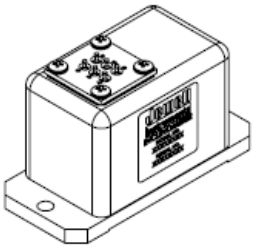
LCF-300-L Precision Fluid Damped Inclinometer
4-20 mA Output

Jewell Instruments

Making Sense out of Motion…

The LCF-300 Series Inclinometer is a rugged, high performance, single-axis tilt sensor designed for peak performance in extreme conditions. The fluid damped mechanism delivers superior noise rejection in high shock and vibration environments as well as excellent output stability. Units are available with a 6-pin connector or pin-terminals. Available outputs include +/-5V, 0-5V and 4-20mA. Custom input ranges, filters and temperature compensation are also available on request.



Features

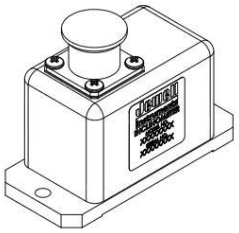
- ***Resolution of 1 µrad***
- ***Temperature Compensation Available***
- ***4-20 mA Output***
- ***+20 to +30 Volts DC Power Input***
- ***RoHS Compliant***

Applications

- ***High-precision Geotech***
- ***Oil and Gas, Riser Tilt Monitoring***
- ***Railroad MOW Equipment***
- ***Pavement Profiling Rigs***
- ***Vehicle Wheel Alignment***
- ***Robotics***

Connector Version

PIN	FUNCTION
	4-20 mA OUTPUT
A	+ VDC
B	PWR / SIG COM
C	N/C
D	SIG OUT
E	N/C
F	N/C



Pin Terminal Version

PIN	FUNCTION
	4-20 mA OUTPUT
A	+ VDC
B	PWR / SIG COM
C	N/C
D	SIG OUT
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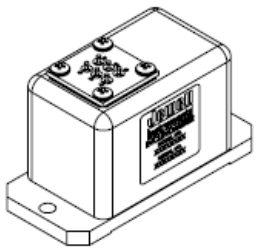

RoHS COMPLIANT

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STATIC/DYNAMIC

Input Range (deg.)	**±1**	**±3**	**±14.5**	**±30**	**±60**	**±90**
Full Range Output (mA)[1]	**4-20**	**4-20**	**4-20**	**4-20**	**4-20**	**4-20**
Non-linearity (% FRO)[2]	**0.05**	**0.03**	**0.03**	**0.03**	**0.03**	**0.05**
Scale Factor (mA/g nom.)	**458.4**	**152.9**	**32.0**	**16.0**	**9.2**	**8.0**
Scale Factor Sensitivity (PPM/°C max)	**350**	**300**	**100**	**60**	**60**	**60**
Bandwidth, Hz (-3 dB)	**0.5**	**2**	**15**	**20**	**30**	**30**
Transverse Axis Misalignment (° max)	**±0.25**	**±0.25**	**±0.5**	**±0.5**	**±0.5**	**±0.5**
0° Output nominal (mA)	**12 ±0.6**	**12 ±0.6**	**12 ±0.3**	**12 ±0.3**	**12 ±0.3**	**12 ±0.3**
0° Output Temp. Sensitivity (mA/°C max)	**0.024**	**0.01**	**0.002**	**0.001**	**0.001**	**0.0008**
Resolution & Threshold (µradians)[3]	**1**	**1**	**1**	**1**	**1**	**1**

[1]Full Range is defined "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]Full Resolution is achieved with noise reduction techniques.

ELECTRICAL

Number of Axes:	**1**
Input Voltage Range, (VDC):	**+20 to +30**
Input Current, mA, max:	**40**
Noise, mArms, maximum:	**0.002**
Mass (grams)	**230**

