

# A750-200 Series Dual Axis Tiltmeter

## 0-5Vdc Output



**Jewell**  
Instruments

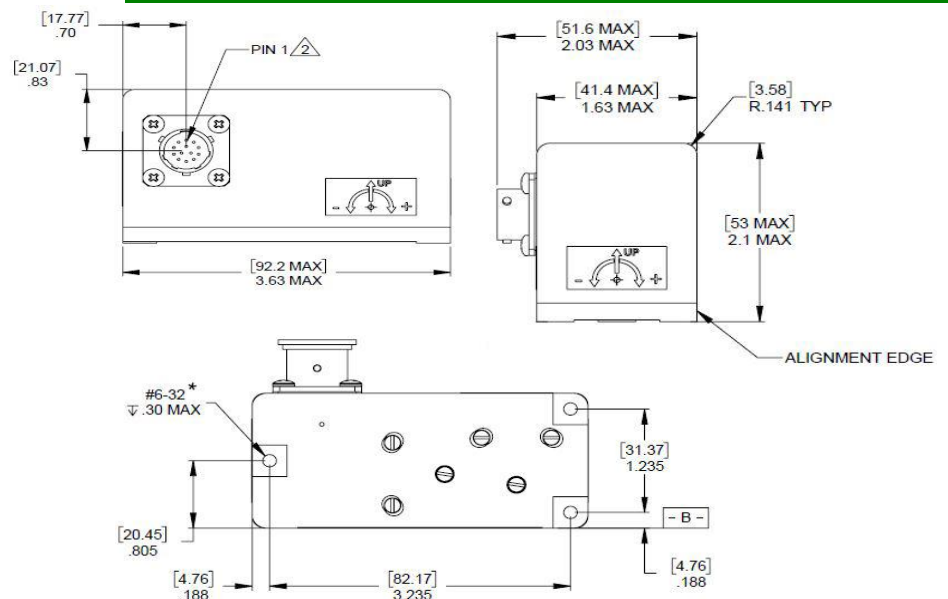
*Making Sense Out of Motion...*

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.

### Dimensional Drawing: A750-200 Tiltmeter Series



### Features & Benefits

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

### Applications

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

\*Also available in M6 metric through holes

### 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

Rev C

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### Specifications

#### PERFORMANCE

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.

Rev C

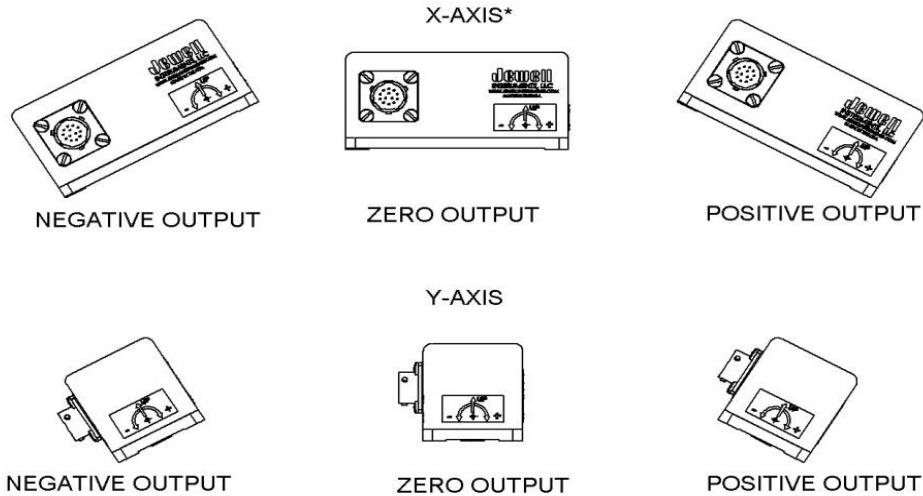
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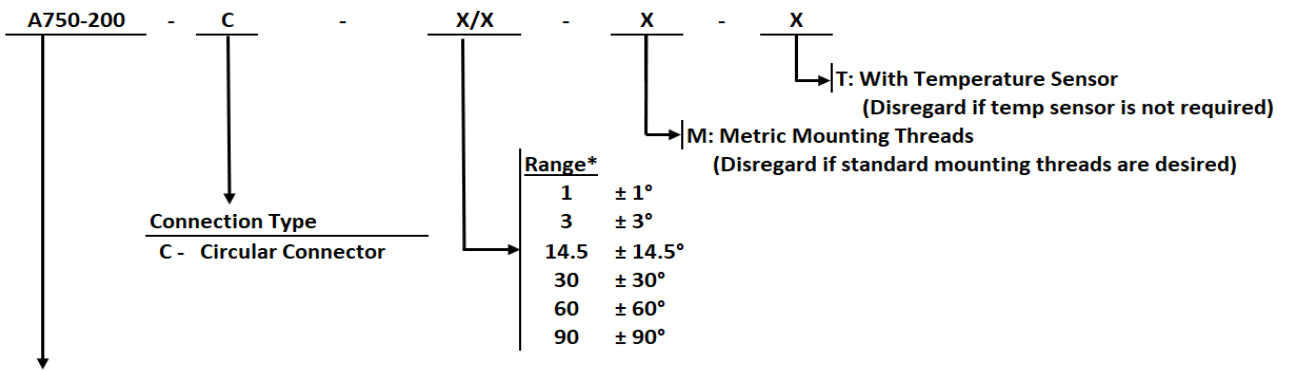
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### Tilt Configuration



\*SENSITIVE AXIS THIS DIRECTION ONLY

### How to Order



### 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