



LSOX-D



Description

The LSOX Series Inclinator 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 +/-5V, 0-5V and 4- 20mA. Custom input ranges, filters and temperature compensation are also available on request.

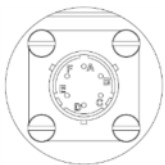
Features

- Extremely Rugged
- High Accuracy
- Temperature Compensation Available
- +/-5V Output
- ±12 to ±18 Volts DC Power Input
- RoHS Compliant
- CE Certification Pending

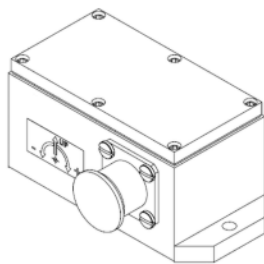
Applications

- High-precision Geotech
- Oil and Gas, Riser Tilt Monitoring
- Railroad MOW Equipment
- Pavement Profiling Rigs
- Vehicle Wheel Alignment
- Robotics

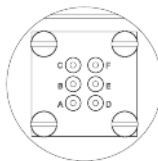
Connector Version



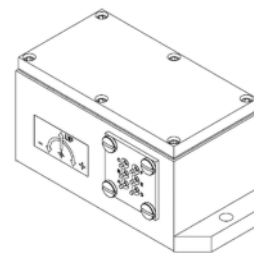
PIN	FUNCTION
A	+POWER IN
B	COMMON
C	- POWER IN
D	SIGNAL OUT
E	N/C
F	N/C



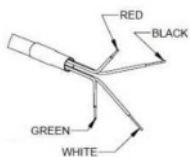
Pin Terminal Version



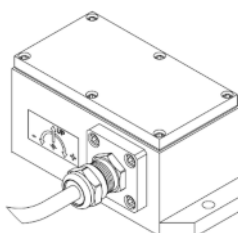
PIN	FUNCTION
A	+POWER IN
B	COMMON
C	- POWER IN
D	SIGNAL OUT
E	N/C
F	N/C



Wired Version



COLOR	FUNCTION
RED	+POWER IN
WHITE	COMMON
BLACK	- POWER IN
GREEN	SIGNAL OUT



Performance Specifications

STATIC/DYNAMIC

Input Range (deg.)	±1	±3	±14.5	±30	±60	±90
Full Range Output (VDC) ¹	±5	±5	±5	±5	±5	± 5
Non-linearity (% FRO) ²	0.05	0.02	0.02	0.02	0.02	0.05
Scale Factor (V/g nom.)	285.5	95.5	20.0	10.0	5.8	5.0
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 (VDC)	±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):	±12 to ±18
Input Current, mA, max:	40
Noise, Vrms, maximum:	0.002
Output Impedance (ohms)	1
Mass (grams)	370

