

# RMIW-D Series

## ±5VDC Output

*Making Sense out of Motion...*

### Input Ranges From ±3° to ±90° Rugged, High Precision, Low Cost, Dual-Ended Power Input Inclinometer

The Jewell **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.

#### Features

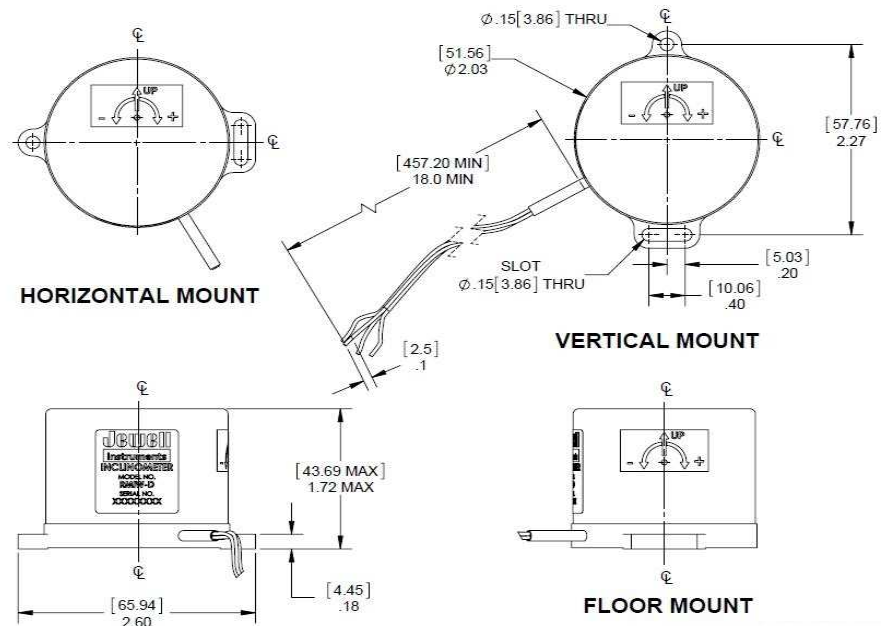
- Mounts horizontally or vertically to match the AccuStar footprint
- Extremely Rugged
- Lower Cost than traditional Force Balanced Inclinometers
- High Accuracy
- Greater Precision than MEMS Technologies
- Withstands up to 500g shock
- ±5 V DC Output
- Dual Input Power

#### Applications

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



#### Outline Diagram



*Dimensions in inches [mm]*

#### Wire Description

#### Wiring Code

Red	Positive Input Power
Brown	Power/Signal Common
Black	Negative Input Power
Green	Signal

### Performance Specifications

#### STATIC/DYNAMIC

Input Range, °:	±3	±14.5	±30	±45	±60	±90
Full Range Output (FRO -Note 1) VDC ±0.5%:	±5	±5	±5	±5	±5	±5
Nonlinearity (Note 2) % FRO maximum:	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 /°C maximum:	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, ° maximum:	0.25	0.50	0.50	0.50	0.50	0.50
Pendulous Axis Misalignment, ° maximum:	0.25	0.50	0.50	0.50	0.50	0.50
0° Output, Volts range:	±0.05	±0.05	±0.05	±0.05	±0.05	±0.05
0° Output Temp. Sensitivity, Volts /°C maximum:	0.007	0.0017	0.001	0.0008	0.0007	0.0007
Resolution and Threshold (Note 3), μradians maximum:	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
Noise, Vrms, maximum:	0.002

#### ENVIRONMENTAL

Operating Temp Range:	-55°C to +85°C
Storage Temp Range:	-60°C to +90°C
Shock:	500g, 1 msec, ½ sine

#### ENCLOSURE

Seal:	IP65
-------	------

### Custom Capabilities

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

Notes: Note 1: Full Range is defined "from negative full input angle to positive full input angle."

Note 2: Nonlinearity is specified as deviation of output referenced to theoretical sine function value, independent of misalignment.

Note 3: Full Resolution is achieved with noise reduction techniques.

### How to Order

