



RMIW-D Analog Inclinometer

Features

- Mounts horizontally or vertically to match the AccuStar footprint
- Extremely Rugged
- Lower Cost than traditional Force Balanced Inclinometers
- High Accuracy
- Greater Precision than MEMS Technologies
- Withstands up to 500g shock
- ± 5 V DC Output
- Dual Input Power



Application

- Wheel Alignment
- Construction Equipment
- Antenna Positioning
- Robotics
- Cross Rail Management
- Tilt Safety Systems
- Industrial and Machining Equipment
- Stadium Loudspeaker Positioning

Introduction

Input Ranges From $\pm 3^\circ$ to $\pm 90^\circ$ Rugged, High Precision, Low Cost, Dual-Ended Power Input Inclinometer. The Emerald Series inclinometer is a low cost, high precision inclinometer designed with higher accuracy than comparable MEMS devices. Applications include robotics, construction equipment, industrial measurement and control, and precision machining.

Performance specifications

Static/dynamic

Input range ($^\circ$)	± 3	± 14.5	± 30	± 45	± 60	± 90
Full Range Output (FRO) VDC $\pm 0.5\%$ ¹	± 5	± 5	± 5	± 5	± 5	± 5
Nonlinearity (% FRO maximum) ²	0.05	0.02	0.02	0.02	0.04	0.05
Scale Factor (Volts/g nominal)	95.5	20.0	10.0	7.1	5.8	5
Scale Factor Temp. Sensitivity (SFTS), PPM/ $^\circ$ C max	100	100	100	100	100	100
Bandwidth (-3 dB), Hz nominal	5.0	5.0	5.0	5.0	5.0	5.0
Output Axis Misalignment, $^\circ$ maximum	0.25	0.50	0.50	0.50	0.50	0.50
Pendulous Axis Misalignment, $^\circ$ maximum	0.25	0.50	0.50	0.50	0.50	0.50
0 $^\circ$ Output Volts range	± 0.05	± 0.05	± 0.05	± 0.05	± 0.05	± 0.05
0 $^\circ$ Output Temp. Sensitivity (Volts/ $^\circ$ C max)	0.007	0.0017	0.001	0.0008	0.0007	0.0007
Resolution & Threshold, μ radians maximum ³	3.5	3.5	3.5	3.5	3.5	3.5
Weight (oz.)	4.2	4.2	4.2	4.2	4.2	4.2

Electrical

Number of Axes	1
Input Voltage Range, (VDC)	± 12 to ± 18
Input Current, mA, max	40
Output Impedance, Ohms, nom	10
Output Noise, Vrms, maximum	0.002

Environmental

Operating Temp Range	-55° C to $+85^\circ$ C
Storage Temp Range	-60° C to $+90^\circ$ C
Shock	500g, 1 msec, $\frac{1}{2}$ sine

Enclosure

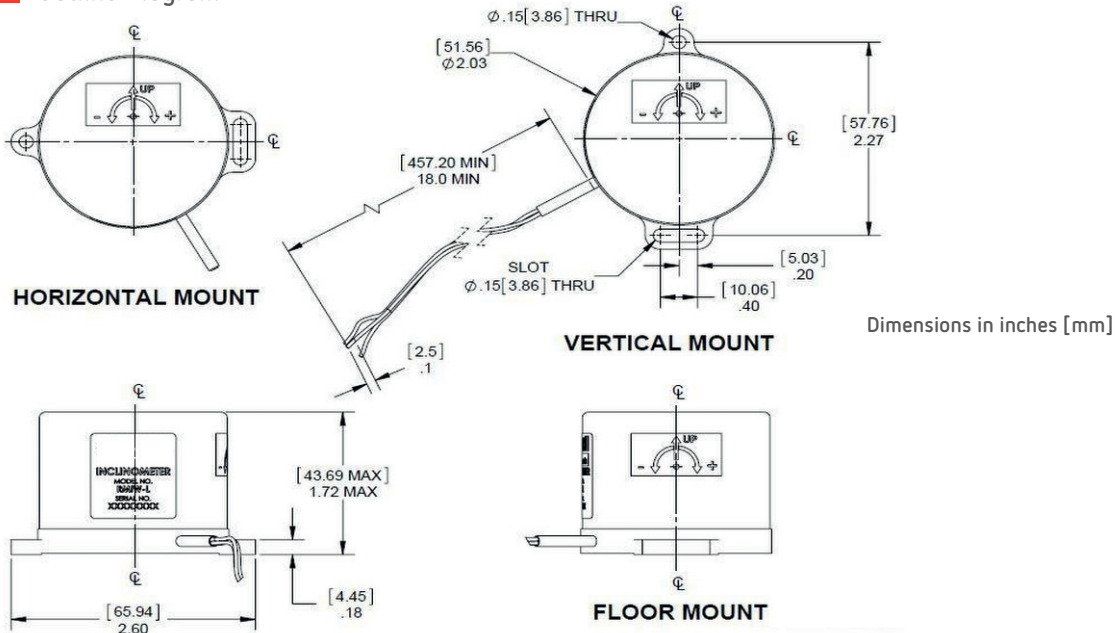
Seal	IP65
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- Notes**
1. Full Range is defined "from negative full input angle to positive full input angle."
 2. Nonlinearity is specified as deviation of output referenced to theoretical sine function value, independent of misalignment.
 3. Full Resolution is achieved with noise reduction techniques.

Custom Capabilities

- +15 to +30 V single-ended input option available
- Pigtail and Connector alternative options available
- Custom ranges and bandwidths available

Outline Diagram



Wire Description

Wire	Function
Red	Positive input power
Brown	Power / signal common
Black	Negative input power
Green	Signal

Ordering information

