

LCF-300-D Precision Fluid Damped Inclinometer

±5V DC 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 μ rad**
- **Temperature Compensation Available**
- **±5V Output**
- **±12 to ±18 Volts DC Power Input**
- **RoHS Compliant**

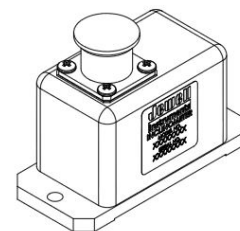
Applications

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



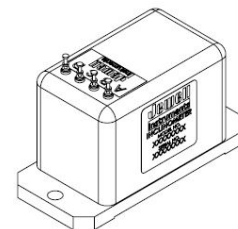
Connector Version

PIN	FUNCTION
	DUAL SUPPLY
A	+ VDC
B	PWR / SIG COM
C	- VDC
D	SIG OUT
E	N/C
F	N/C



Pin Terminal Version

PIN	FUNCTION
	DUAL SUPPLY
A	+ VDC
B	- VDC
C	PWR / SIG COM
D	SIG OUT



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STATIC/DYNAMIC

Input Range (deg.)	±1	±3	±14.5	±30	±60	±90
Full Range Output (VDC) ¹	±5	±5	±5	±5	±5	±5
Non-linearity (% FRO) ²	0.05	0.02	0.02	0.02	0.02	0.05
Scale Factor (V/g nom.)	285.5	95.5	20.0	10.0	5.8	5.0
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 (VDC)	±0.10	±0.04	±0.02	±0.02	±0.02	±0.02
0° Output Temp. Sensitivity (V/°C max)	0.015	0.005	0.001	0.0005	0.0004	0.0003
Resolution & Threshold (μradians) ³	1	1	1	1	1	1

¹Full Range is defined "from negative full input angle to positive full input angle." ²Nonlinearity is specified as deviation of output referenced to theoretical sine function value, independent of misalignment. ³Full Resolution is achieved with noise reduction techniques.

ELECTRICAL

Number of Axes:	1
Input Voltage Range, (VDC):	±12 to ±18
Input Current, mA, max:	±15
Noise, Vrms, maximum:	0.002
Output Impedance (ohms)	1
Mass (grams)	230

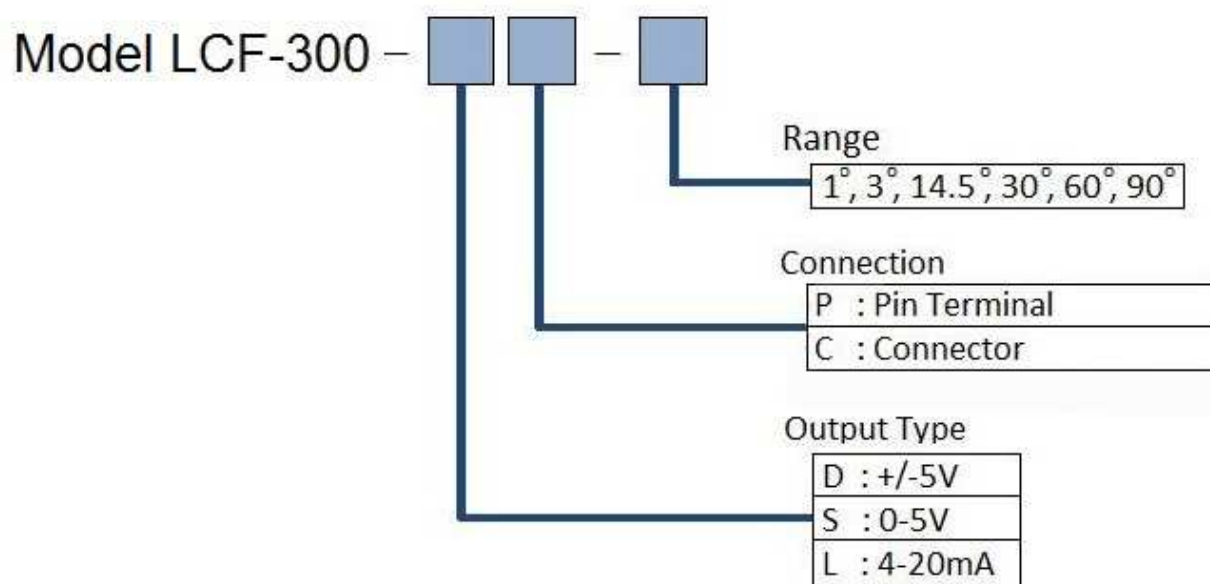
ENVIRONMENTAL

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
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Order Code



