

MAKING SENSE OUT OF MOTION

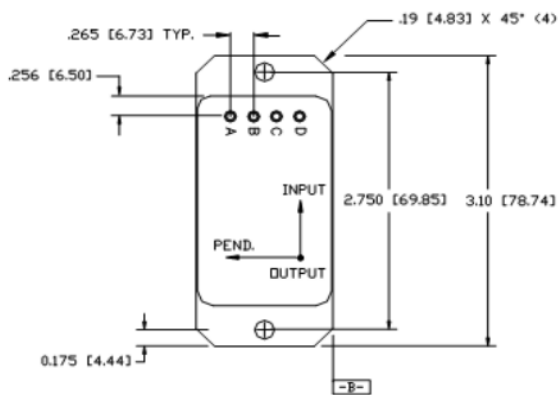
# LCA-100

## Single-Axis Analog Accelerometer

The LCA-100 Series is a single axis accelerometer that is  $\pm 12$  to  $\pm 18$  Vdc. The Jewell LCA-100 Series Accelerometer is a general-purpose  $\pm 0.5g$  to  $\pm 5g$  device designed for industrial, commercial and aerospace sensing requirements.

### FEATURES:

- Filtering Available
- Available in 28V Aircraft Input
- 0.20% 10-year Scale Factor Stability
- Wide Bandwidths for Higher Range Applications



LCA-100 SERIES  
w/4 TURRET STYLE TERMINALS

Dimensions: in [mm]



### APPLICATIONS:

- Aircraft Flight Controls
- Aircraft Fatigue Monitoring
- Train Performance Testing
- Aircraft Autopilot System Input
- Aircraft Winds-shear Detection
- Double Integrated Railcar Position
- Rail Automated Train Controls

### PIN OUT:

|   |                  |
|---|------------------|
| A | +12 to +18 VDC   |
| B | -12 to -18 VDC   |
| C | Power/Sig Common |
| D | Eo [Volts/g]     |

# PERFORMANCE SPECIFICATIONS

## PERFORMANCE

|   |             |             |             |             |
|---|-------------|-------------|-------------|-------------|
| <b>INPUT RANGE (g)</b>                                | <b>±0.5</b> | <b>±1.0</b> | <b>±2.0</b> | <b>±5.0</b> |
| <b>FULL RANGE OUTPUT VDC (FRO ± 0.5%)<sup>1</sup></b> | ±5.0        |             |             |             |
| <b>NONLINEARITY (% FRO)<sup>2</sup> max</b>           | 0.05        |             |             |             |
| <b>SCALE FACTOR (V/g, nominal)</b>                    | 10.0        | 5.0         | 2.5         | 1.0         |
| <b>SCALE FACTOR TEMP. SENSITIVITY (PPM/°C, max)</b>   | 180         |             |             |             |
| <b>NATURAL FREQUENCY, Hz nominal<sup>3</sup></b>      | 60.00       |             |             |             |
| <b>BANDWIDTH (-3db, Hz, nominal)</b>                  | 60.00       |             |             |             |
| <b>TRANSVERSE AXIS MISALIGNMENT (° max)</b>           | 0.71        |             |             |             |
| <b>BIAS, g RANGE</b>                                  | ±0.5        | ±0.1        | ±0.1        | ±0.05       |
| <b>BIAS TEMPERATURE SENSITIVITY, (µg / °C max)</b>    | 100         |             |             |             |
| <b>RESOLUTION &amp; THRESHOLD (µg) max</b>            | 10          |             |             |             |

## ELECTRICAL

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

## ENVIRONMENTAL

|                                    |                           |
|------------------------------------|---------------------------|
| <b>OPERATING TEMPERATURE RANGE</b> | -55° to +85°C             |
| <b>STORAGE TEMPERATURE RANGE</b>   | -60° to +90°C             |
| <b>SHOCK</b>                       | 100g, 0.011 sec, 1/2 sine |
| <b>VIBRATION</b>                   | 0 grms                    |
| <b>WEIGHT</b>                      | 4 oz                      |
| <b>SEAL</b>                        | MIL-STD-202, Mtd. 112     |

### NOTES:

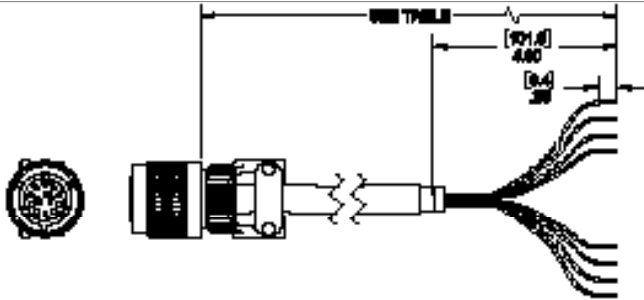
1. Full Range is defined "from negative full input acceleration to positive full input acceleration."
2. Nonlinearity is specified as deviation of output referenced to a best fit straight line, independent of misalignment.
3. Output Phase angle = - 90°.

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-100-0.5g | 451040-006 |
| ±1   | LCA-100-1g   | 451040-004 |
| ±2   | LCA-100-2g   | 451040-001 |
| ±5   | LCA-100-5g   | 451040-002 |

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