Jewell Instruments

LCF-2310 Series Inclinometer

BEST OF CLASS

The Jewell LCF-2310 Series is an extremely rugged biaxial fluid damped flexure suspension servo Inclinometer designed for industrial, commercial and aerospace sensing requirements. The seal of the LCF-2310 is splash proof making it ideal for outdoor use.

LCF-2310 Inclinometer Specifications

Performance	
Input Range, º (Note 1)	±3
Full Range Output (FRO), VDC ±0.050%	±5.0
Nonlinearity, % FRO, maximum (Note 2)	0.005
Scale Factor, volts/g nominal	95.5
Scale Factor Temp Sensitivity, PPM/°C maximum	100
Natural Frequency, Hz nominal (Note 3)	2
Bandwidth (-3dB), Hz nominal	2
Input-Axis Misalignment, º maximum	0.15
Bias Volts, maximum	0.020
Zero Tilt Output Temp Sensitivity, volts/ºC, maximum	0.0025
Resolution and Threshold, µ rad max	1

Electrical	
Input Voltage, VDC[4]	±13.5 to ±16.5
Input Current, mA, maximum	50
Output Impedance, ohms, nominal	100
Noise, Vrms maximum	0.001

Environmental	
Operating Temp Range	-40º to +80ºC
Survival Temp Range	-60º to +90ºC
Shock	1500g, 1 msec, ½ sine
Seal	MIL-STD-202F, Method 112C

Applications

- *Antenna Leveling*
- *Offshore Platforms*
- *Barge Leveling and Control*
- *Vehicle Attitude Control*

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1 Full Range is defined “from negative full input to positive full input angle.” The inclinometer output is proportional to the sine of the tilt 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 be easily adapted for operation from single-ended, floating power supplies of 24 to 36

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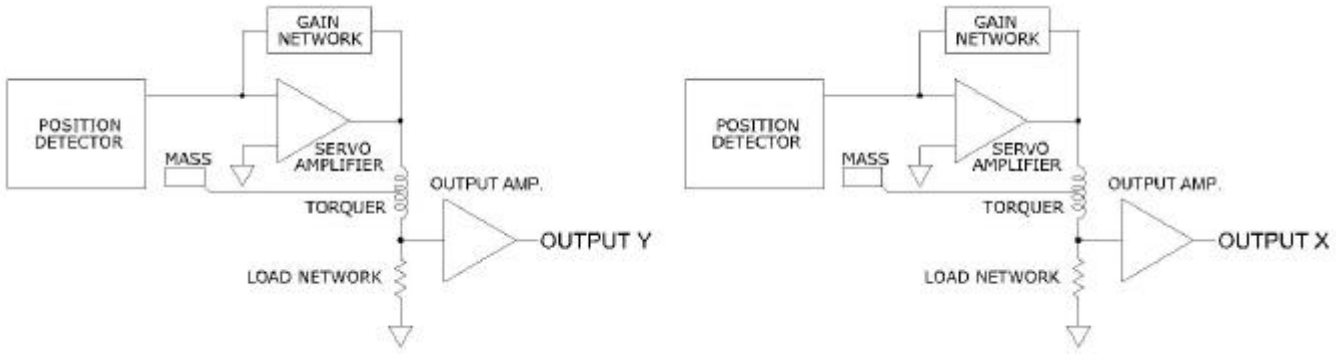
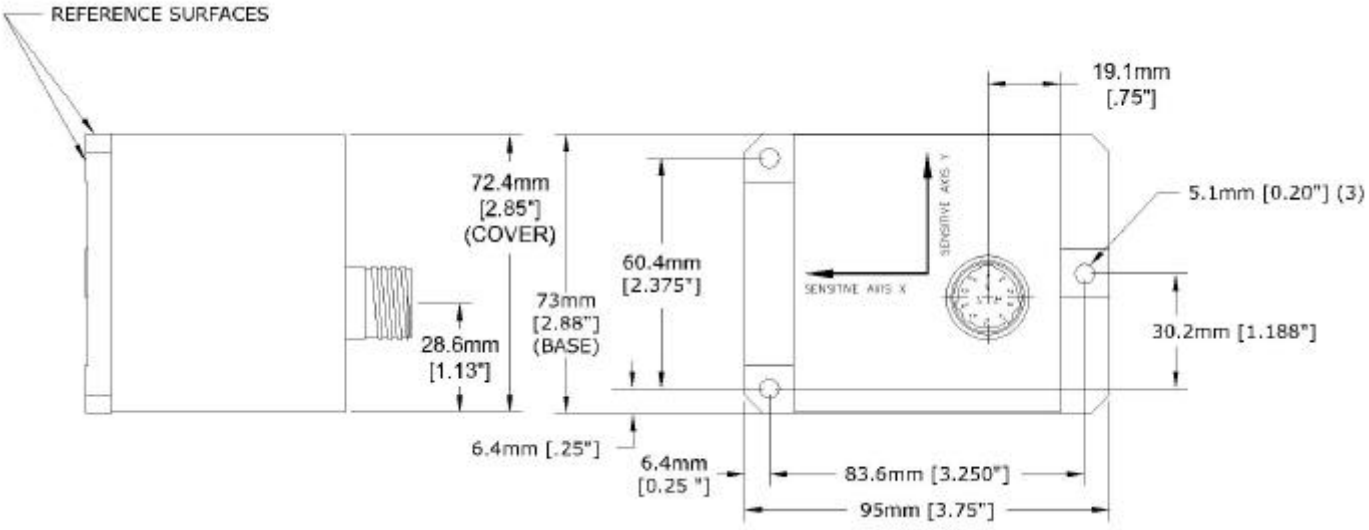
Block Diagram



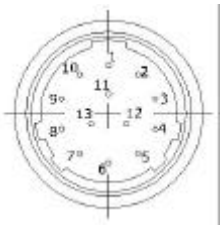
Outline Diagram

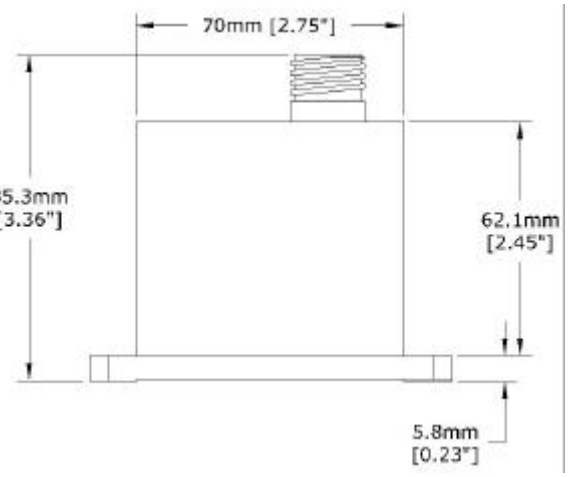


CONNECTOR: 038999/25NB35PN

PIN-OUT:

1 – +15VDC
2 – —15VDC
3 – +/—15V RTN
4 – OUTPUT AXIS X
5 – OUTPUT AXIS X RTN
6 – OUTPUT AXIS Y
7 – OUTPUT AXIS Y
8 through 13 – ADDITIONAL FEATURES





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