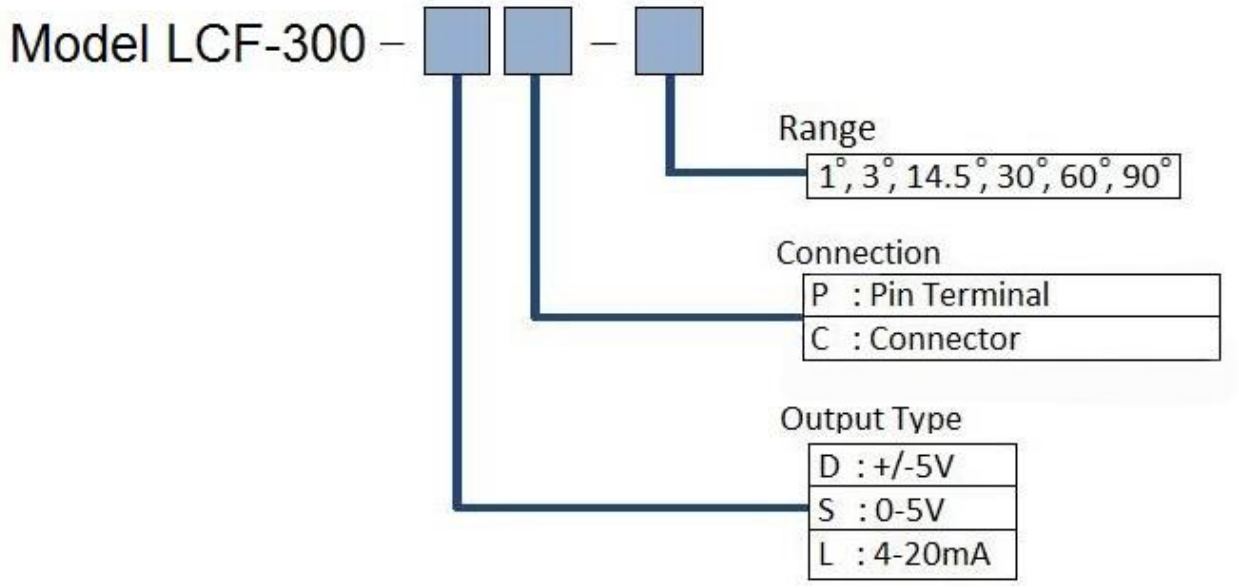
ENVIRONMENTAL

Operating Temp Range:	**-40°C to +80°C**
Storage Temp Range:	**-60°C to +90°C**
Shock:	**1500g, 0.5 msec, ½ sine**

