

# C750-150 Precision Fluid Damped Inclinometer

## 4-20mA Output



Making Sense out of Motion...

The **C750-150 Series** has the highest precision of the Black Diamond tilt sensor line. It is a rugged, high performance, single-axis tilt sensor designed for peak performance in extreme conditions. The fluid damped mechanism delivers superior noise rejection in high shock and vibration environments as well as excellent output stability. Units are available with a 6-pin connector, pin-terminals or flying leads. Available outputs include 0-5V and 4-20mA. Custom input ranges, filters and temperature compensation are also available on request.



### Features

- **Extremely Rugged**
- **High Accuracy**
- **Temperature Compensation Available**
- **4-20mA Output**
- **+20 to +30 VDC Power Input**
- **RoHS Compliant**
- **CE Certification Pending**

### Applications

- **High-precision Geotechnical**
- **Oil and Gas/Riser Tilt Monitoring**
- **Bridge Sag & Sway**
- **Dam Monitoring**
- **Structural Analysis**
- **Platform Leveling**



#### Connector Version

PIN	FUNCTION
A	POWER IN
B	COMMON
C	N/C
D	SIGNAL OUT
E	N/C
F	N/C

#### Pin Terminal Version

PIN	FUNCTION
A	POWER IN
B	COMMON
C	N/C
D	SIGNAL OUT
E	N/C
F	N/C

#### Wired Version

COLOR	FUNCTION
RED	POWER IN
WHITE	COMMON
BLACK	N/C
GREEN	SIGNAL OUT

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### STATIC/DYNAMIC

Input Range (deg.)	±1	±3	±14.5	±30	±60	±90
Full Range Output (mA) <sup>1</sup>	4-20	4-20	4-20	4-20	4-20	4-20
Non-linearity (% FRO) <sup>2</sup>	0.05	0.02	0.02	0.02	0.02	0.05
Scale Factor (mA/g nom.)	458.4	152.9	32.0	16.0	9.2	8.0
Scale Factor Sensitivity (PPM/°C max)	350	300	100	60	60	60
Bandwidth, Hz (-3 dB)	0.5	2	15	20	30	30
Transverse Axis Misalignment (° max)	±0.25	±0.25	±0.5	±0.5	±0.5	±0.5
0° Output nominal (mA)	12 ±0.6	12 ±0.6	12 ±0.3	12 ±0.3	12 ±0.3	12 ±0.3
0° Output Temp. Sensitivity (mA/°C max)	0.024	0.01	0.002	0.001	0.001	0.0008
Resolution & Threshold (μradians) <sup>3</sup>	1	1	1	1	1	1

<sup>1</sup>Full Range is defined "from negative full input angle to positive full input angle." <sup>2</sup>Nonlinearity is specified as deviation of output referenced to theoretical sine function value, independent of misalignment. <sup>3</sup>Full Resolution is achieved with noise reduction techniques.

### ELECTRICAL

Number of Axes:	1
Input Voltage Range, (VDC):	+20 to +30
Input Current, mA, max:	40
Noise, μArms, maximum:	0.002
Mass (grams)	370

### ENVIRONMENTAL

Operating Temp Range:	-40°C to +80°C
Storage Temp Range:	-60°C to +90°C
Shock:	1500g, 0.5 msec, ½ sine