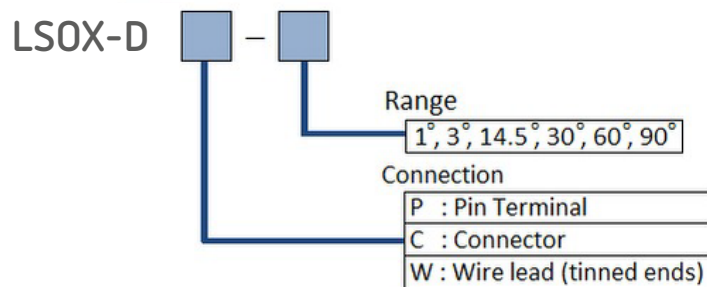
ENVIRONMENTAL

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

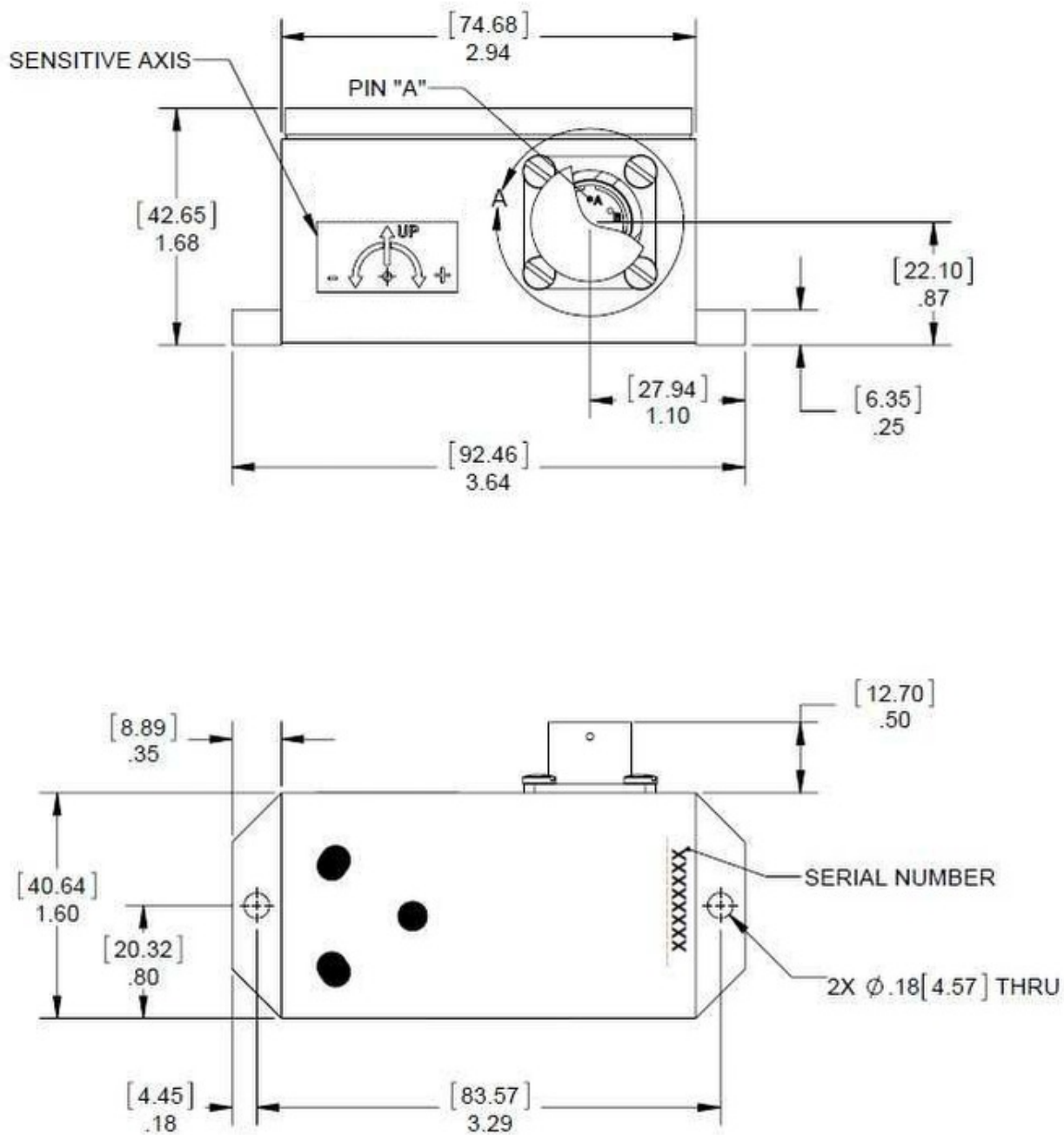
ENCLOSURE

Seal:	IP66
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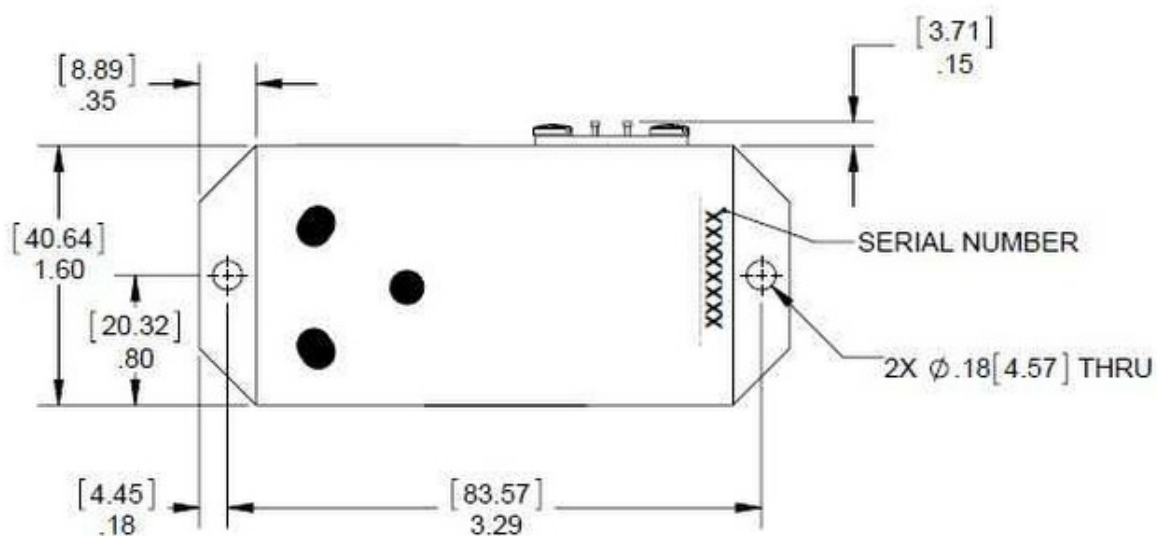
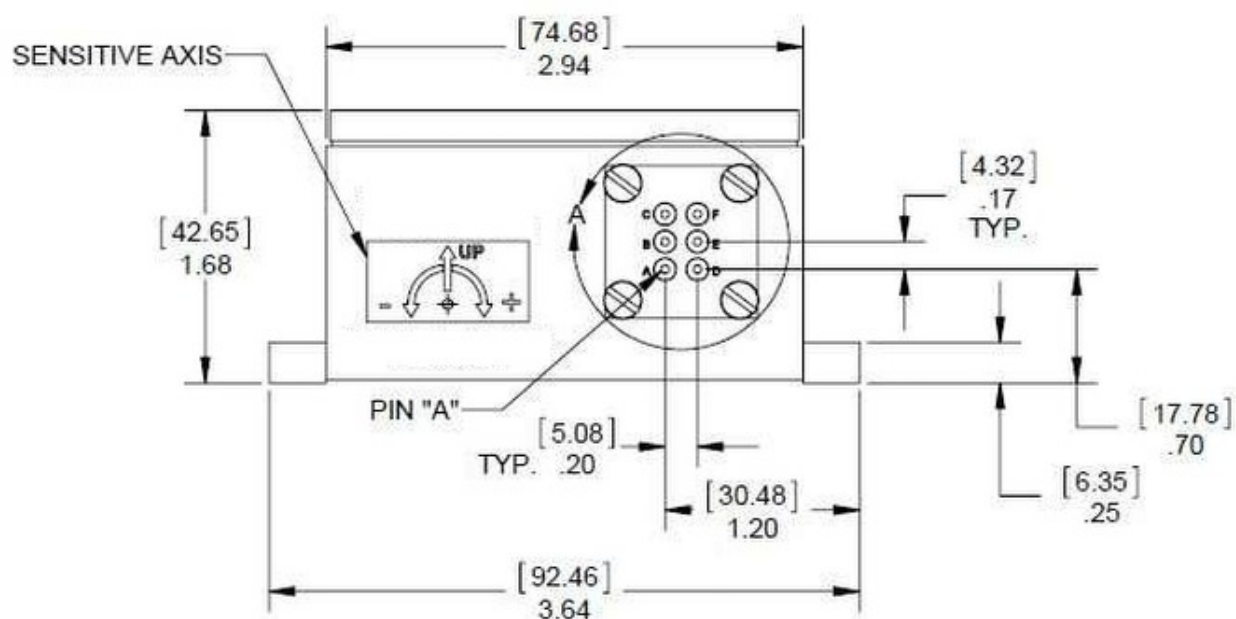
Order code



