



LCF-100/101

Single-Axis Analog Inclinometer

The LCF Series flexure suspension servo fluid damped inclinometer is a $\pm 1^\circ$ to $\pm 90^\circ$ device designed for applications where high levels of shock and vibration are present. LCF units are characterized by excellent turn on repeatability and very low hysteresis. This unit is available with a pin terminal connection or a 6-pin cable connection.

FEATURES

- Direct Bogie Mount
- Standard Bandwidth from 3 to 30 Hz
- $1\mu\text{radian}$ Resolution
- High Level $\pm 5\text{Vdc}$ Output
- -40°C to $+80^\circ\text{C}$ Temperature Rating

APPLICATION

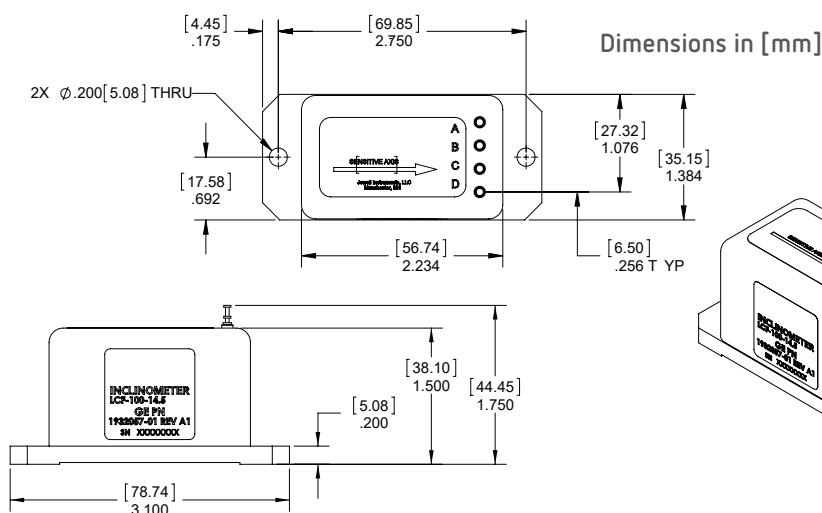
- Heavy Construction, Grading
- Ship and Barge Leveling
- Deviation Surveys
- Continuous Casting for Steel Industry
- Weapons Platform Leveling
- Aircraft Flight Control
- Robot Vertical Referencing
- Auto Manufacturing Suspension Install
- Geophysical Low Range Tilt Sensing
- Platform Orientation
- Dam Sluice Gate Control



PIN OUT:

Pin Version	
A	+12 to +18 VDC
B	-12 to -18 VDC
C	Power/Sig Common
D	Eo [Volts/g]

Connector Version	
A	+12 to +18 VDC
B	Power/Sig Common
C	-12 to -18 VDC
D	Eo [Volts/g]
E	N/C
F	N/C





PERFORMANCE

INPUT RANGE (°)	±1.0	±14.5	±30.0	±90.0
FULL RANGE OUTPUT VDC (FRO ± 0.5%) ¹	±5.0			
NON LINEARITY (%FRO max) ²	±0.05	0.02	0.02	0.05
SCALE FACTOR (V/g, nominal)	286.5	20.0	10.0	5.0
SCALE FACTOR TEMP. SENSITIVITY (PPM/°C, max)	100			
BANDWIDTH (-3db, Hz, nominal)	3.0	30.0	30.0	30.0
TRANSVERSE AXIS MISALIGNMENT (° max)	0.15	0.5	0.71	0.71
0° OUTPUT (Volts) max	±0.5	±0.1	±0.1	±0.05
0° TILT TEMPERATURE SENSITIVITY (Volts/°C, max)	0.015	0.001	0.0005	0.0003
RESOLUTION & THRESHOLD (μradian) max	1			

ELECTRICAL

NUMBER OF AXES	1
INPUT VOLTAGE RANGE (VDC) ⁴	±12 to ±18
INPUT CURRENT (mA, max)	15
OUTPUT IMPEDANCE (Ohms, nominal)	100
NOISE (Vrms max)	0.002

ENVIRONMENTAL

OPERATING TEMP. RANGE	-40° to +80°C
STORAGE TEMP. RANGE	-40° to +90°C
SHOCK	1000g, 1 msec, 1/2 sine
VIBRATION	20 grms
WEIGHT	4 oz

NOTES:

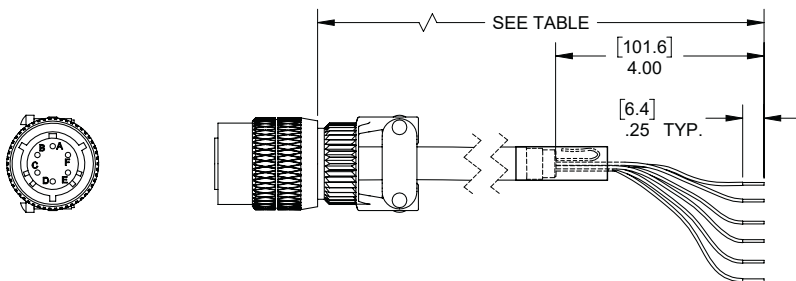
1. Full range is defined as "from negative full input angle to positive full input angle." The Inclinometer output is proportional to the sine of the tilt angle.
2. Referenced to theoretical sine value independent of misalignment.

*Specifications subject to change without notice on account of continued product development



CONNECTOR CABLE

PART #	MODEL #	LENGTH m (ft)
62101011-001	6-Pin Mating Connector	-
879605-007	DSI-CBL-02M-1	2 (6.56)
879605-008	DSI-CBL-03M-1	3 (9.84)
879605-020	DSI-CBL-05M-1	5 (16.4)
Contact manufacturer for custom lengths		



ORDERING INFORMATION HOW / HOW TO ORDER

PIN VERSION	MODEL #	PART #
±1.0	LCF-100-1	458100-005-ROHS
±14.5	LCF-100-14.5	458100-002-ROHS
±30.0	LCF-100-30	458100-003-ROHS
±90.0	LCF-100-90	458100-004-ROHS

CONNECTOR VERSION	MODEL #	PART #
±1.0	LCF-101-1	458101-005-ROHS
±14.5	LCF-101-14.5	458101-001-ROHS
±30.0	LCF-101-30	458101-003-ROHS
±90.0	LCF-101-90	458101-004-ROHS