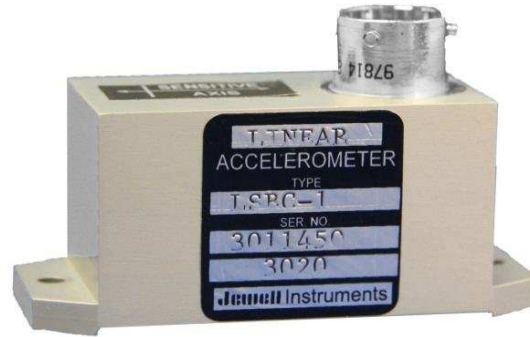


# LSBC-R Series Accelerometer

*Making Sense Out of Motion...*

**Input Ranges from  $\pm 0.5g$  to  $\pm 20g$  and options for either connector or pin configurations**  
**Meets CENELEC/AREMA Standards**



The Jewell **LSBC-R Series** Accelerometer is a general purpose  $\pm 0.5G$  to  $\pm 20G$  device designed for rail, commercial, and aerospace sensing requirements.

## Features & Benefits

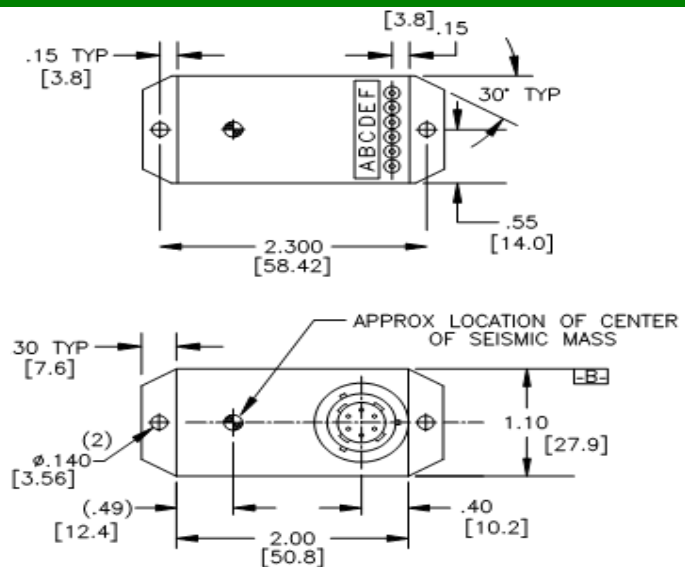
- $\pm 0.5g$  to  $\pm 20.0g$  Full Range
- Bandwidth up to 200 Hz
- Satellite Application Reliability
- Better than 20  $\mu g$  Res at 10g Full Scale
- Available with 1g Bias Options
- $-55^{\circ}C$  to  $+95^{\circ}C$  Operating Temp Range
- Standard for Train Control for more than 30 years
- Meets CENELEC/AREMA Standards

See Spec Table page 2

## Applications

- Train Braking & Banking
- Train Performance Testing
- Acceleration Control
- Automotive Performance Testing
- Active Damping
- Rail Car Monitoring
- Lateral Acceleration Sensing
- Tilt Train Controls
- Super-elevation Measurement
- Rail Car Vibration Testing
- Wind shear Detection
- Autopilot
- AHARS
- Wind Turbine Control

Outline Drawing: *Dimensional Drawing for the LSB Accelerometer*



Block Diagram: *LSB Accelerometer*

Pin A	+12 to +18 VDC
Pin B	Power/Sig Common
Pin C	-12 to -18 VDC
Pin D	Eo [Volts/g]
Pin E	Current Output
Pin F	Self-Test

## LSBC-R Accelerometer Specifications

### PERFORMANCE

Input Range, g	± 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.)	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.)	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.)	±12 to ±18					
Input Current (mA, Nom.)	10.0					
Output Impedance (Ohms, Nom.)	10.0K	5.0K	2.5K	5.0K	2.5K	2.5K
Noise, mV rms (Max.)	0.005					

### ENVIRONMENTAL

Operating Temp Range	-55°C to +95°C
Survival Temp Range	-65°C to +105°C
Shock	100g - 0.011 second, ½ sine
Seal	MIL-STD 202, Method 112

### Meets CENELEC/AREMA Standards

CENELEC EN 55022:2010

CENELEC EN 50155:2007

CENELEC EN 61000-4-8:2010

AREMA Part 11.5.1