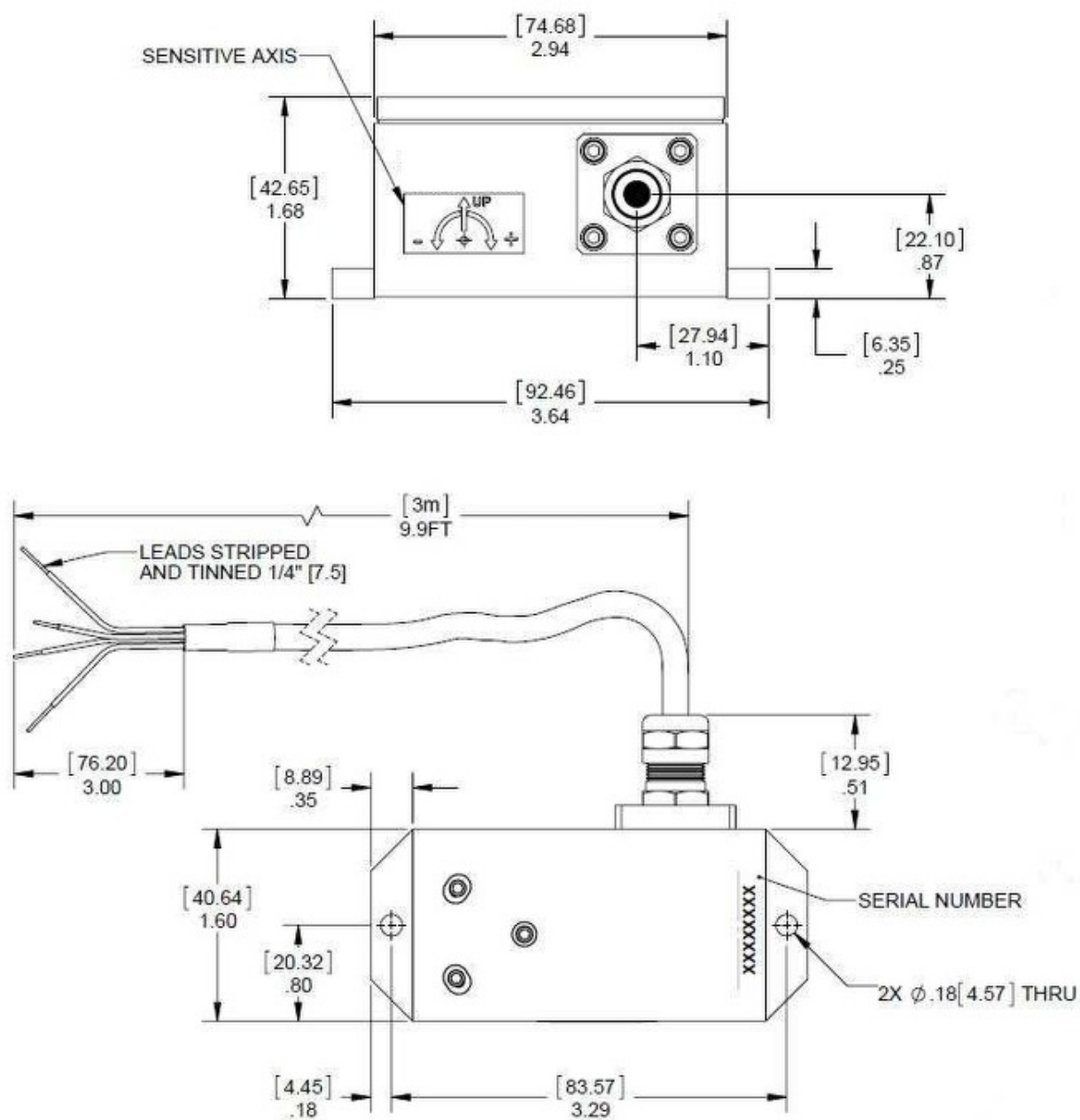
■ Outline Drawing: Connector Version



■ Outline Drawing: Pin Terminal Version



■ Outline Drawing: Wired Version



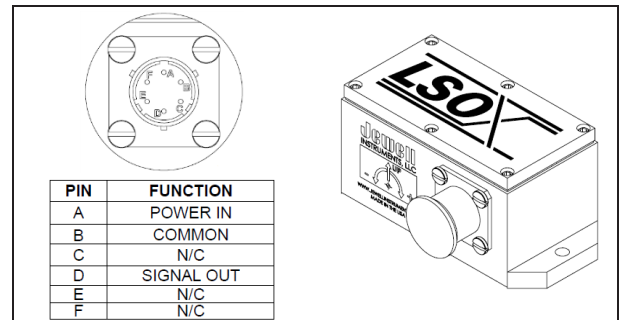


LSOX-L PRECISION FLUID DAMPED INCLINOMETER 4-20mA OUTPUT

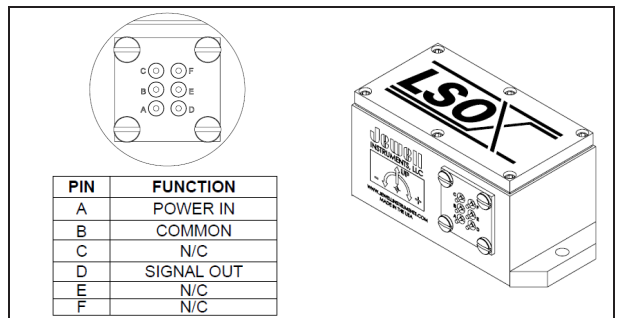
The LSOX Series Inclinometer is a rugged, high performance, single-axis tilt sensor designed for peak performance in extreme conditions. The fluid damped mechanism delivers superior noise rejection in high shock and vibration environments as well as excellent output stability. Units are available with a 6-pin connector, pin-terminals or flying leads. Available outputs include $\pm 5V$, 0-5V and 4-20mA. Custom input ranges, filters and temperature compensation are also available on request.



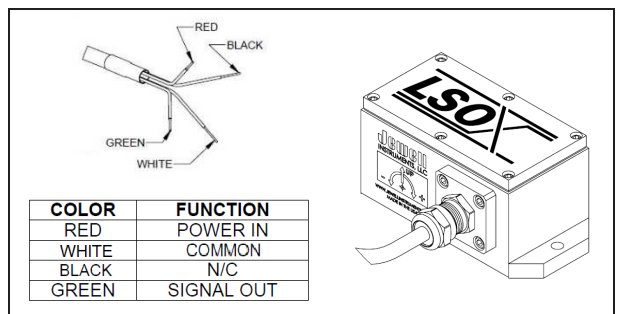
CONNECTOR VERSION



