

## A750-150

### Single-Axis Analog Inclinometer

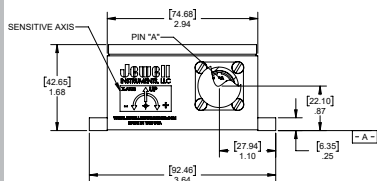
The 750-150 Series has the highest precision of the Black Diamond tilt sensor line. It is a rugged, high performance, single-axis tilt sensor designed for peak performance in extreme conditions. The fluid damped mechanism delivers superior noise rejection in high shock and vibration environments as well 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:

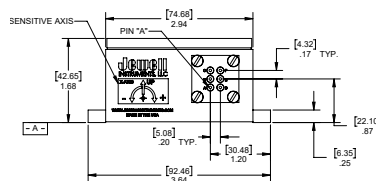
- Extremely Rugged
- High Accuracy
- Internal Temperature Sensor Available
- 0-5V Output
- RoHS Compliant



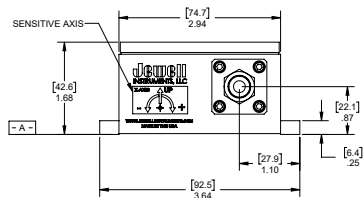
Connector Version



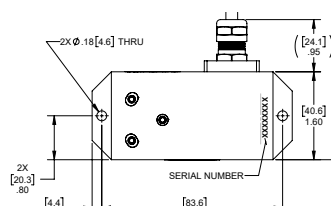
Pin-Terminal Version



Wired Version



Bottom View



Dimensions: in [mm]

#### APPLICATIONS:

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



# Performance Specifications

## STATIC/DYNAMIC

INPUT RANGE (°)	±1	±3	±14.5	±30	±60	±90
FULL RANGE OUTPUT (VDC) <sup>1</sup>	0-5					
NONLINEARITY (% FRO) <sup>2</sup>	0.05	0.02	0.02	0.02	0.02	0.05
SCALE FACTOR (V/g) nominal	143.2	47.8	10.0	5.0	2.9	2.5
SCALE FACTOR SENSITIVITY (PPM/°C max)	350	300	100	80	80	80
BANDWIDTH (-3dB) Hz, nominal	0.5	2	15	20	30	30
TRANSVERSE AXIS MISALIGNMENT, ° max	±0.2	±0.5	±0.5	±0.5	±0.5	±0.5
0° OUTPUT (VDC) nominal	±0.10	±0.04	±0.02	±0.02	±0.02	±0.02
0° OUTPUT TEMP. SENSITIVITY (Volts/°C) max	0.015	0.005	0.001	0.0005	0.0004	0.0003
RESOLUTION & THRESHOLD (µrad) <sup>3</sup>	1					

### NOTES:

1. Full Range is defined "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.
3. Full Resolution is achieved with noise reduction techniques

## PIN OUTS

### PIN & CONNECTOR OPTIONS

A	RED	POWER IN
B	WHITE	COMMON
C	BLACK	N/C
D	ORANGE	SIGNAL OUT
E		N/C
F	BLUE	N/C

### WIRED OPTION

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

## ELECTRICAL

NUMBER OF AXES	1
INPUT VOLTAGE RANGE (VDC)	+9 to +18
INPUT CURRENT (mA, max)	40
OUTPUT IMPEDANCE (Ohms, nom)	1
NOISE (µArms, max)	0.002
MASS (g)	370

## ENVIRONMENTAL

OPERATING TEMP. RANGE	-40° to +80°C
STORAGE TEMP. RANGE	-60° to +90°C
SHOCK	1500g, 1 msec, ½ sine

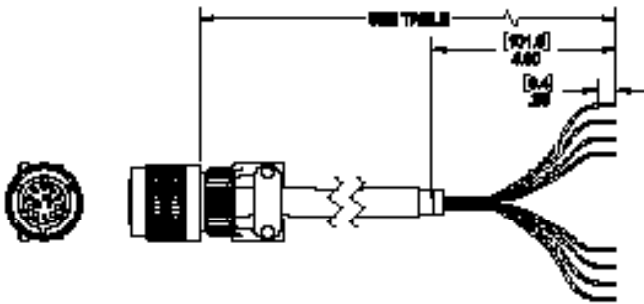
## ENCLOSURE

SEAL	IP66
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# ACCESSORIES

## CONNECTOR CABLE

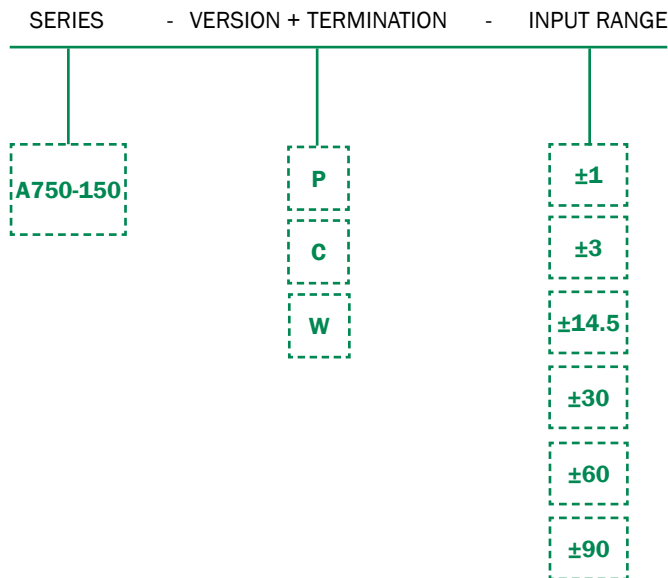


PART #	MODEL #	LENGTH m (ft)
62101011-001	6-Pin Mating Connector	-
879605-007	DSI-CBL-02M-1	2 (6.56)
879605-008	DSI-CBL-03M-1	3 (9.84)
879605-020	DSI-CBL-05M-1	5 (16.4)
Contact manufacturer for custom lengths		

# ORDERING INFORMATION

## HOW TO ORDER

Model Numbers are comprised of the series, the version, the termination option, and the input range.



	TERMINATION	MODEL #	PART #
±1	PIN	A750-150-P-1	98750-86
	CONNECTOR	A750-150-C-1	98750-80
	WIRED	A750-150-W-1	98750-92
±3	PIN	A750-150-P-3	98750-87
	CONNECTOR	A750-150-C-3	98750-81
	WIRED	A750-150-W-3	98750-93
±14.5	PIN	A750-150-P-14.5	98750-88
	CONNECTOR	A750-150-C-14.5	98750-82
	WIRED	A750-150-W-14.5	98750-94
±30	PIN	A750-150-P-30	98750-89
	CONNECTOR	A750-150-C-30	98750-83
	WIRED	A750-150-W-30	98750-95
±60	PIN	A750-150-P-60	98750-90
	CONNECTOR	A750-150-C-60	98750-84
	WIRED	A750-150-W-60	98750-96
±90	PIN	A750-150-P-90	98750-91
	CONNECTOR	A750-150-C-90	98750-85
	WIRED	A750-150-W-90	98750-97

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