | | | |
| Survival Temp Range | -65°C to +105°C | | | | | |
| Shock | 100g - 11 msec, ½ sine | | | | | |
| Seal | MIL-STD 202, Method 112 | | | | | |
| Weight | 2.0 oz. | | | | | |

- Notes:
- 1 - Full range is defined as "from negative full input acceleration to positive full input acceleration."
 - 2 - Nonlinearity is specified as deviation of output referenced to a best fit straight line, independent of misalignment.
 - 3 - Output phase angle = -90°
 - 4-Unit Power connections can be easily adapted for operations from single-ended, floating power supplies of 24 to 36 Volts DC.

How to Order

| Model # | Part # |
|-----------|--------------|
| LSMP-0.5g | 02550277-001 |
| LSMP-1g | 02550277-002 |
| LSMP-2g | 02550277-003 |
| LSMP-5g | 02550277-004 |
| LSMP-10g | 02550277-005 |
| LSMP-20g | 02550120-000 |