

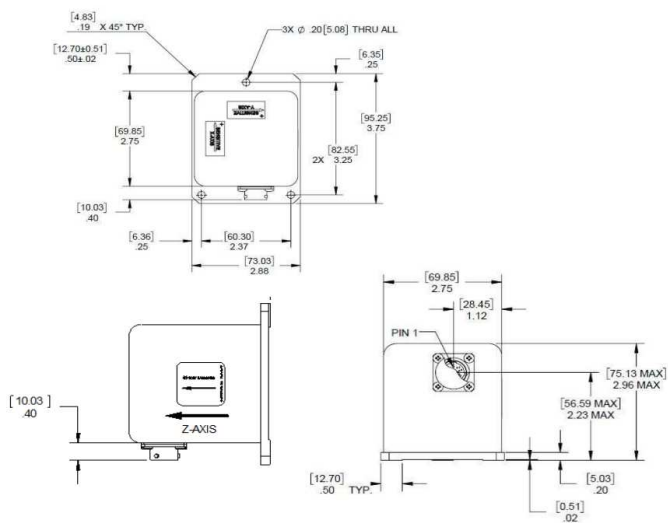
## LCF-3500

### Tri-Axial Accelerometer

The Jewell LCF-3500 Series Flexure Suspension Fluid Damped Tri-Axial Accelerometer is a  $\pm 0.5G$  to  $\pm 5G$  device designed for applications where high levels of shock and vibration are present. LCF units are characterized by excellent turn on repeatability and very low hysteresis.

#### FEATURES:

- $\pm 0.5g$  to  $\pm 5.0g$  Full Range
- Filtering 5 to 100 Hz
- Bandwidth Available
- Exceptional Bias & Scale Factor
- High Level  $\pm 5$  Vdc Output
- 1,000g Shock Capability
- Tri-Axis



#### APPLICATIONS:

- Geophysical Testing
- Railcar Acceleration Control
- Railcar Deceleration Control
- Ocean Buoy Acceleration Sensing
- Aircraft Stability Control
- Aircraft Flight Testing
- Vehicle Roadway Profiling
- Tri-Axis Acceleration Applications
- Aircraft Flight Data Recorder

# Performance Specifications

## PERFORMANCE

|   |             |             |             |
|---|-------------|-------------|-------------|
| <b>INPUT RANGE (°)</b>                            | <b>±0.5</b> | <b>±2.0</b> | <b>±5.0</b> |
| <b>FULL RANGE OUTPUT (VDC)<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        | 2.5         | 1.0         |
| <b>SCALE FACTOR TEMP SENSITIVITY (PPM/°C max)</b> | 100         |             |             |
| <b>BANDWIDTH (-3dB) Hz, nominal</b>               | 30          |             |             |
| <b>NATURAL FREQUENCY Hz, min<sup>3</sup></b>      | 30          |             |             |
| <b>INPUT AXIS MISALIGNMENT, ° max</b>             | ±1.00       |             |             |
| <b>BIAS, g RANGE</b>                              | ±0.005      |             |             |
| <b>BIAS TEMP. SENSITIVITY (micro g/°C) max</b>    | 1.0         |             |             |
| <b>RESOLUTION &amp; THRESHOLD (micro g) max</b>   | 10          |             |             |

### NOTES:

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

\*Specifications subject to change without notice on account of continued product development

## ELECTRICAL

|  |            |
|--|------------|
| <b>NUMBER OF AXES</b>                  | 3          |
| <b>INPUT VOLTAGE RANGE (VDC)</b>       | ±12 to ±18 |
| <b>INPUT CURRENT (mA, max)</b>         | 45         |
| <b>OUTPUT IMPEDANCE (Ohms) nominal</b> | 100        |
| <b>NOISE (Vrms, max)</b>               | 0.002      |

## ENVIRONMENTAL

|                              |                       |
|------------------------------|-----------------------|
| <b>OPERATING TEMP. RANGE</b> | -40° to +80°C         |
| <b>STORAGE TEMP. RANGE</b>   | -60° to +90°C         |
| <b>VIBRATION</b>             | 20 grms               |
| <b>SHOCK</b>                 | 1000g, 1 msec, ½ sine |

## ENCLOSURE

|               |       |
|---------------|-------|
| <b>WEIGHT</b> | 8 oz  |
| <b>SEAL</b>   | Epoxy |

## PIN OUTS

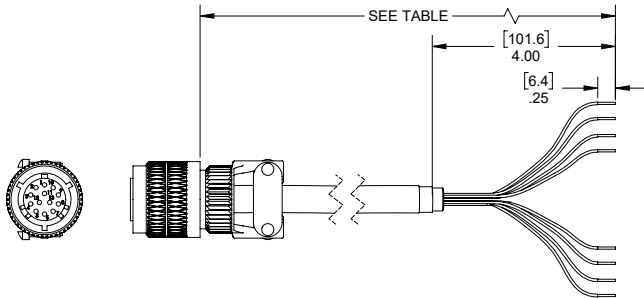
|             |               |
|-------------|---------------|
| <b>1</b>    | +15 VDC       |
| <b>2</b>    | -15 VDC       |
| <b>3</b>    | POWER COMMON  |
| <b>4</b>    | X-AXIS OUTPUT |
| <b>5</b>    | Y-AXIS OUTPUT |
| <b>6</b>    | Z-AXIS OUTPUT |
| <b>7-13</b> | N/C           |

## OPTIONS

- Unit Power Connections can be easily adapted for operations from single-ended, floating power supplies of 24 to 36 Volts DC
- Internal Temperature Sensor
  - 4-20 mA output

# MATING CONNECTOR AND CABLE ASSEMBLIES

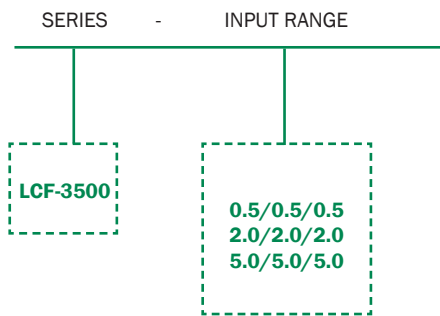
## CONNECTOR CABLE



| PART #     | MODEL #                 | LENGTH m (ft) |
|------------|-------------------------|---------------|
| 847774-002 | 13-Pin Mating Connector | -             |
| 879605-009 | DSI-CBL-02M-2           | 2 (6.56)      |
| 879605-010 | DSI-CBL-03M-2           | 3 (9.84)      |
| 879605-0XX | DSI-CBL-05M-2           | 5 (16.4)      |

Contact manufacturer for custom lengths

# LCF-3500 SERIES ORDERING INFORMATION



|       | MODEL #                 | PART #               |
|-------|-------------------------|----------------------|
| ±0.5g | LCF-3500-.5g/.5g/.5g    | Call for part number |
| ±2.0g | LCF-3500-2.0g/2.0g/2.0g | Call for part number |
| ±5.0g | LCF-3500-5.0g/5.0g/5.0g | Call for part number |

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