



A750-200 Series
Dual Axis Tiltmeter / 0-5Vdc Output

The Jewell A750-200 Black Diamond tiltmeter series is a 0-5Vdc output fluid-damped, dual-axis precision inclinometer.

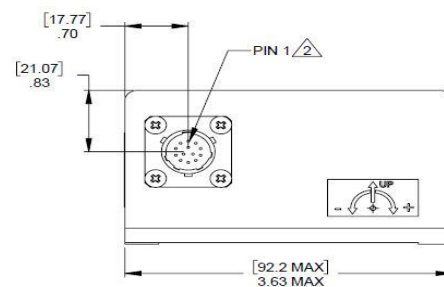
The design of the A750-200 Series was optimized to provide the high accuracy and superior repeatability of Jewell's rugged, fluid damped, flexure suspension, servo technology in a small and convenient package for applications requiring a compact dual axis solution.



FEATURES

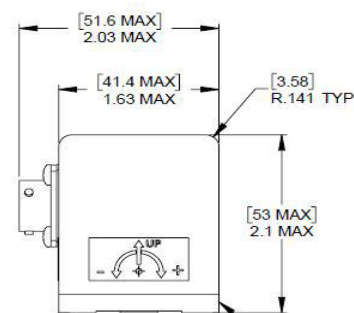
- $\pm 1^\circ$ to $\pm 90^\circ$ Input Full Range
- Micro Radian Resolution
- Available Internal Temp Sensor
- High Level 0-5 Vdc Output
- Superior 0° Output Stability over Temperature
- Low Impedance Output

DIMENSIONAL DRAWING: A750-200 TILTMETER SERIES



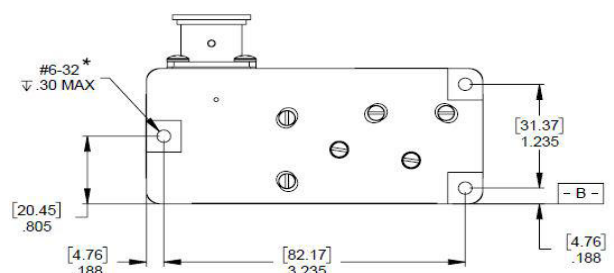
APPLICATIONS

- Radar / Antenna Control
- Structural Monitoring
- Seismic Monitoring
- Platform Leveling
- Lab Testing & Research



PIN OUT: A750-200 TILTMETER SERIES

PIN	FUNCTION
1	+9 TO +18VDC
2	N/C
3	POWER COMMON
4	X-AXIS OUTPUT SIGNAL
5	X-AXIS OUTPUT RETURN
6	Y-AXIS OUTPUT SIGNAL
7	Y-AXIS OUTPUT RETURN
8-13	N/C



*Also available in M6 metric through holes



PERFORMANCE SPECIFICATIONS

Input Range (°)	± 1.0	± 3.0	± 14.5	± 30.0	± 90.0
Full Range Output (FRO), Volts, ±1% (Note 1)	0-5	0-5	0-5	0-5	0-5
Non Linearity (%FRO Max.) (Note 2)	0.05	0.05	0.02	0.02	0.02
Scale Factor (V/g, Nom.)	143.2	47.8	10.0	5.0	2.5
Scale Factor Temp Sens (PPM/°C, Max.)	300	300	100	60	60
Bandwidth (-3dB), Hz, Nom.	0.5	2.0	15.0	20.0	30.0
Transverse Axis Misalignment, (°, Max.)	±0.25	±0.50	±0.50	±1.00	±1.00
2.5Vdc output at 0° Tilt, Volts, Max.	±0.1	±0.04	±0.02	±0.02	±0.02
0° Output Temp Sens, Volts/°C, Max.	0.015	0.005	0.001	0.0005	0.0003
Resolution and Threshold	1µradian				

ELECTRICAL

Input Voltage (Vdc)	+9 to +18
Input Current (mA, Nom.)	80
Output Impedance (Ohms, Nom.)	100
Noise (Vrms, Max.)	0.002

ENVIRONMENTAL

Operating Temp Range	-40°C to +80°C
Survival Temp Range	-60°C to +90°C
Vibration	20 grms
Shock	1000g, 1 msec, 1/2 sine
Seal	MIL-STD 202, Method 112
Weight	8.0 oz.