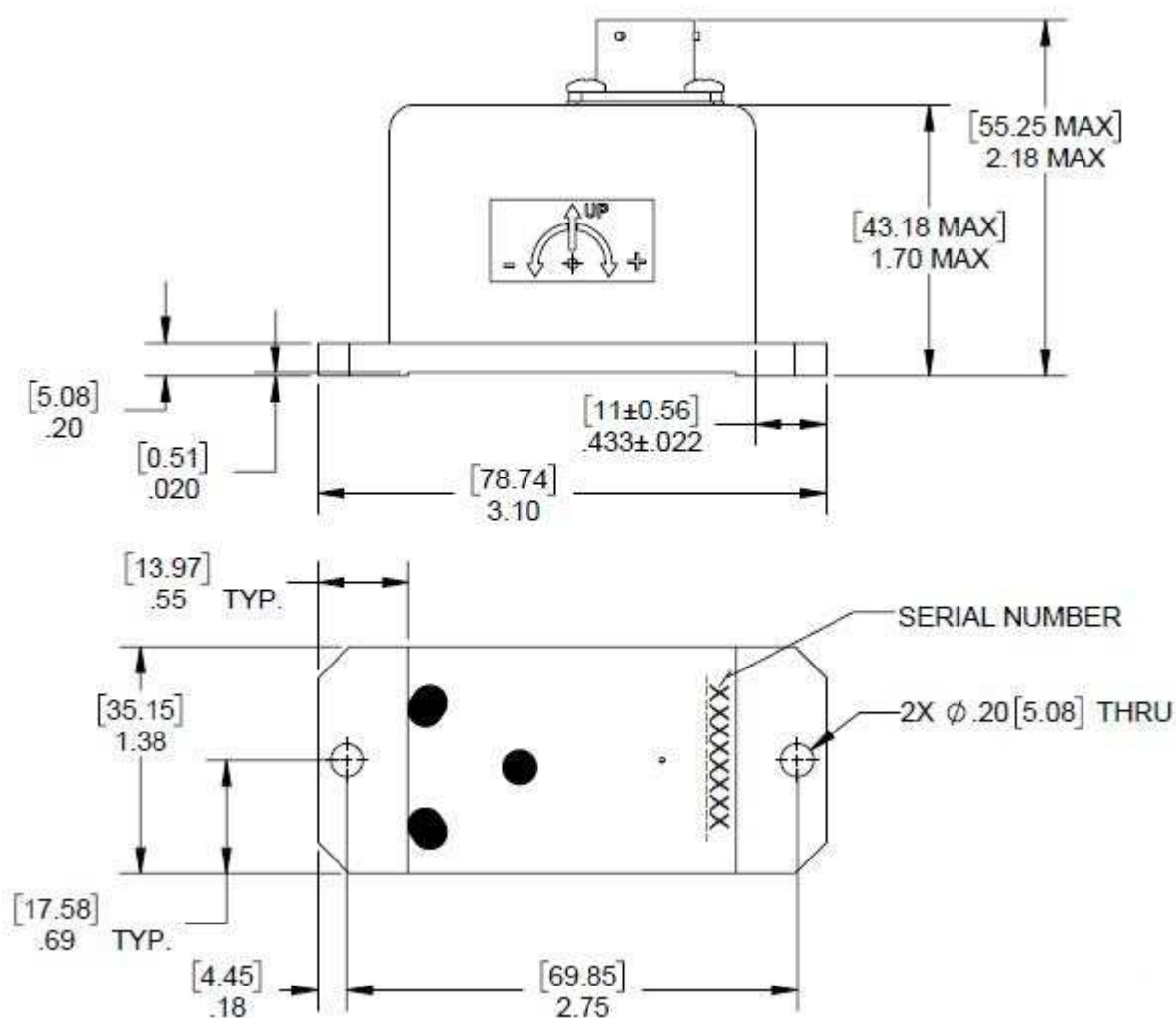
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Outline Drawing: Connector Version



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Making Sense out of Motion...

Outline Drawing: Pin Terminal Version