### ENCLOSURE

Seal:	IP66
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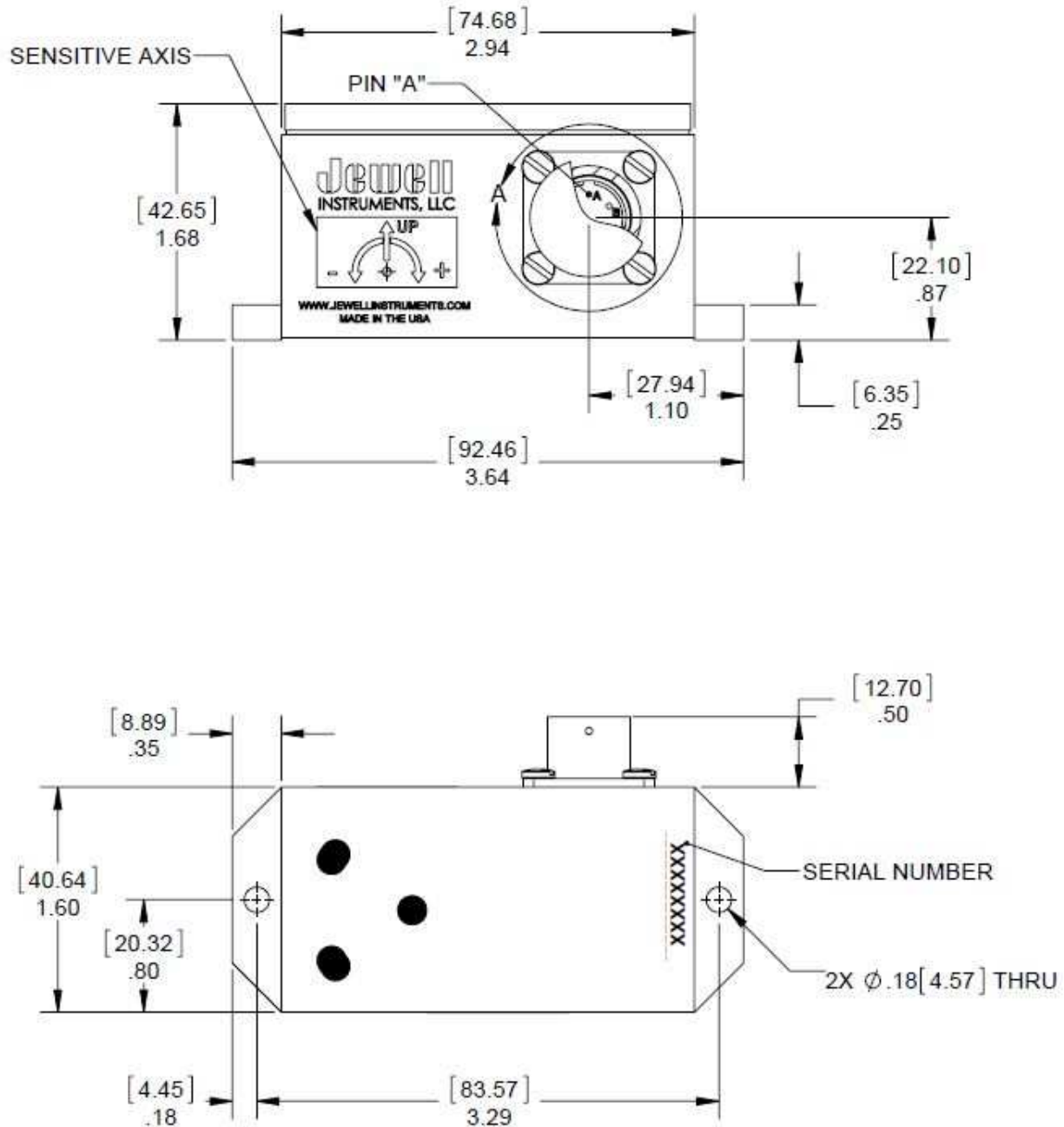
# C750-150 Precision Fluid Damped Inclinometer 4-20mA Output



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## Outline Drawing: Connector Version



