

A750-150 Precision Fluid Damped Inclinometer

0-5V DC Output



Making Sense out of Motion...

The **750-150 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**
- **0-5V Output**
- **+9 to +18 Volts DC Power Input**
- **RoHS Compliant**
- **CE Certification Available**

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

A750-150 Precision Fluid Damped Inclinometer

0-5V DC Output



Jewell
Instruments

Making Sense out of Motion...

STATIC/DYNAMIC

Input Range (deg.)	±1	±3	±14.5	±30	±60	±90
Full Range Output (VDC) ¹	0-5	0-5	0-5	0-5	0-5	0-5
Non-linearity (% FRO) ²	0.05	0.02	0.02	0.02	0.02	0.05
Scale Factor (V/g nom.)	143.2	47.8	10.0	5.0	2.9	2.5
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)	±0.10	±0.04	±0.02	±0.02	±0.02	±0.02
0° Output Temp. Sensitivity (V/°C max)	0.015	0.005	0.001	0.0005	0.0004	0.0003
Resolution & Threshold (μradians) ³	1	1	1	1	1	1

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

ELECTRICAL

Number of Axes:	1
Input Voltage Range, (VDC):	+9 to +18
Input Current, mA, max:	40
Noise, μArms, maximum:	0.002
Output Impedance (ohms)	1
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
-------	------

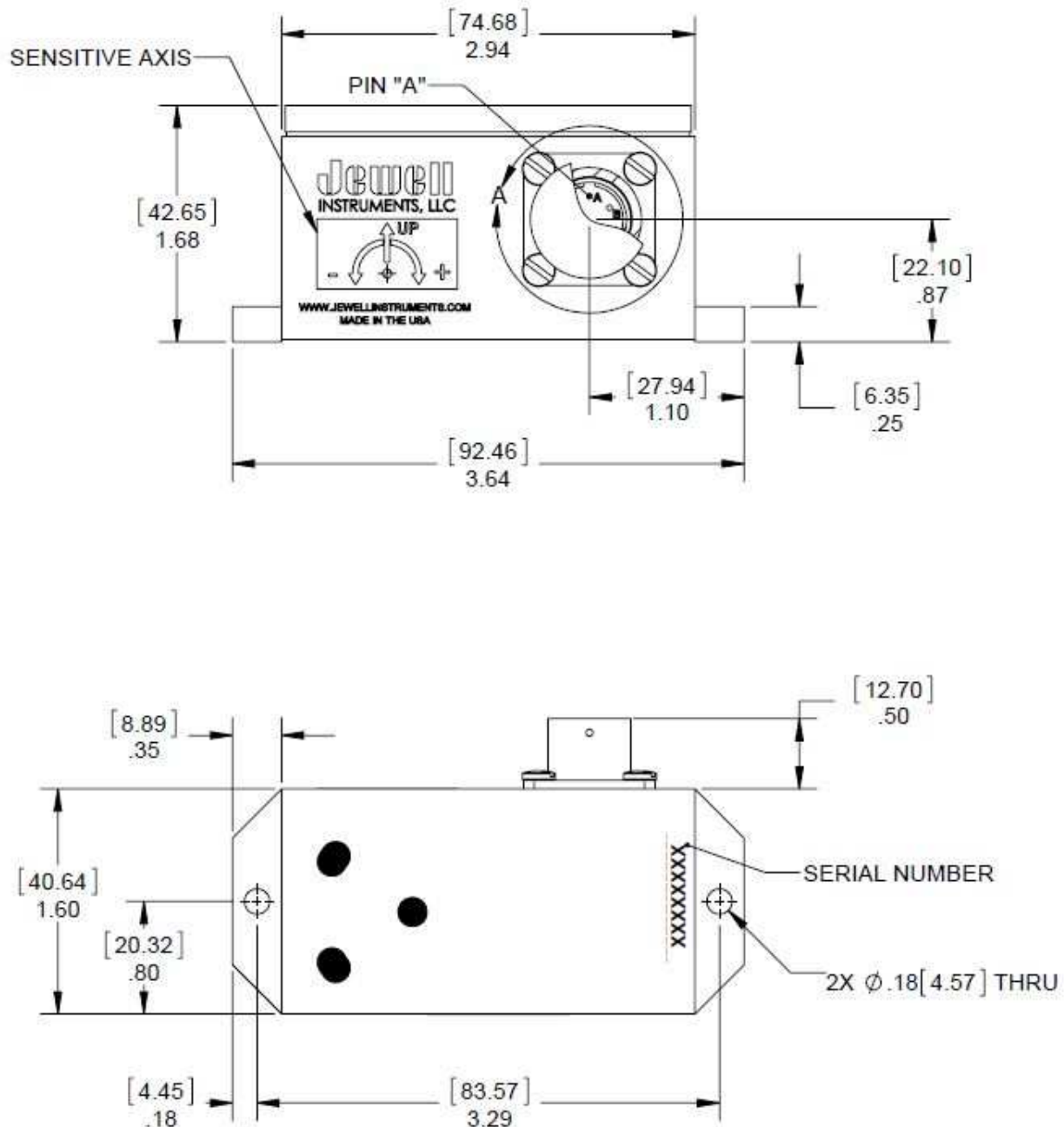
A750-150 Precision Fluid Damped Inclinometer 0-5V DC Output