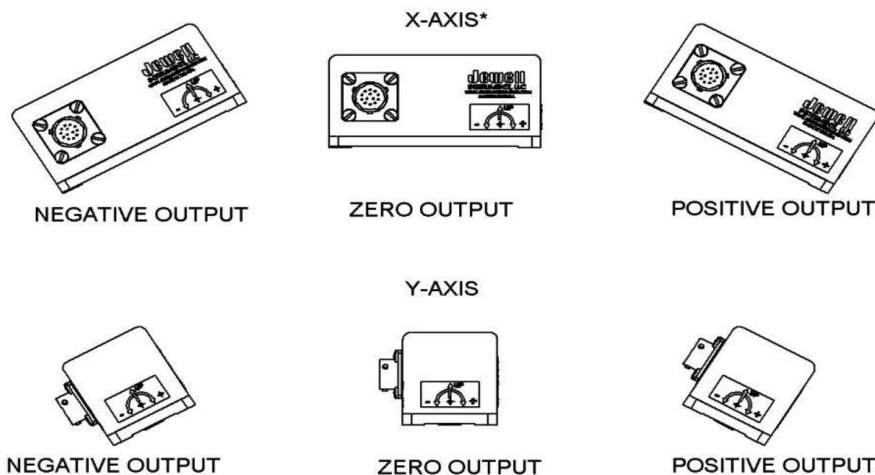
Optional Temperature Sensor

Sensor Type	AD590
Scale Factor	1 µA/K
Sensor Spec @ Room Ambient Temperature	298.2 ±10.5 µA

- 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.

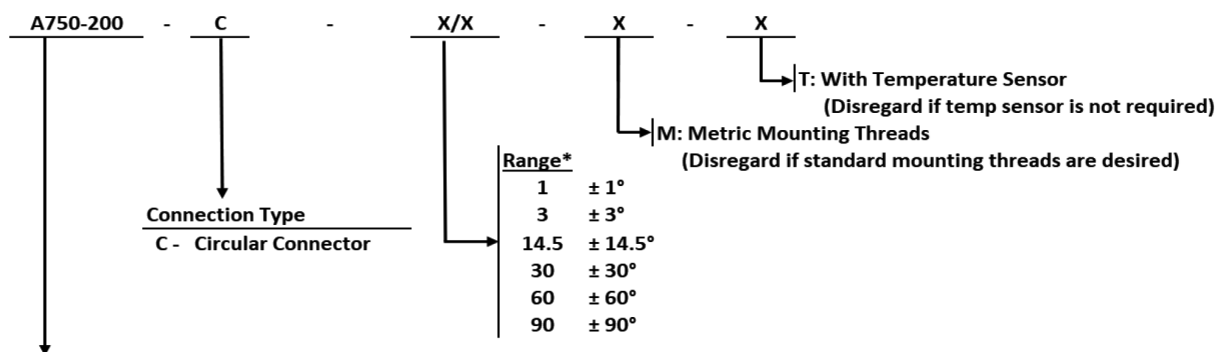


TILT CONFIGURATION



*SENSITIVE AXIS THIS DIRECTION ONLY

HOW TO ORDER



Series
A750-200 - Damped, Black Diamond Dual Axis Tiltmeter with 0-5V Output

*Range configurations can be customized according to application

Example:

A750-200-C-1/1-M

0-5Vdc output, damped, circular connector, ±1.0° range, two axes, metric mounting threads

ACCESSORIES

Mating Connector

Description	Part Number
Standard 13-pin connector	847774-002

Cable Assemblies*

Description	Part Number
6 Ft Cable	879605-003
10 Ft Cable	879605-004
2 M Cable	879605-009
3 M Cable	879605-010

*All cable assemblies come with mating connector



C750-200 Series
Dual Axis Tiltmeter / 4-20mA Output

The Jewell A750-200 Black Diamond tiltmeter series is a 0-5Vdc output fluid-damped, dual-axis precision inclinometer.