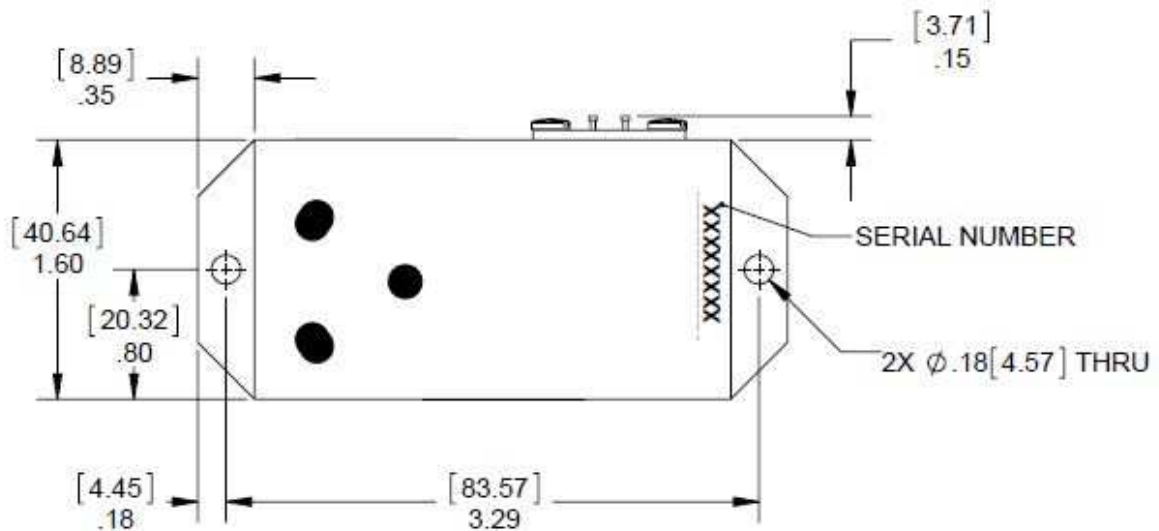
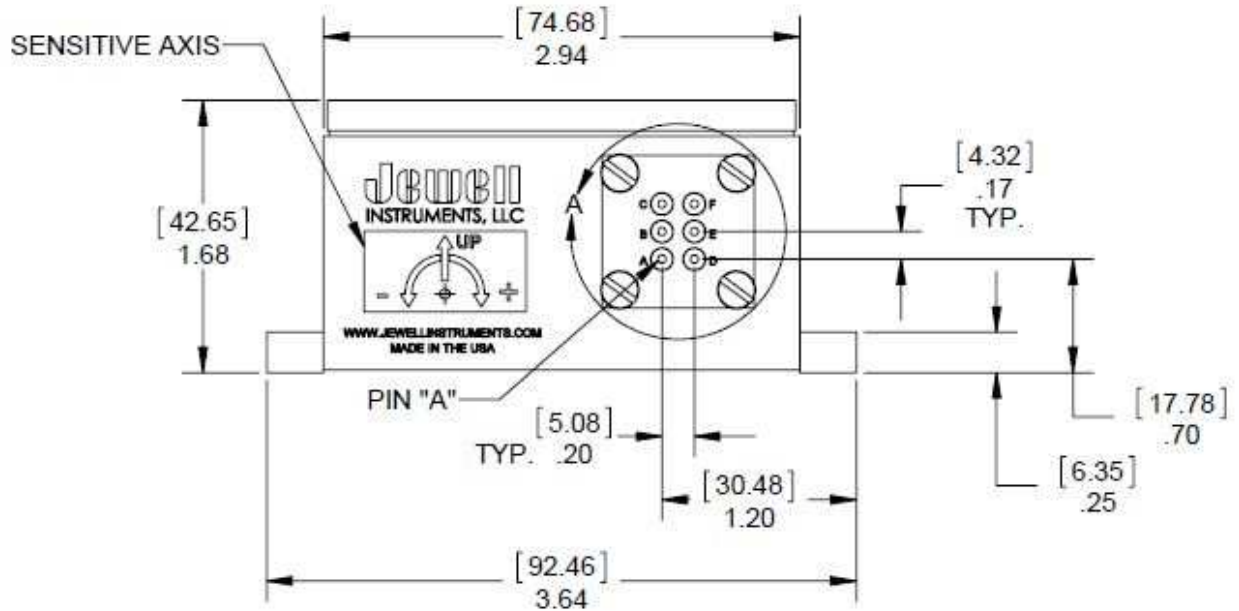
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## Outline Drawing: Pin Terminal Version



