

# 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

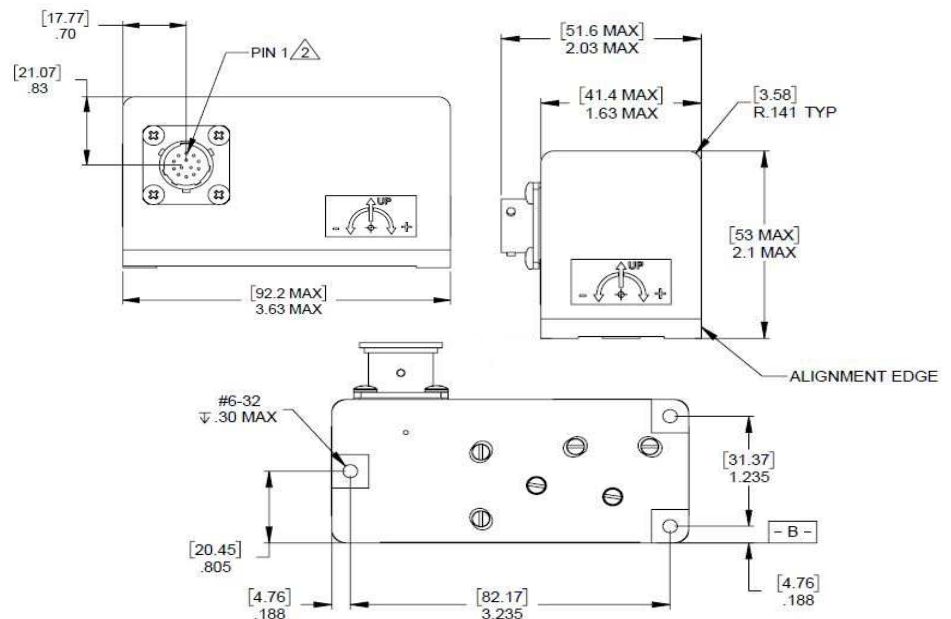
- $\pm 1^\circ$  to  $\pm 90^\circ$  Input Full Range
- Micro Radian Resolution
- Available Internal Temp Sensor
- High Level  $\pm 5$  Vdc Output
- Superior  $0^\circ$  Output Stability over Temperature
- Low Impedance Output

## 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**

| CONNECTOR          |                      |
|--------------------|----------------------|
| PIN                | FUNCTION             |
| <b>DUAL SUPPLY</b> |                      |
| 1                  | +12 TO +18 VDC       |
| 2                  | -12 TO -18 VDC       |
| 3                  | POWER COMMON         |
| 4                  | X-AXIS OUTPUT SIGNAL |
| 5                  | X-AXIS OUTPUT RETURN |
| 6                  | Y-AXIS OUTPUT SIGNAL |
| 7                  | Y-AXIS OUTPUT RETURN |

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## 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.                   | 0.5      | 2.0   | 15.0   | 20.0   | 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      |

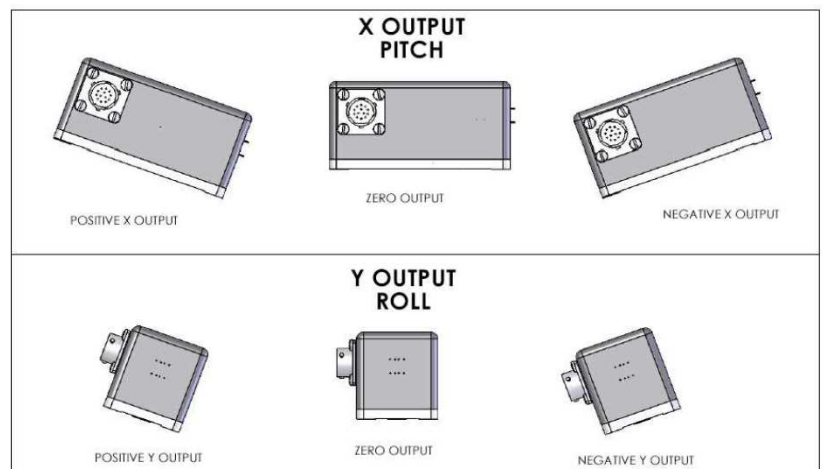
### ENVIRONMENTAL

|                      |                         |
|----------------------|-------------------------|
| 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 |



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