

C750-050 Series Tiltmeter

4-20mA Output



Making Sense out of Motion...

Model C750-050

Rugged, High Precision

Single-axis Force Balance

4-20mA Inclinometer

The Jewell Black Diamond Series

inclinometer is a low cost, high precision tilt sensor designed with higher accuracy than comparable MEMS devices. It is meant for geotechnical monitoring applications including bridge sag and sway, deflection measurement, platform leveling and structural analysis. All 750-050 Series inclinometers are RoHS compliant.

Features

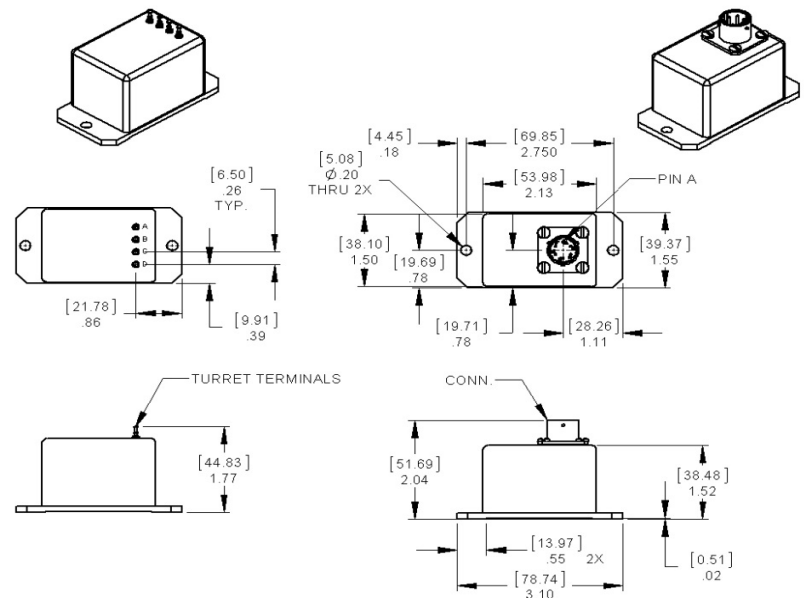
- Extremely Rugged
- Lower cost than traditional Force-Balanced Inclinometers
- High Accuracy
- Greater precision than MEMS technologies
- 4-20mA Output
- Single-Ended Power Input
- RoHS Compliant

Applications

- Bridge Sag & Sway
- Deflection Monitoring
- Platform Leveling
- Structural Analysis



Outline Diagram



Dimensions in inches [mm]

Pin Out (Options: C-connector, P-Pin)

Pin Option		Connector Option	
A	Input Power	A	Input Power
B	Power/Signal Common	B	Power/Signal Common
C	N/C	C	N/C
D	Signal	D	Signal
		E	N/C
		F	N/C

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Performance Specifications

STATIC/DYNAMIC

Input Range (deg.)	±3	±14.5	±30	±45	±60	±90
Full Range Output (mA, +/-1%) ¹	4-20	4-20	4-20	4-20	4-20	4-20
Non-linearity (% FRO) ²	0.05	0.02	0.02	0.02	0.04	0.05
Scale Factor (mA/g nom.)	152.9	32	16	11.3	9.2	8
Scale Factor Temp. Sensitivity (PPM/°C max)	100	100	100	100	100	100
Bandwidth, Hz (-3 dB)	5	5	5	5	5	5
Output Axis Misalignment (deg. max)	0.25	0.5	0.5	0.5	0.5	0.5
Pendulous Axis Misalignment (deg. max)	0.25	0.5	0.5	0.5	0.5	0.5
0° Output nominal (mA)	11.7 to 12.3					
0° Output Temp. Sensitivity (mA/°C max)	0.01	0.003	0.002	0.0015	0.0015	0.0015
Resolution & Threshold (µradians) ³	3.5	3.5	3.5	3.5	3.5	3.5

ELECTRICAL

Number of Axes:	1
Input Voltage Range, (VDC):	+12 to +28
Input Current, mA, max:	55
Noise, Vrms, maximum:	0.006

ENVIRONMENTAL

Operating Temp Range:	-55°C to +85°C
Storage Temp Range:	-60°C to +90°C
Shock:	500g, 1 msec, ½ sine

Notes: **Note 1:** Full Range is defined "from negative full input angle to positive full input angle."

Note 2: Nonlinearity is specified as deviation of output referenced to theoretical sine function value, independent of misalignment.

Note 3: Full Resolution is achieved with noise reduction techniques.

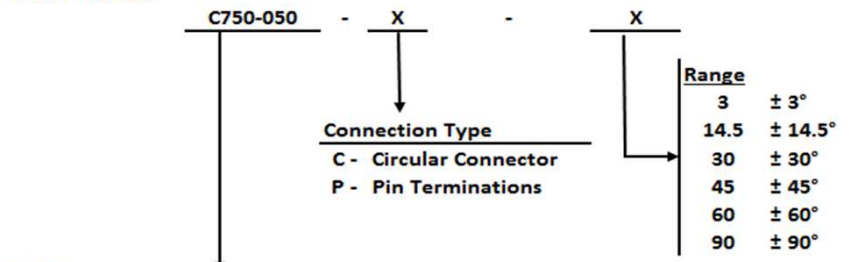
ENCLOSURE

Seal:	IP65
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Custom Capabilities

- Pigtail and Connector alternative options available
- Custom ranges and bandwidths available

How To Order:



Series

C750-050 - Undamped, Black Diamond Tiltmeter with 4-20mA Output

Example:

C750-050-C-3

4-20mA output, undamped, circular connector & ±3.0° range

Accessories

Mating Connector

Description	Part Number
Standard 6-pin connector	62101011-001

Cable Assemblies*

Description	Part Number
6 Ft Cable	879605-001
10 Ft Cable	879605-002
2 M Cable	879605-007
3 M Cable	879605-008

*All cable assemblies come with mating connector