PIN TERMINAL VERSION



WIRED VERSION



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 Geotech
- Oil and Gas/Riser Tilt Monitoring
- Railroad MOW Equipment
- Pavement Profiling Rigs
- Vehicle Wheel Alignment
- Robotics



PERFORMANCE SPECIFICATIONS

STATIC/DYNAMIC

Input Range (deg.)	±1	±3	±14.5	±30	±60	±90
Full Range Output (mA) ¹	4-20	4-20	4-20	4-20	4-20	4-20
Non-linearity (% FRO) ²	0.05	0.03	0.03	0.03	0.03	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) 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):	+20 to +30
Input Current, mA, max:	40
Noise, µArms, maximum:	0.002
Mass (grams)	370

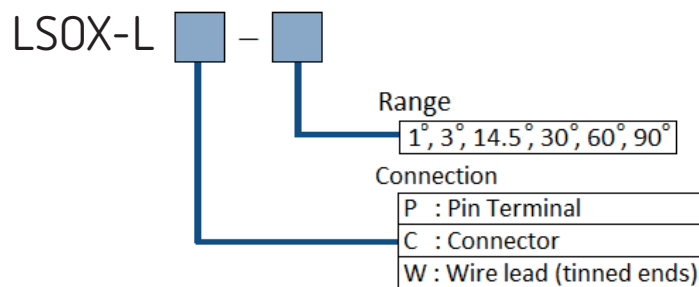
ENVIRONMENTAL

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

ENCLOSURE

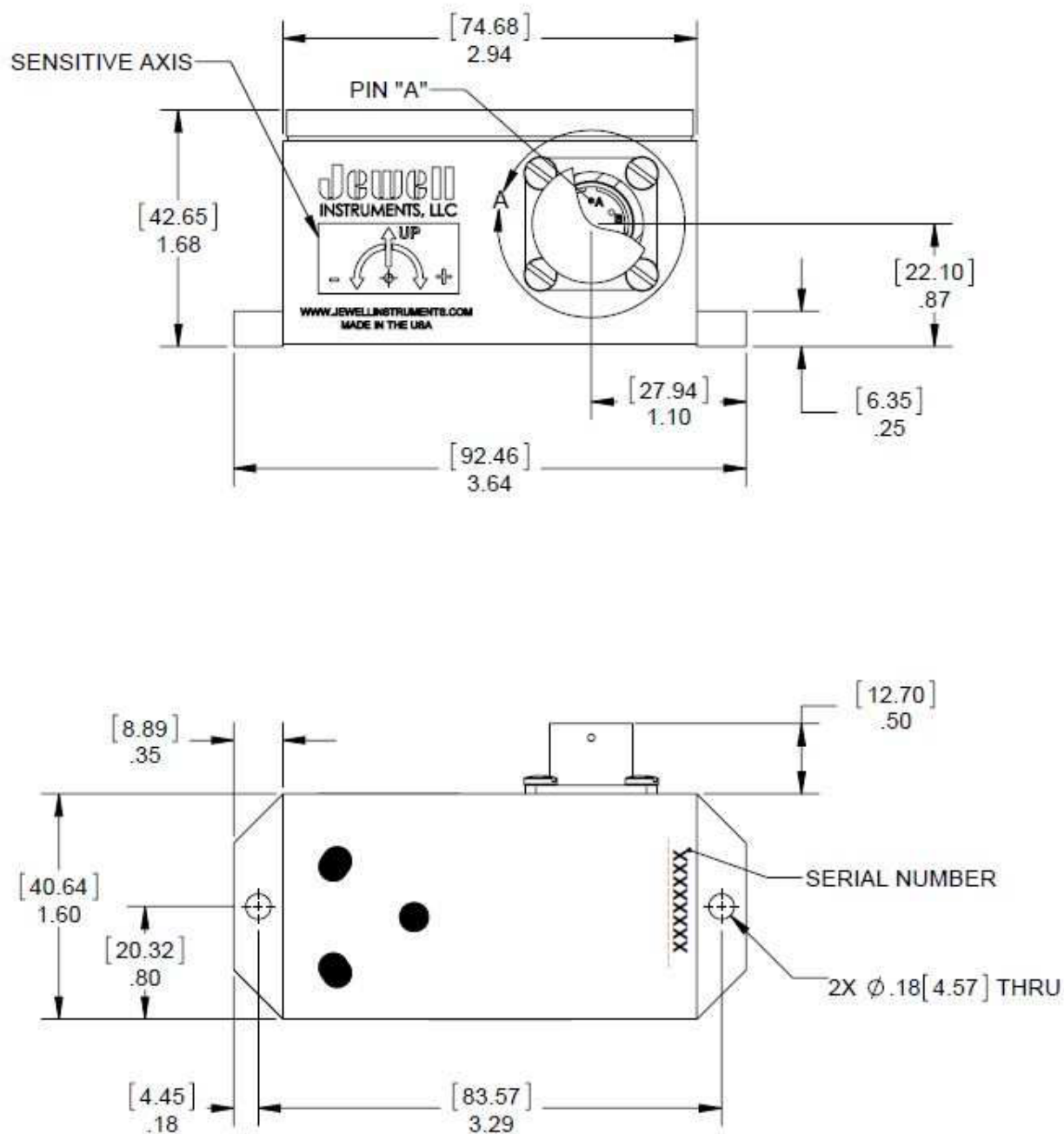
Seal:	IP66
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ORDER CODE