The C750-200 offers the same performance and reliability as the A750-200 series, but with a convenient 4-20mA output signal. This solution is ideal for applications that require long cable runs such as platform/radar leveling and geotechnical monitoring.



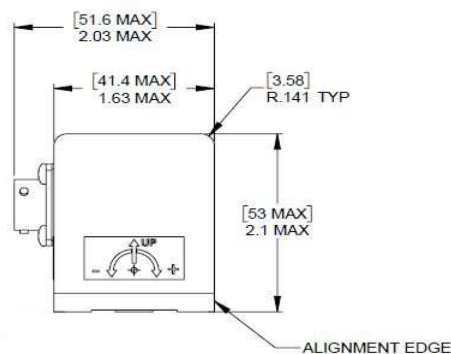
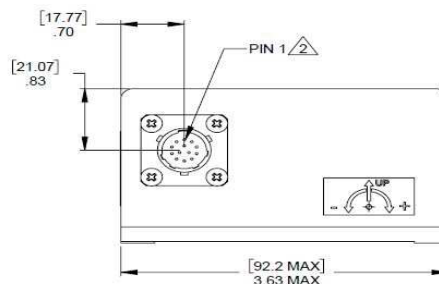
FEATURES

- $\pm 1^\circ$ to $\pm 90^\circ$ Input Full Range
- Micro Radian Resolution
- Available Internal Temp Sensor
- 4-20mA Output Signal
- Superior 0° Output Stability over Temperature
- Low Impedance Output

APPLICATIONS

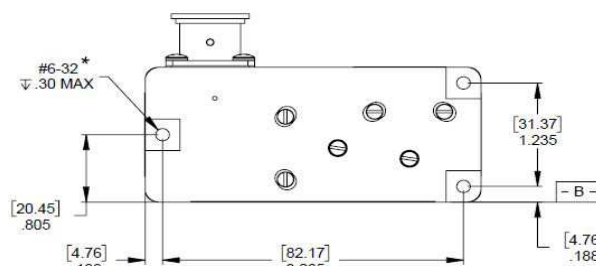
- Radar & Antenna Leveling
- Weapons Platform Leveling *Also available in M6 metric through holes
- Barge and Offshore Platform Control
- Deviation Surveys
- 2-Axis Machine Tool Leveling
- Bridge Structural Monitoring
- Submersible Control Feedback
- Offshore Platform Stability
- Production/Manufacturing Process Equipment

DIMENSIONAL DRAWING: C750-200 TILTMETER SERIES



PIN-OUT: C750-200 TILTMETER SERIES

CONNECTOR	
PIN	FUNCTION
1	+20 TO +30 VDC
2	N/C
3	N/C
4	X-AXIS OUTPUT SIGNAL
5	POWER COMMON
6	Y-AXIS OUTPUT SIGNAL
7	N/C
8	N/C
9	N/C
10	N/C
11	N/C
12	N/C
13	N/C



*Also available in M6 metric through holes



PERFORMANCE SPECIFICATIONS

Input Range, deg.	±1.0	±3	±14.5	±30	±90
Full Range Output (FRO), mA, ±1 %	4-20	4-20	4-20	4-20	4-20
Nonlinearity, % FRO, maximum	0.05	0.05	0.03	0.03	0.04
Scale Factor, mA/g, nominal	458.4	152.9	32.0	16.0	8.0
Scale Factor Temp Sensitivity, PPM/°C, maximum	300	300	100	100	100
Bandwidth, (-3 dB), Hz, nominal	0.5	2.0	15.0	20.0	30.0
Transverse Axis Misalignment, deg, maximum	±0.25	±0.5	±0.5	±0.5	±0.5
Output at 0° Tilt, mA, maximum	12 ±0.6	12 ±0.6	12 ±0.3	12 ±0.3	12 ±0.3
0° Output Temp Sensitivity, mA/°C, maximum	0.024	0.009	0.002	0.001	0.001
Resolution and Threshold, μradians, maximum	1	1	1	1	1

