

# LCF-2330 Series Dual Axis Inclinometer

The Jewell LCF-2330 Series Inclinometer is a dual axis version of the rugged and high accuracy LCF Series.

The design of the **LCF-2330 Series** was optimized to provide the high accuracy and superior repeatability of Jewell's rugged, fluid damped, flexure suspension, servo technology in a small and convenient package for applications requiring a compact dual axis solution.

## Features & Benefits

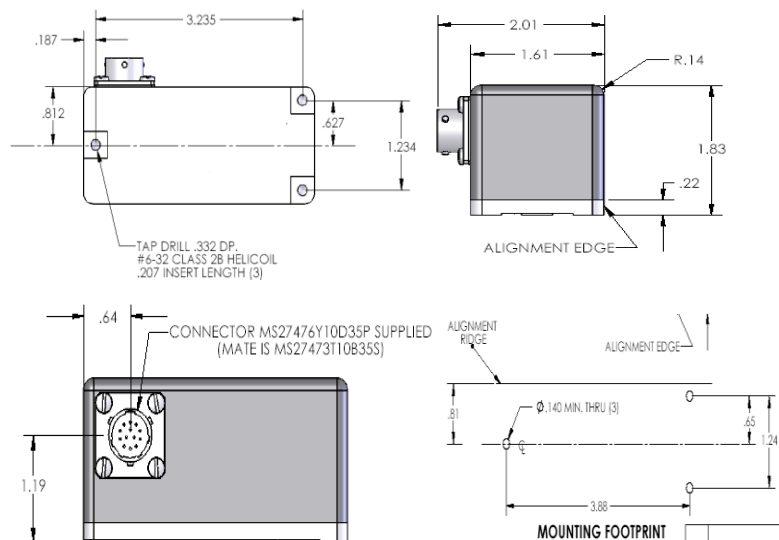
- $\pm 1^\circ$  to  $\pm 90^\circ$  Input Full Range
- Micro Radian Resolution
- Available Internal Temp Sensor
- High Level  $\pm 5$  Vdc Output
- Superior  $0^\circ$  Output Stability over Temperature
- Low Impedance Output

## Applications

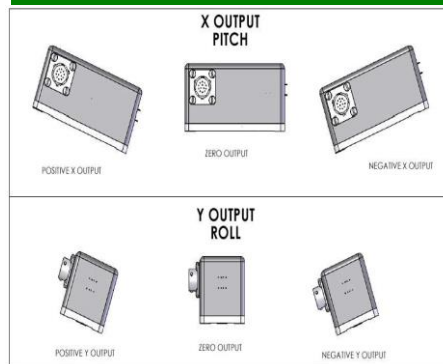
- Radar & Antenna Leveling
- Weapons Platform Leveling
- Barge and Offshore Platform Control
- Deviation Surveys
- 2-Axis Machine Tool Leveling
- Bridge Structural Monitoring
- Submersible Control Feedback
- Offshore Platform Stability
- Production/Manufacturing Process Equipment for Aerospace Industry



## Dimensional Drawing: LCF-2330 Inclinometer Series



## Pin-Out: LCF-2330 Inclinometer Series



|          |                           |
|----------|---------------------------|
| Pin 1    | +12 to +18 VDC            |
| Pin 2    | -12 to +12 VDC            |
| Pin 3    | Power/Sig Common          |
| Pin 4    | Output Signal, X Axis     |
| Pin 5    | Output Signal RTN, X Axis |
| Pin 6    | Output Signal, Y Axis     |
| Pin 7    | Output Signal RTN, Y Axis |
| Pin 8-13 | N/C                       |

# LCF-2330 Series Dual Axis Inclinometer



*Making Sense Out of Motion...*

## LCF-2330 Inclinometer Specifications

### PERFORMANCE

|                                              |          |       |        |        |        |
|----------------------------------------------|----------|-------|--------|--------|--------|
| Input Range (°)                              | ± 1.0    | ± 3.0 | ± 14.5 | ± 30.0 | ± 90.0 |
| Full Range Output (FRO), Volts, ±1% (Note 1) | ± 5.0    | ± 5.0 | ± 5.0  | ± 5.0  | ± 5.0  |
| Non Linearity (%FRO' Max.) (Note 2)          | 0.05     | 0.05  | 0.02   | 0.02   | 0.02   |
| Scale Factor (V/g, Nom.)                     | 286.5    | 95.5  | 20.0   | 10.0   | 5.0    |
| Scale Factor Temp Sens (PPM/°C, Max.)        | 300      | 300   | 100    | 60     | 60     |
| Bandwidth (-3dB), Hz, Nom.                   | 2.0      | 3.0   | 30.0   | 30.0   | 30.0   |
| Transverse Axis Misalignment, (°, Max.)      | ±0.25    | ±0.50 | ±0.50  | ±1.00  | ±1.00  |
| Output at 0° Tilt, Volts, Max.               | 0.10     | 0.04  | 0.02   | 0.02   | 0.02   |
| 0° Output Temp Sens, Volts/°C, Max.          | 0.015    | 0.005 | 0.001  | 0.0005 | 0.0003 |
| Resolution and Threshold                     | 1μradian |       |        |        |        |

### ELECTRICAL

|                               |            |
|-------------------------------|------------|
| Input Voltage (Vdc)           | ±12 to ±18 |
| Input Current (mA, Nom.)      | 30         |
| Output Impedance (Ohms, Nom.) | 100        |
| Noise (Vrms, Max.)            | 0.002      |

### ENVIRONMENTAL

|                      |                         |
|----------------------|-------------------------|
| Operating Temp Range | -40°C to +80°C          |
| Survival Temp Range  | -60°C to +90°C          |
| Vibration            | 20 grms                 |
| Shock                | 1000g, 1 msec, 1/2 sine |
| Seal                 | MIL-STD 202, Method 112 |
| Weight               | 8.0 oz.                 |

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.

## How to Order

|                     |            |
|---------------------|------------|
| LCF-2330- 1/1       | 468233-005 |
| LCF-2330- 3/3       | 468233-006 |
| LCF-2330- 14.5/14.5 | 468233-002 |
| LCF-2330- 30/30     | 468233-003 |
| LCF-2330- 90/90     | 468233-004 |