Jewell
Instruments

Making Sense out of Motion...

Outline Drawing: Connector Version



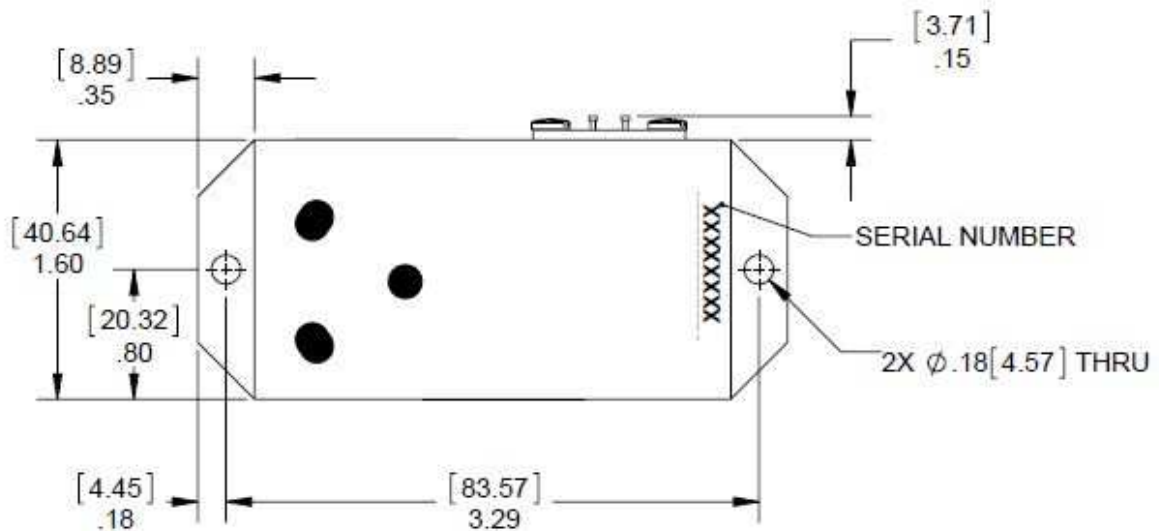
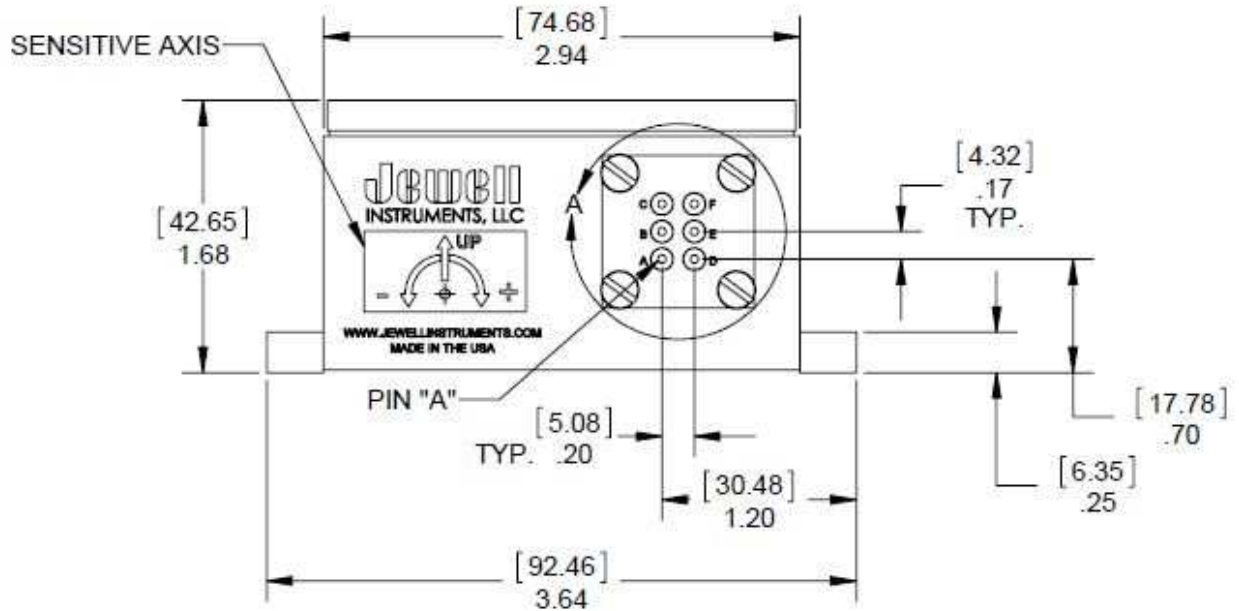
A750-150 Precision Fluid Damped Inclinometer 0-5V DC Output



