

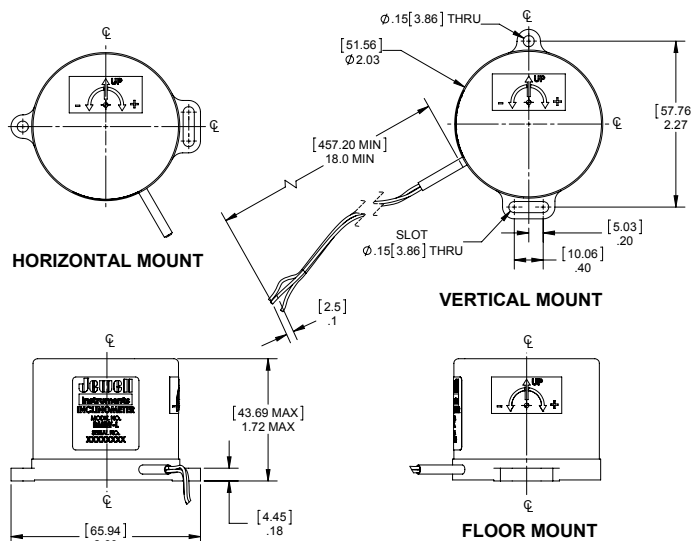
RMIW SERIES

Single-Axis Analog Inclinometer

The Jewell RMIW Series, RoHS compliant, flexure suspension, servo inclinometer is a precision internal grade sensing instrument. The RMIW is available in three different versions (D, L, or S), with customer-specified mounting options, and varying input and output specifications in order to meet your needs.

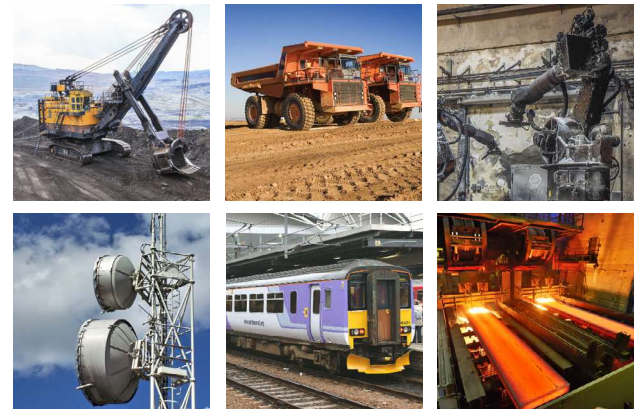
FEATURES:

- Mounts horizontally or vertically
- Rugged Design
- Lower Cost than traditional Force Balanced Inclinometers
- High Accuracy
- Greater Precision than MEMS Technologies
- Withstands up to 500g shock
- $\pm 5V$ DC, 0-5V DC, and 4-20mA Outputs Available
- Single-Ended and Dual Power Inputs Available
- RoHS Compliant



JEWELL EMERALD SERIES

The Jewell Emerald Series inclinometer is a low cost, inclinometer designed with higher precision than comparable MEMS devices.



APPLICATIONS:

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

RMIW-D: $\pm 5V$ OUTPUT

The Jewell RMIW series version D is a rugged, high precision **dual-ended** power input inclinometer. This version is wired and features a $\pm 5V$ DC output and input ranges from $\pm 3^\circ$ to $\pm 90^\circ$.

APPLICATIONS:

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

PERFORMANCE SPECIFICATIONS

STATIC/DYNAMIC

INPUT RANGE (°)	± 3	± 14.5	± 30	± 45	± 60	± 90
FULL RANGE OUTPUT (FRO, VDC $\pm 0.5\%$) ¹	± 5					
NONLINEARITY (% FRO) ² max	0.05	0.02	0.02	0.02	0.04	0.05
SCALE FACTOR (Volts/g) nominal	95.5	20.0	10.0	70.1	5.8	5
SCALE FACTOR TEMP. SENSITIVITY (SFTS) PPM/ $^\circ C$ max	100					
BANDWIDTH (-3dB) Hz, nominal	5.0					
OUTPUT AXIS MISALIGNMENT, $^\circ$ max	0.25	0.50	0.50	0.50	0.50	0.50
PENDULOUS AXIS MISALIGNMENT, $^\circ$ max	0.25	0.50	0.50	0.50	0.50	0.50
0 $^\circ$ OUTPUT (Volts Range)	± 0.05					
0 $^\circ$ OUTPUT TEMP. SENSITIVITY (Volts/ $^\circ C$) max	0.0070	0.0017	0.001	0.0008	0.0007	0.0007
RESOLUTION & THRESHOLD (μrad) ³	3.5					
WEIGHT (oz)	4.2					

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

WIRING CODE

RED	POSITIVE INPUT POWER
BROWN	POWER/SIGNAL COMMON
BLACK	NEGATIVE INPUT POWER
GREEN	SIGNAL

PRODUCT SPECIFICATIONS: RMIW-D

ELECTRICAL

NUMBER OF AXES	1
INPUT VOLTAGE RANGE (VDC)	±12 to ±18
INPUT CURRENT (mA, max)	40
OUTPUT IMPEDANCE (Ohms, nom)	10
NOISE (Vrms, max)	0.002

ENCLOSURE

SEAL	IP65
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ENVIRONMENTAL

OPERATING TEMP. RANGE	-55° to +85° C
STORAGE TEMP. RANGE	-60° to +90° C
SHOCK	500g, 1 msec, ½ sine

