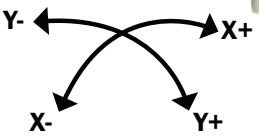
LCF-2330 Analog Inclinometer



Introduction

The LCF-2330 Series Inclinometer is a dual axis version of the rugged, high accuracy LCF Series. The design of the LCF-2330 was optimized to provide the high accuracy and superior repeatability of rugged, fluid damped, flexure suspension, servo technology in a small and convenient package for applications requiring a compact dual axis solution. With many options to choose from, including a flange base, metric threads, and temperature sensor, this product can be customized to suit your individual needs.

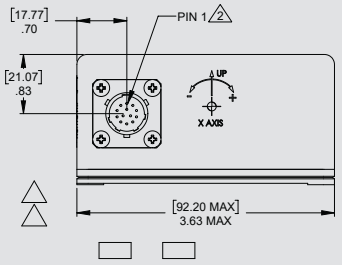
Features

- ±1° to ±90° Input Full Range
- Micro Radian Resolution
- Available Internal Temp Sensor
- ± 5 Vdc Output, 4-20mA Output, or 0-5V Output
- Superior 0° Output Stability Over Temperature
- RoHS Compliance Available

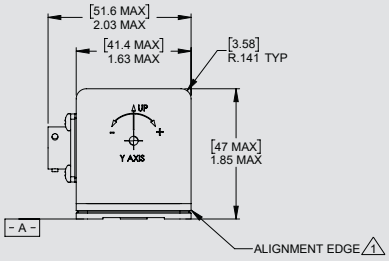
Application

- Radar & Antenna Leveling
- Weapons Platform Leveling
- Barge and Offshore Platform Control
- Deviation Surveys
- 2-Axis Machine Tool Leveling
- Bridge Structural Monitoring
- Submersible Control Feedback
- Offshore Platform Stability
- Production/Manufacturing Process
- Equipment for Aerospace Industry

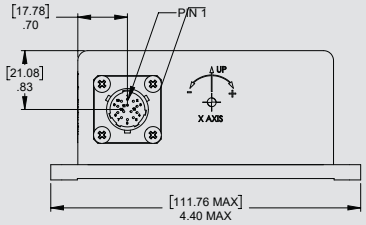
Standard base



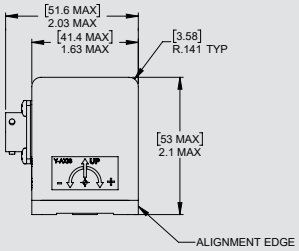
±5V Version



Flanged base



4-20mA & 0-5V Versions



Dimensions in [mm]

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Performance specifications LCF-2330: ±5V output

Performance

Input range (°)	±1	±3	±14.5	±30.0	±60	±90.0
Full range output (VDC)[1]			±5.0			
Non linearity (%fro) max[2]	0.05	0.05	0.02	0.02	0.02	0.02
Scale factor (V/g, nominal)	286.5	95.5	20.0	10.0	5.77	5.0
Scale factor temp. Sensitivity (ppm/°c, max)	300	300	100	100	100	100
Bandwidth (-3db hz, nominal)	0.5	2	15	20	30	30
Transverse axis misalignment (° max)	±0.25	±0.50	±0.50	±1.00	±1.00	±1.00
Output at 0° tilt (V) max	±0.10	±0.04	±0.02	±0.02	±0.02	±0.02
0° output temp. Sensitivity (Volts/°C, max)	0.015	0.005	0.001	0.0005	0.0003	0.0003
Resolution & threshhold (µradian)			1			

Electrical

Number of axes	2
Input voltage range (VDC)	±12 to ±18
Input current (mA, max)	30
Output impedance (Ohms, nominal)	100
Noise (Vrms max)	0.002

Environmental

Operating temp. Range	-40° to +80°C
Storage temp. Range	-60° to +90°C
Shock	1000g, 1 msec, ½ sine
Vibration	20 grms

Enclosure

Weight	280 g
Seal	IP65

Pin outs

1	Red	+12 to +18 VDC
2	Black	-12 to -18 VDC
3	White	power common
4	Orange	x-axis output signal
5	Green	x-axis output return
6	Red/black	y-axis output signal
7	Blue	y-axis output return
8	White/black	temp sensor out
9-13		N/C

Options

- Temperature Sensor Type: AD590
  Scale Factor: 1µA/K
  Spec @ Room Ambient
  Temperature: 298.2 ±10.5 µA
- Flange base
- Metric mounting threads
- RoHS Compliance
- 0-5V Output

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.