**Jewell
Instruments**

Making Sense out of Motion...

Outline Drawing: Pin Terminal Version

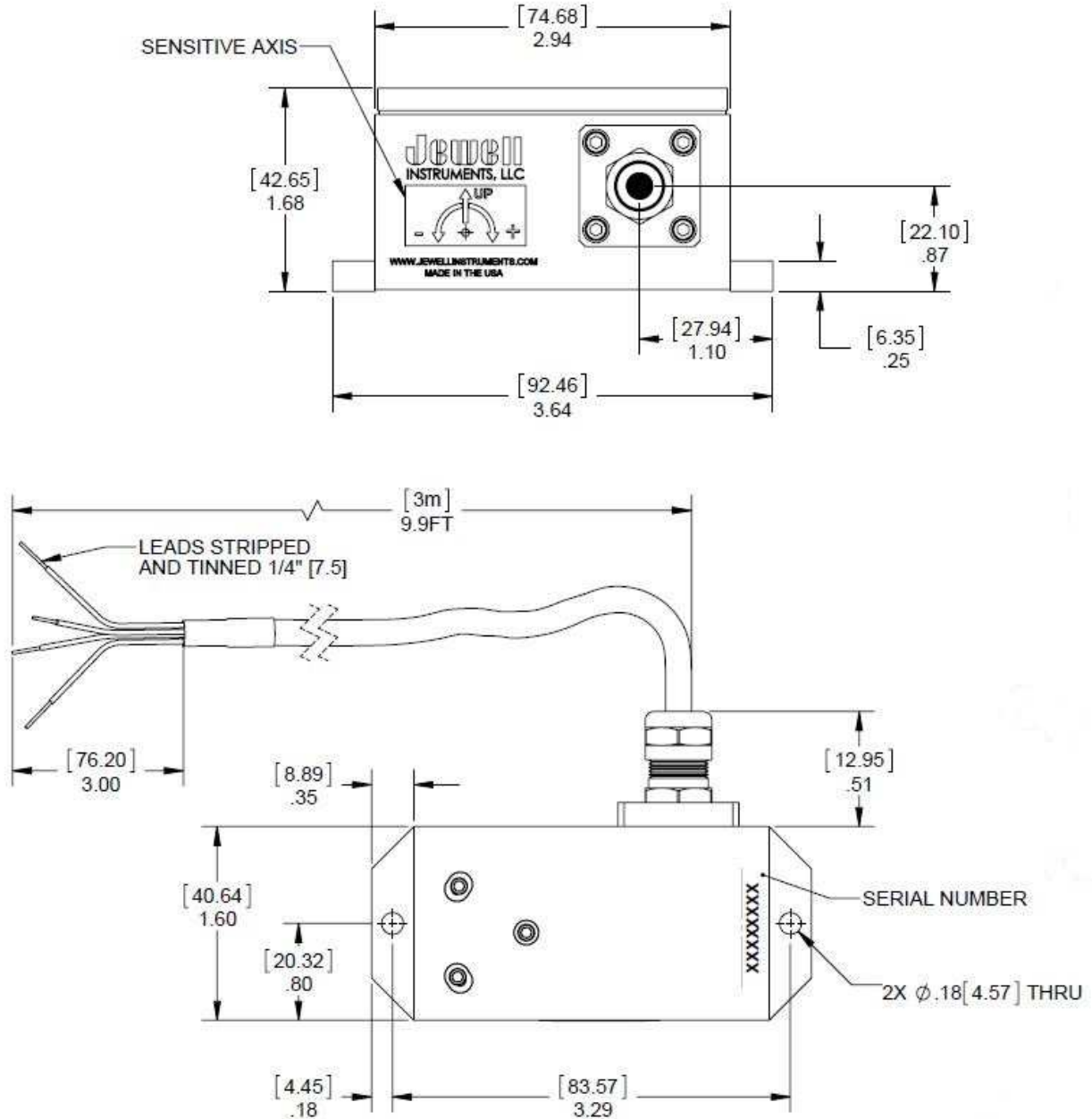


A750-150 Precision Fluid Damped Inclinometer 0-5V DC Output



Making Sense out of Motion...

Outline Drawing: Wired Version