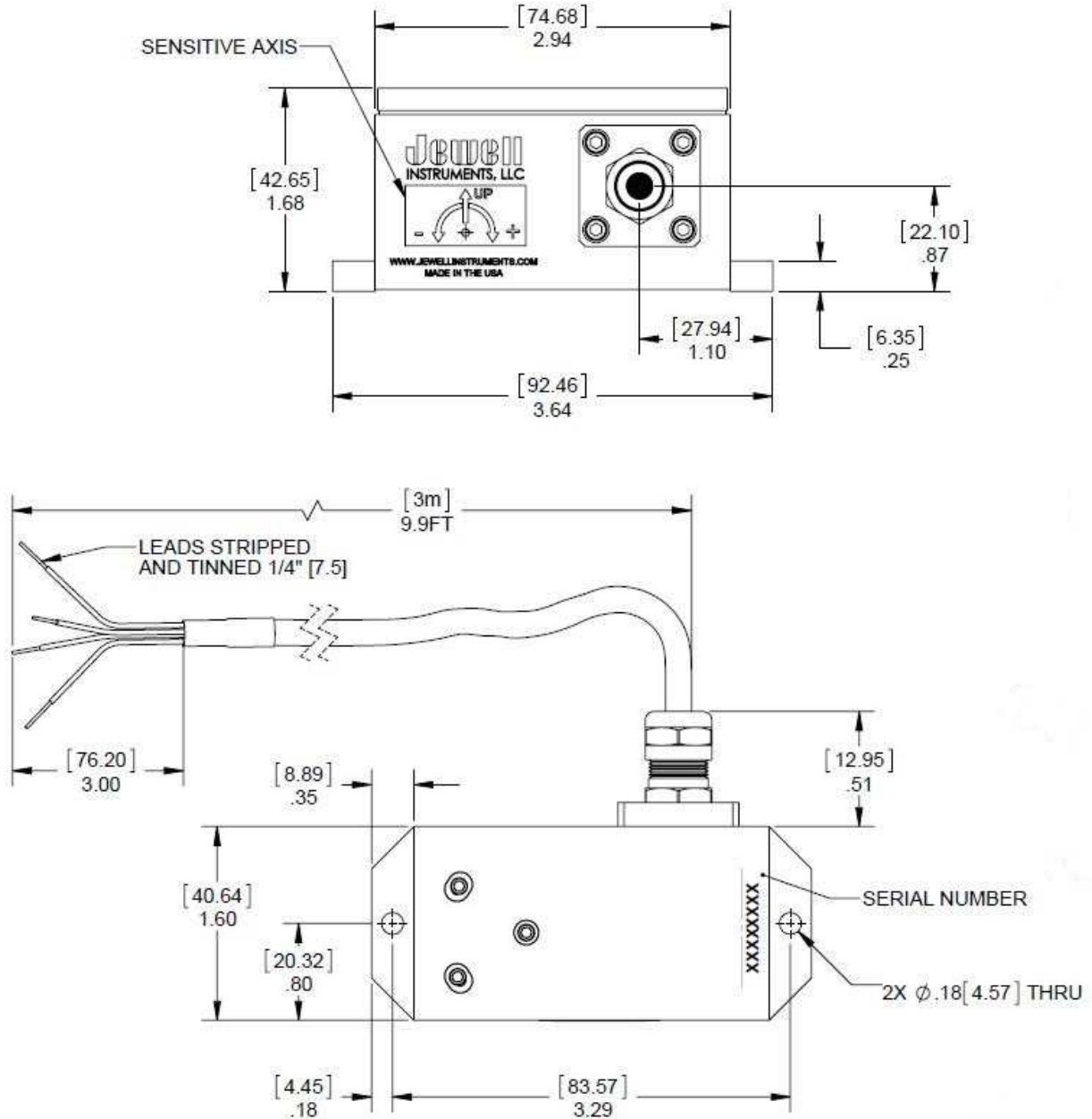
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## Outline Drawing: Wired Version



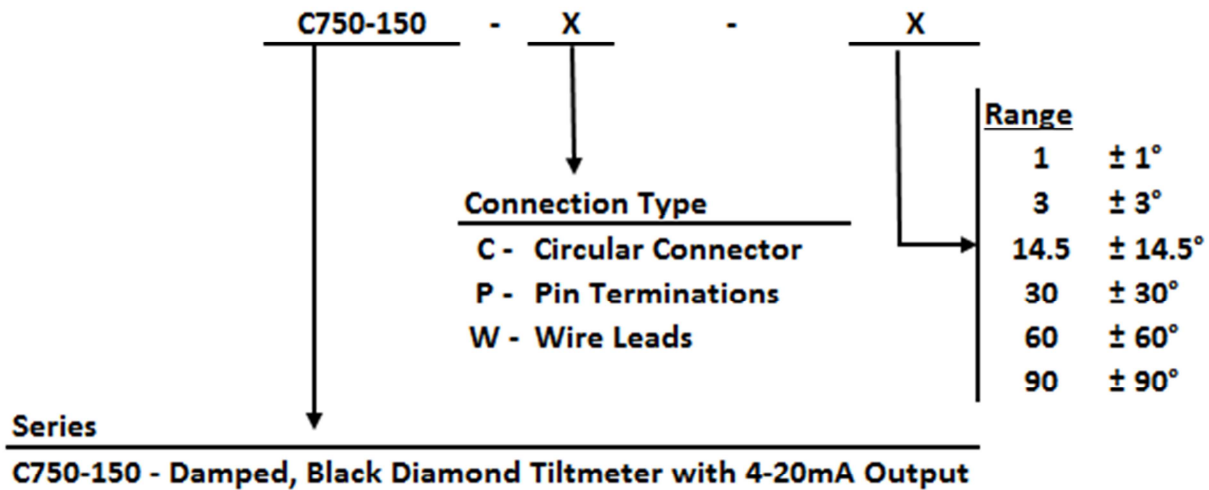
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### How to Order



Example:

C750-150-C-1

4-20mA output, damped, circular connector & ±1° 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