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

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Performance specifications LCF-2330: 4-20mA output

Performance

Input range (°)	±1	±3	±14.5	±30.0	±90
Full range output (FRO) mA ±1.0%[1]			4-20		
Non linearity (%fro) max	0.05	0.05	0.02	0.03	0.04
Scale factor (mA/g, nominal)	458.40	152.90	31.95	16.00	8.00
Scale factor sensitivity (ppm/°c, max)	300	300	100	100	100
Bandwidth (-3db) hz, nominal	0.5	2.0	15	20	30
Transverse axis misalignment (° max)			±0.5		
Output at 0° tilt (mA, max)	12 ±0.6	12 ±0.6	12 ±0.3	12 ±0.3	12 ±0.3
Output at 0° tilt temp. Sensitivity (ma/°c) max	0.024	0.009	0.002	0.001	0.001
Resolution & threshhold (µradian)			1		

Electrical

Number of axes	2
Input voltage range (VDC)	20 to 30
Input current (mA, nominal)	90
Noise (mA rms, max)	0.01

Environmental

Operating temp. Range	-40° to +80°C
Storage temp. Range	-60° to +90°C
Vibration	20 grms
Shock	1000g, 1 msec, ½ sine

Enclosure

Weight	280 g
Seal	IP65

Pin outs

1	Red	+20 to +30 VDC
2	Black	N/C
3	White	power return
4	Orange	x-axis output signal
5	Green	signal common
6	Red/black	y-axis output signal
7	Blue	signal common
8	White/black	temp sensor out
9-13		N/C

Options

- Temperature Sensor Type: AD590
  Scale Factor: 1µA/K
  Spec @ Room Ambient
  Temperature: 298.2 ±10.5 µA
- Flange base
- Metric mounting threads
- RoHS Compliance
- 0-5V Output

Notes

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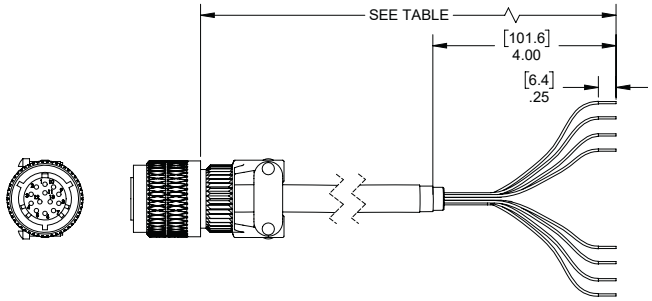
Accessories

Connector cable



PART #	MODEL #	LENGTH m (ft)
847774-002	13-Pin Mating Connector	-
879605-003	DSI-CBL-060-2	6 ft
879605-004	DSI-CBL-010-2	10 ft
879605-009	DSI-CBL-02M-2	2 m
879605-010	DSI-CBL-03M-2	3 m

NOTE: Please contact factory for any custom length cable assemblies.

Ordering information

series	-	version	-	input range	-	base & threading	-	temp sensor	-	rohs compliant
LCF-2330		**[blank]** = ±5V **LC** = 4-20mA **SC** = 0-5V		**1/1** = ±1° X&Y axis **3/3** = ±3° X&Y axis **14.5/14.5** = ±14.5° X&Y axis **30/30** = ±30° X&Y axis **60/60** = ±60° X&Y axis **90/90** = ±90° X&Y axis		**[blank]** = standard base with imperial threading **M** = metric base with M6 threading **FB** = flanged base with 3 mounting holes		**[blank]** = no **TS** = yes		**[blank]** = no **ROHS** = yes

Example

Model: LCF-2330-30/30-M-TS-ROHS

Description: ±5V output, ±30° range, metric threads, temperature sensor, and RoHS compliant

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