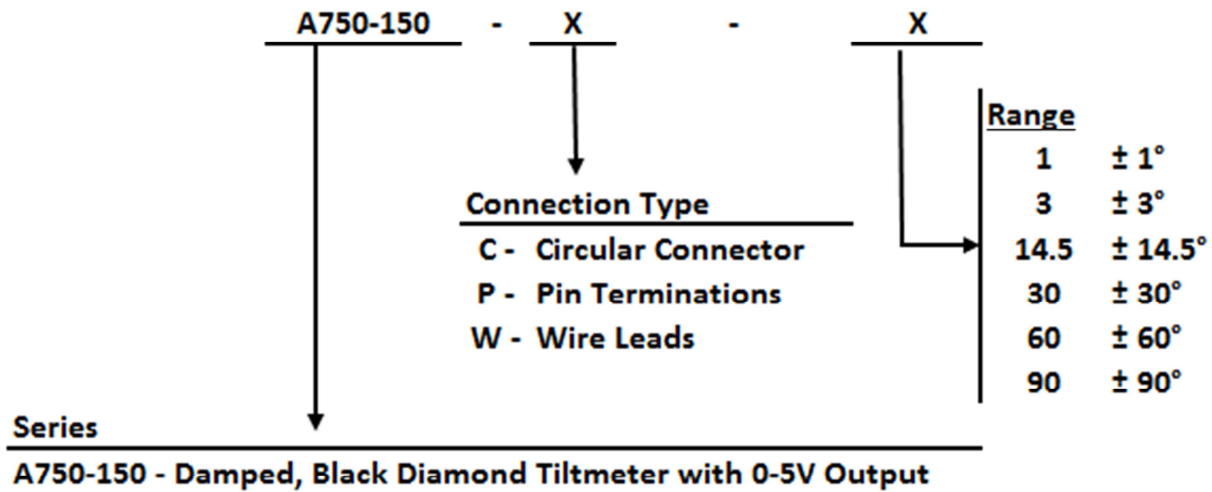


A750-150 Precision Fluid Damped Inclinator 0-5V DC Output



Making Sense out of Motion...

How to Order



Example:

A750-150-C-1

0-5V 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