

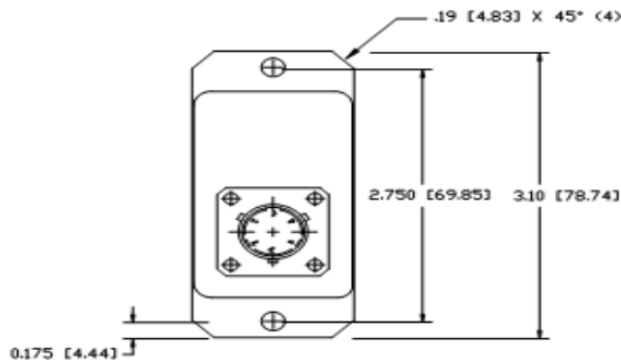
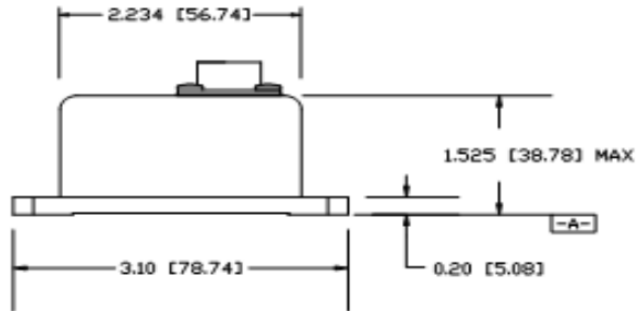
## LCA-165

### Single-Axis Analog Accelerometer

Proven History of Successful Railway Applications and Highest Repeatability Sensor of its Class in the World. The Jewell LCA-165 Series accelerometers are configured specifically to yield a combination of high accuracy and ruggedness in Outline Diagram railway applications.

#### FEATURES:

- $\pm 0.5g$  to  $\pm 2.0g$  Full Range
- Filtering Available
- Exceptional Bias
- High Level  $\pm V_{dc}$  Output
- 100g Shock Capability



Dimensions: in [mm]



#### APPLICATIONS:

- Rail Monitoring and Testing
- Automated Train Controls
- Train Performance Testing
- Acceleration/Deceleration Control

#### PIN OUT:

|          |                  |
|----------|------------------|
| <b>A</b> | +15 VDC          |
| <b>B</b> | Power/Sig Common |
| <b>C</b> | -15 VDC          |
| <b>D</b> | Eo [Volts/g]     |
| <b>E</b> | N/C              |
| <b>F</b> | N/C              |

# PERFORMANCE SPECIFICATIONS

## PERFORMANCE

| INPUT RANGE (g)                                 | ±0.5  | ±1.0 | ±2.0 | ±5.0 |
|---|-------|------|------|------|
| FULL RANGE OUTPUT VDC (FRO ± 0.5%) <sup>1</sup> | ±5.0  |      |      |      |
| NONLINEARITY (% FRO max) <sup>2</sup>           | 0.05  |      |      |      |
| SCALE FACTOR (V/g, nominal)                     | 10.0  | 5.0  | 2.5  | 1.0  |
| SCALE FACTOR TEMP. SENSITIVITY (PPM/°C, max)    | 180   |      |      |      |
| NATURAL FREQUENCY, Hz nominal <sup>2</sup>      | 60.00 |      |      |      |
| TRANSVERSE AXIS MISALIGNMENT (° max)            | 1.0   |      |      |      |
| BIAS, g RANGE                                   | ±0.01 |      |      |      |
| BIAS TEMPERATURE SENSITIVITY, (µg / °C max)     | 100   |      |      |      |
| RESOLUTION & THRESHOLD (µg) max                 | 10    |      |      |      |

## ELECTRICAL

|  |            |
|--|------------|
| NUMBER OF AXES                         | 1          |
| INPUT VOLTAGE RANGE (VDC) <sup>4</sup> | ±12 to ±18 |
| INPUT CURRENT (mA, max)                | 25         |
| OUTPUT IMPEDANCE (Ohms, nominal)       | 1          |
| NOISE (Vrms max)                       | 0.005      |

## ENVIRONMENTAL

|                             |                           |
|-----------------------------|---------------------------|
| OPERATING TEMPERATURE RANGE | -55° to +80°C             |
| STORAGE TEMPERATURE RANGE   | -60° to +90°C             |
| SHOCK                       | 100g, 0.011 sec, 1/2 sine |
| VIBRATION                   | 0 grms                    |
| WEIGHT                      | 4 oz                      |
| SEAL                        | MIL-STD-202, Mtd. 112     |

### NOTES:

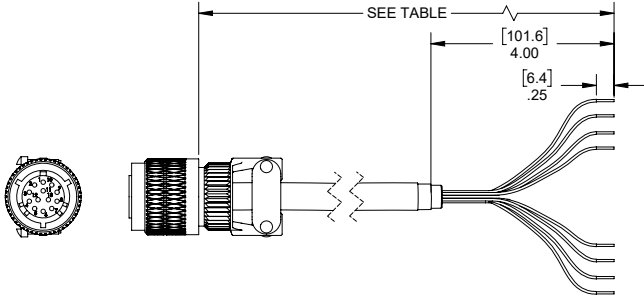
1. Full Range is defined "from negative full input acceleration to positive full input acceleration."
2. Nonlinearity is specified as deviation of output referenced to theoretical sine function value, independent of misalignment.
3. Output Phase angle = - 90°.

Specifications are subject to change without notice due to continued product development



# ACCESSORIES

## CONNECTOR CABLE



| PART #                                  | MODEL #                | LENGTH m (ft) |
|---|------------------------|---------------|
| 62101011-001                            | 6-Pin Mating Connector | -             |
| 879605-007                              | DSI-CBL-02M-1          | 2 (6.56)      |
| 879605-008                              | DSI-CBL-03M-1          | 3 (9.84)      |
| 879605-020                              | DSI-CBL-05M-1          | 5 (16.4)      |
| Contact manufacturer for custom lengths |                        |               |

# ORDERING INFORMATION

## HOW TO ORDER

|      | MODEL #      | PART #     |
|------|--------------|------------|
| ±0.5 | LCA-165-0.5g | 451165-003 |
| ±1   | LCA-165-1g   | 451165-005 |
| ±2   | LCA-165-2g   | 451165-001 |
| ±5   | LCA-165-5g   | 451165-004 |

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