ENCLOSURE

Seal:	**IP65**

Order Code



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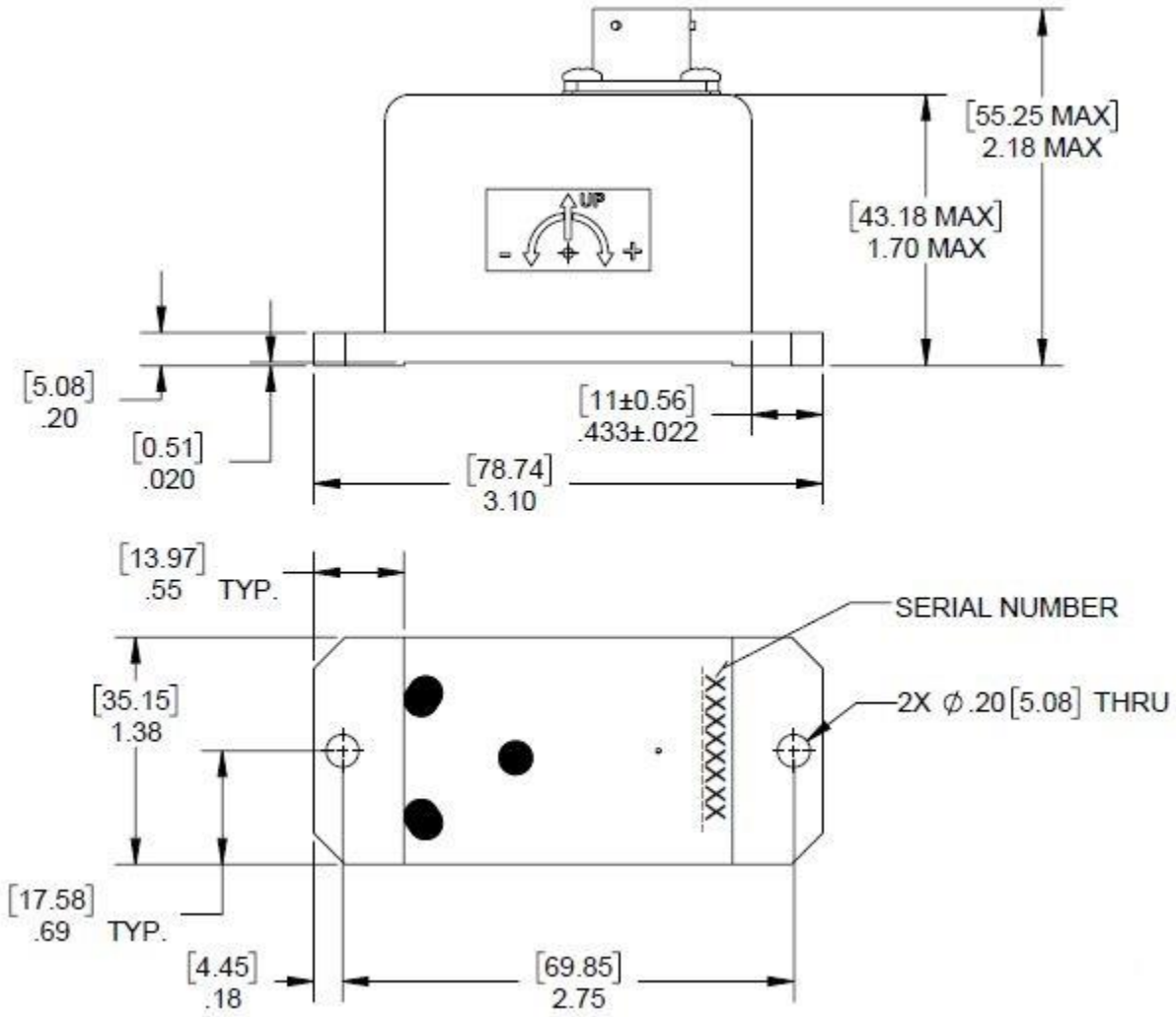
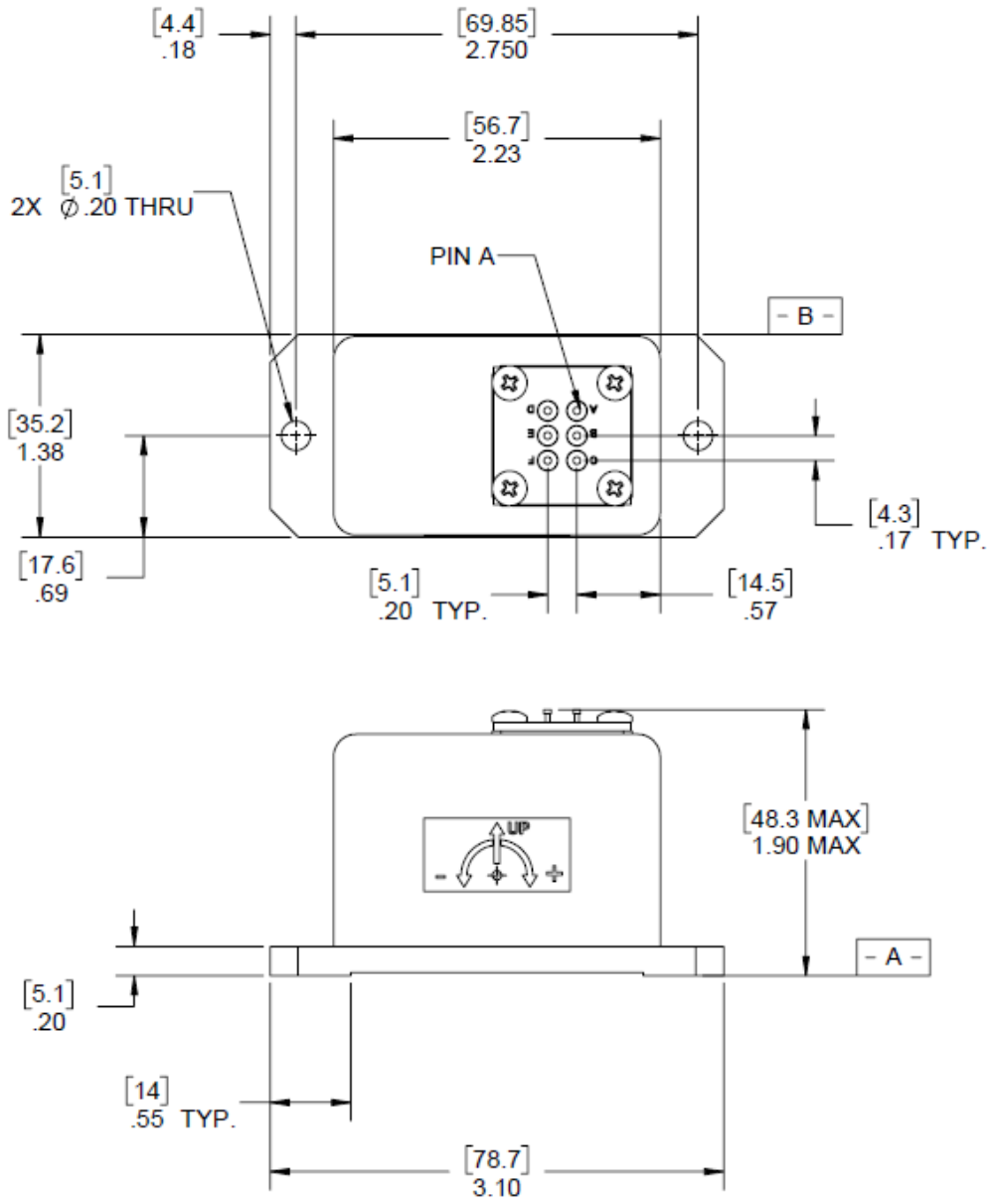
Outline Drawing: Connector Version



Outline Drawing: Pin Terminal Version



NOTES:
1. DATUM - A - AND - B - ARE DEFINED AS REFERENCE SURFACES.