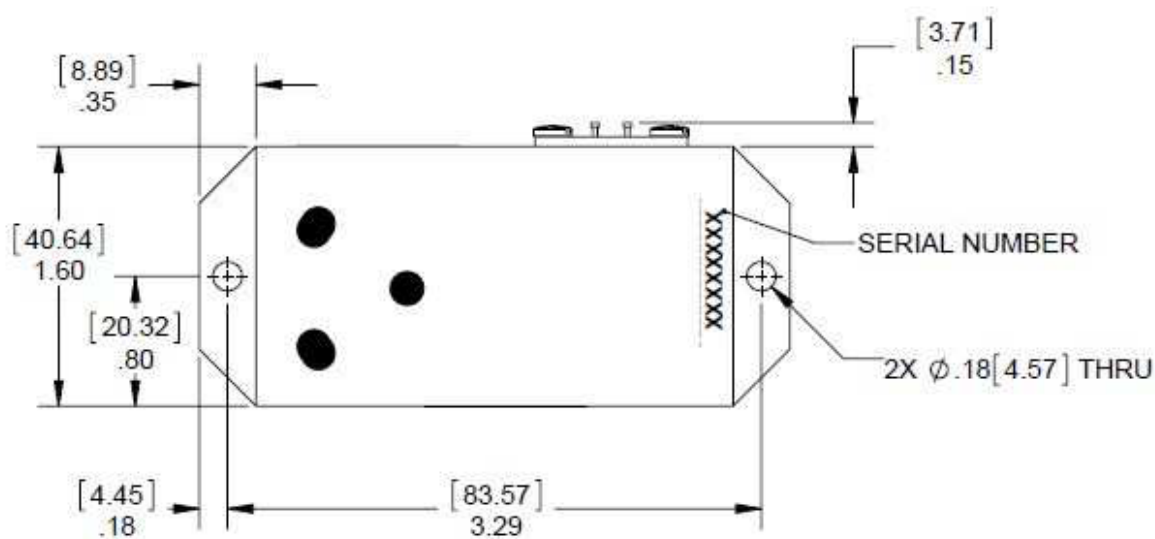
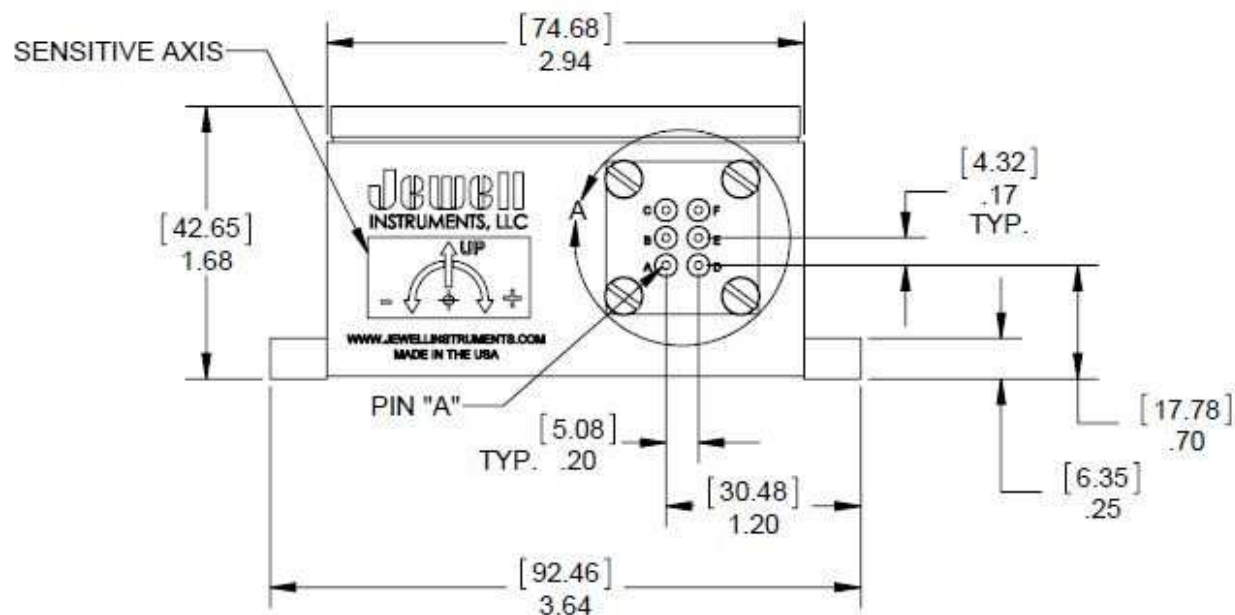