ELECTRICAL

Input Voltage, VDC	+20 to +30
Input Current, mA, maximum	45
Output Noise, mArms, maximum	0.01

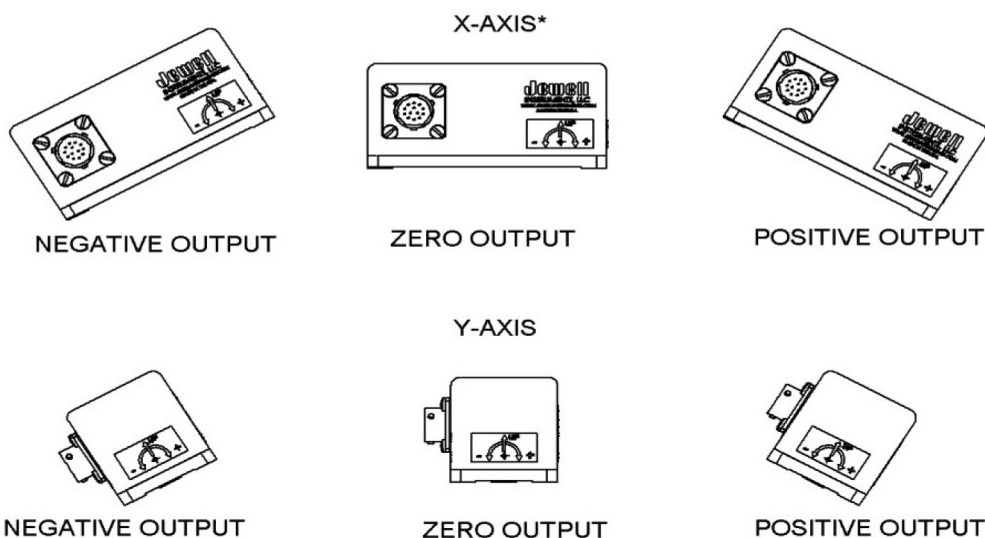
ENVIRONMENTAL

Operating Temperature Range	-40°C to +80°C
Storage Temperature Range	-60°C to +90°C
Vibration	20 grms
Shock	1000g, 1 msec, 1/2 sine
Seal	MIL-STD 202, Method 112
Weight	8.1 oz.

- Notes:
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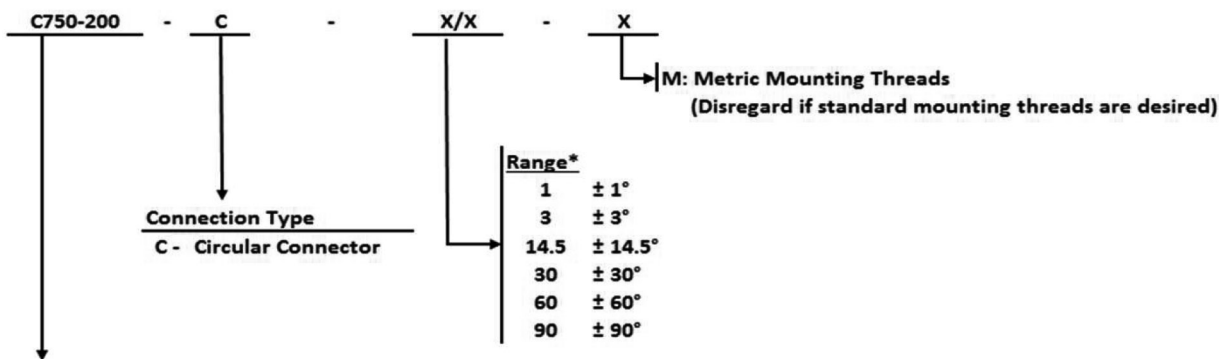


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4-20mA output, damped, circular connector, ±1.0° range, two axes, metric mounting threads

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