

# LCF-196 Biaxial Series Inclinometer

**Biaxial Inclinometer is a  $\pm 14.5$  to  $\pm 90$  device, with lower ranges available with customization.**

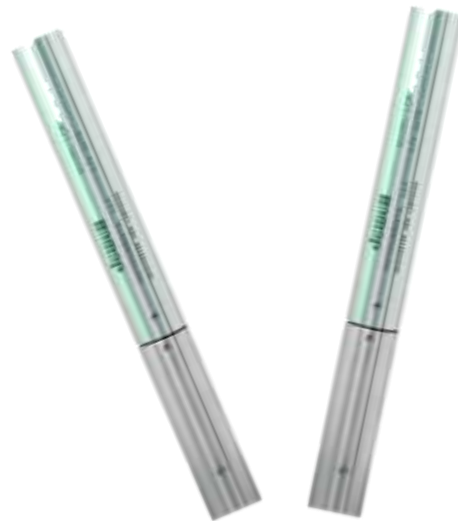
The Jewell **LCF 196 Series** is a high accuracy sensor designed for applications where high levels of shock and vibration are present. The LCF 196 is a two-axis tilt sensor in a 22 mm diameter stainless steel package.

## Features & Benefits

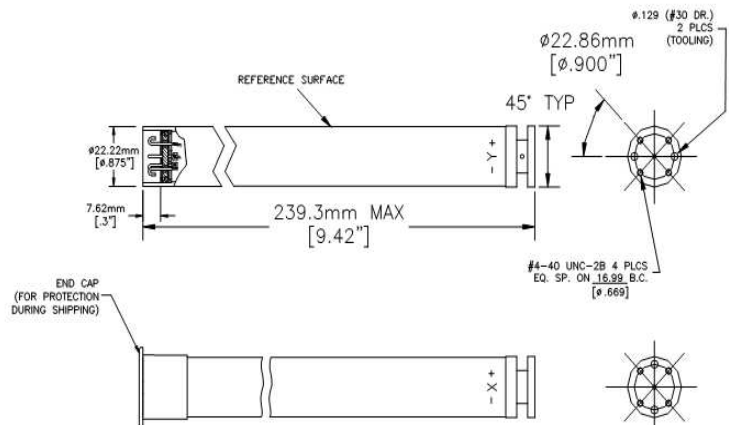
- Very low hysteresis
- Excellent turn on repeatability
- High Accuracy Sensor
- 500g Shock Capability
- IP65 Sealed Housing
- Less > 0.02% Non-linearity
- Bias Temp Sens > 50 $\mu$ g/ $^{\circ}$ C
- Small diameter

## Applications

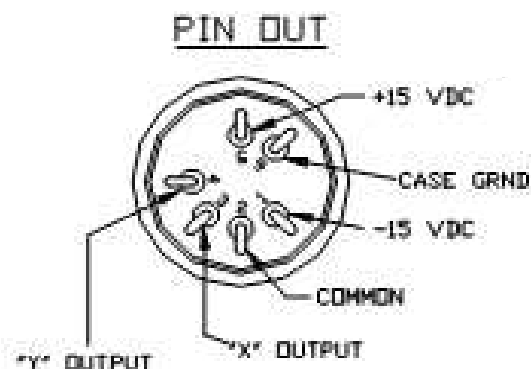
- Geophysical Measurement
- Earth Movement Monitoring
- Oil & Gas Well Logging
- Dam Monitoring
- Heavy Construction, Grading
- Ship & Barge Leveling
- Deviation Surveys
- Continuous Casting
- Weapons Platform Leveling
- Data Logging



## Outline Diagram



## Pin Out (Options: C-connector, P-Pin)



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*Making Sense out of Motion...*

## Performance Specifications

### STATIC/DYNAMIC

Input Range, °	±14.5	±30.0	±90.0
Full Range Output (FRO) VDC ±1% <sup>1</sup>	±5.0	±5.0	±5.0
Non Linearity (%FRO Max.) <sup>2</sup>	0.02	0.02	0.10
Scale Factor, Volts/g, Nominal	20.0	10.0	5.0
Scale Factor Temp. Sensitivity (SFTS), PPM /°C Maximum	100	100	100
Natural Frequency, Hz Nominal <sup>3</sup>	30.0	30.0	30.0
Bandwidth (-3dB), Hz Nominal	30.00	30.00	30.00
Input Axis Misalignment, ° Maximum	1.00	1.00	1.00
Bias, Volts, Maximum	0.040	0.020	0.020
0° Output Temp Sensitivity, Volts/°C, Maximum	0.001	0.0005	0.0003
Resolution and Threshold	3 μradians		

### ELECTRICAL

Input Voltage Range, (VDC) <sup>4</sup>	±12 to ±19		
Input Current, mA, Nominal	15		
Output Impedance, Ohms, Nominal	100		
Noise, Vrms, Maximum	0.002	0.001	0.001

### ENVIRONMENTAL

Operating Temp Range	-40°C to +80°C
Survival Temp Range	-60°C to +90°C
Vibration grms	10
Shock	500g, 0.001 sec
Seal	MIL-STD 202, Method 112
Weight	11.0 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.
- 3 - Output phase angle = -90°
- 4 - Unit Power connections can easily be adapted for operations from single-ended, floating power supplies of 24 to 34 Volts DC.

## Custom Capabilities

Available in lower ranges with customization.  
Single Axis lower cost until available.

## How to Order

LCF-196-14.5	475196-001
LCF-196-30	475196-002
LCF-196-90	475196-003

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