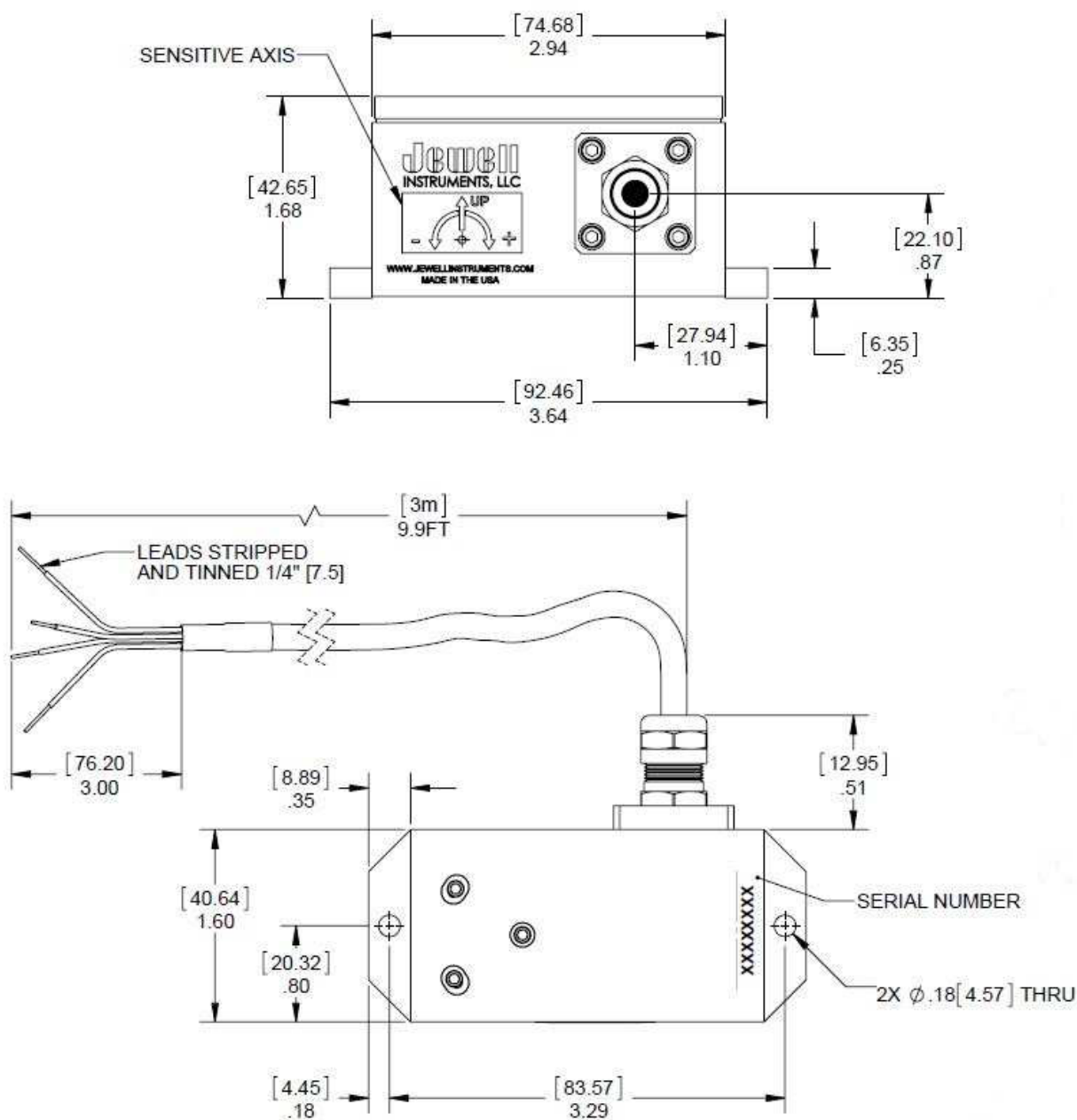
OUTLINE DRAWING: CONNECTOR VERSION



■ OUTLINE DRAWING: PIN TERMINAL VERSION



■ OUTLINE DRAWING: WIRED VERSION





LSOX-S



Description

The LSOX Series Inclinator 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 +/-5V, 0-5V and 4- 20mA. Custom input ranges, filters and temperature compensation are also available on request.

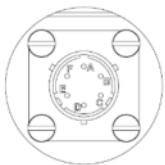
Features

- Extremely Rugged
- High Accuracy
- Temperature Compensation Available
- 0-5V Output
- +9 to +18 Volts DC Power Input
- RoHS Compliant
- CE Certification Available

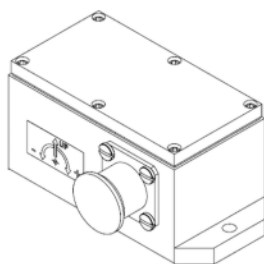
Applications

- High-precision Geotech
- Oil and Gas, Riser Tilt Monitoring
- Railroad MOW Equipment
- Pavement Profiling Rigs
- Vehicle Wheel Alignment
- Robotics

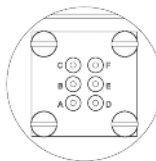
Connector Version



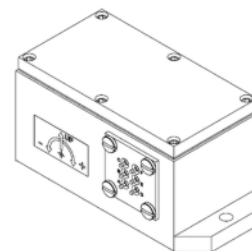
PIN	FUNCTION
A	POWER IN
B	COMMON
C	N/C
D	SIGNAL OUT
E	N/C
F	N/C



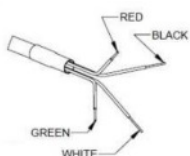
Pin Terminal Version



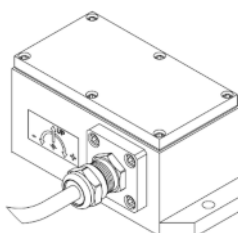
PIN	FUNCTION
A	POWER IN
B	COMMON
C	N/C
D	SIGNAL OUT
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Wired Version



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



Performance Specifications

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

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ELECTRICAL

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Input Voltage Range, (VDC):	+9 to +18
Input Current, mA, max:	40
Noise, μArms, maximum:	0.002
Output Impedance (ohms)	1
Mass (grams)	370

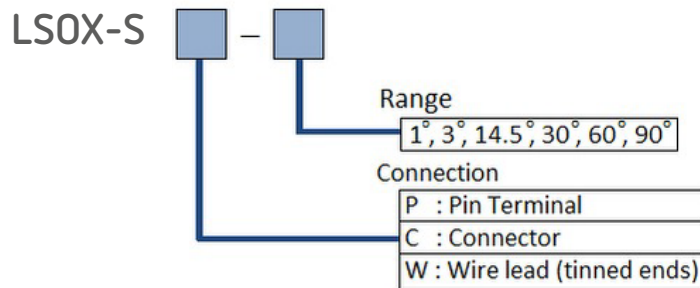
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Storage Temp Range:	-60°C to +90°C
Shock:	1500g, 0.5 msec, ½ sine

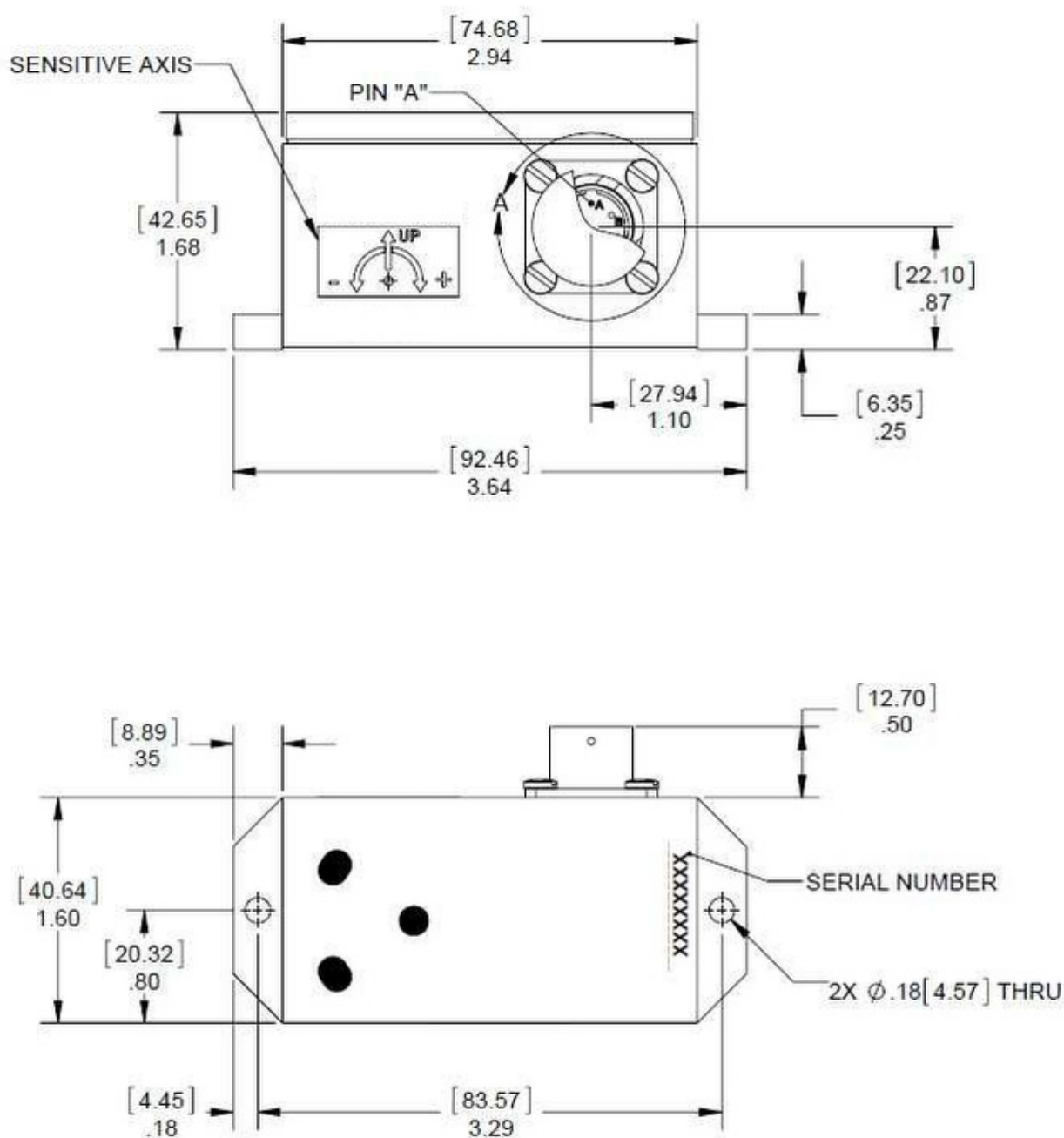
ENCLOSURE

Seal:	IP66
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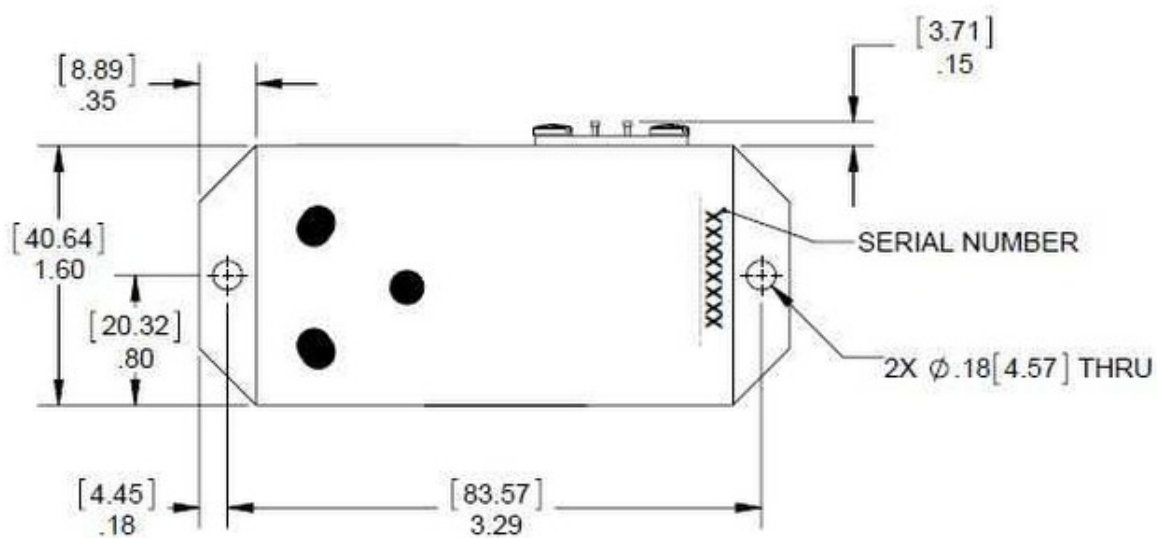
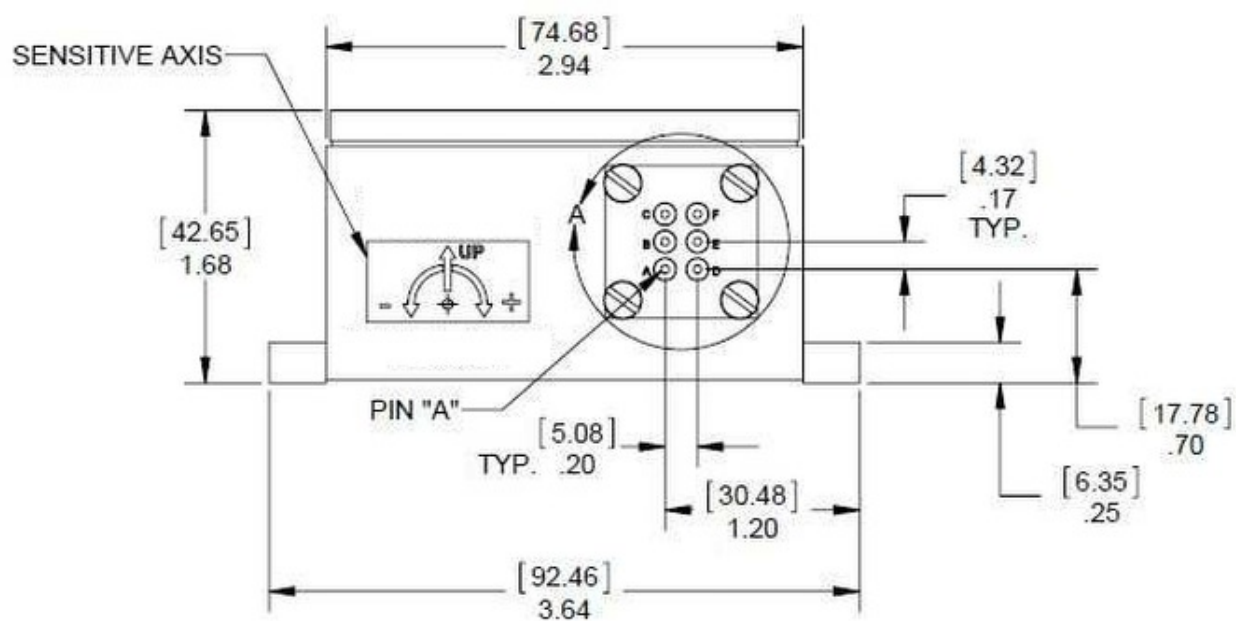
Order code



■ Outline Drawing: Connector Version



■ Outline Drawing: Pin Terminal Version



■ Outline Drawing: Wired Version