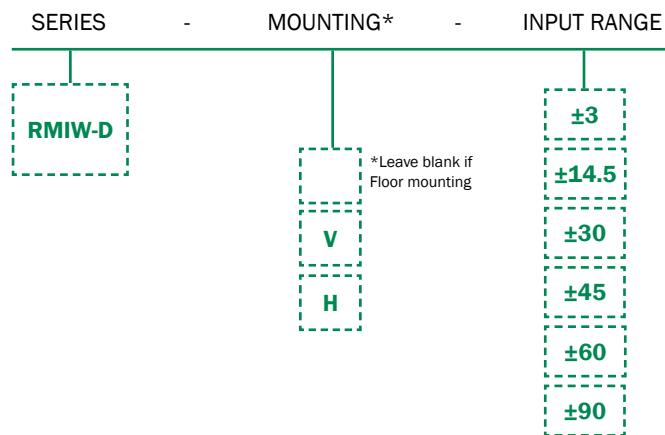
CUSTOM CAPABILITIES

- D-SERIES**
- Pigtail & Connector alternative options available
 - Custom ranges available

ORDERING INFORMATION

HOW TO ORDER

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



	MOUNTING	MODEL #	PART #
±3	FLOOR	RMIW-D-3.0	02550305-001
	VERTICAL	RMIW-D-V-3.0	02550305-101
	HORIZONTAL	RMIW-D-H-3.0	02550305-201
±14.5	FLOOR	RMIW-D-14.5	02550305-002
	VERTICAL	RMIW-D-V-14.5	02550305-102
	HORIZONTAL	RMIW-D-H-14.5	02550305-202
±30	FLOOR	RMIW-D-30.0	02550305-003
	VERTICAL	RMIW-D-V-30.0	02550305-103
	HORIZONTAL	RMIW-D-H-30.0	02550305-203
±45	FLOOR	RMIW-D-45.0	02550305-004
	VERTICAL	RMIW-D-V-45.0	02550305-104
	HORIZONTAL	RMIW-D-H-45.0	02550305-204
±60	FLOOR	RMIW-D-60.0	02550305-005
	VERTICAL	RMIW-D-V-60.0	02550305-105
	HORIZONTAL	RMIW-D-H-60.0	02550305-205
±90	FLOOR	RMIW-D-90.0	02550305-006
	VERTICAL	RMIW-D-V-90.0	02550305-106
	HORIZONTAL	RMIW-D-H-90.0	02550305-206



RMIW-L: 4-20mA

The Jewell RMIW series version L is a rugged, high precision **single-ended** power input inclinometer. This version is wired and features a **4-20mA output** and input ranges from $\pm 3^\circ$ to $\pm 90^\circ$.

APPLICATIONS:

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

PERFORMANCE SPECIFICATIONS

STATIC/DYNAMIC

INPUT RANGE ($^\circ$)	± 3	± 14.5	± 30	± 45	± 60	± 90
FULL RANGE OUTPUT (mA)¹	4-20					
NONLINEARITY (% FRO)² max	0.05	0.02	0.02	0.02	0.04	0.05
SCALE FACTOR (mA/g) nominal	152.9	32	16	11.3	9.2	8
SCALE FACTOR TEMP. SENSITIVITY (SFTS) PPM/$^\circ$C max	100					
BANDWIDTH (-3dB) Hz, nominal	5.0					
OUTPUT AXIS MISALIGNMENT, $^\circ$ max	0.25	0.50	0.50	0.50	0.50	0.50
PENDULOUS AXIS MISALIGNMENT, $^\circ$ max	0.50	0.75	0.75	0.75	0.75	0.75
0$^\circ$ OUTPUT (mA)	11.7 to 12.3					
0$^\circ$ OUTPUT TEMP. SENSITIVITY (mA/$^\circ$C) max	0.01	0.0030	0.002	0.0015	0.0015	0.0015
RESOLUTION & THRESHOLD (μrad)³	3.5					
WEIGHT (oz)	4.2					

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

WIRING CODE

RED	POSITIVE INPUT POWER
BROWN	POWER/SIGNAL COMMON
GREEN	SIGNAL

PRODUCT SPECIFICATIONS: RMIW-L

ELECTRICAL

NUMBER OF AXES	1
INPUT VOLTAGE RANGE (VDC)	+12 to +28
INPUT CURRENT (mA, max)	55
OUTPUT IMPEDANCE (Ohms, nom)	10
NOISE (Vrms, max)	0.006

ENCLOSURE

SEAL	IP65
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ENVIRONMENTAL

OPERATING TEMP. RANGE	-55° to +85° C
STORAGE TEMP. RANGE	-60° to +90° C
SHOCK	500g, 1 msec, ½ sine

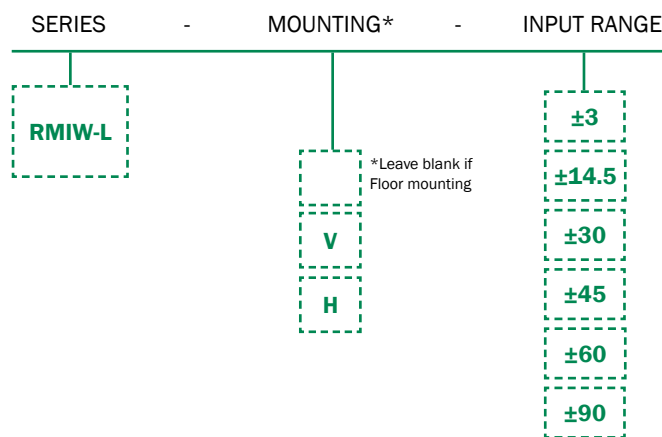
CUSTOM CAPABILITIES

- L-SERIES**
- Pigtail & Connector alternative options available
 - Custom ranges available

ORDERING INFORMATION

HOW TO ORDER

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



	MOUNTING	MODEL #	PART #
±3	FLOOR	RMIW-L-3.0	02550332-001
	VERTICAL	RMIW-L-V-3.0	02550332-101
	HORIZONTAL	RMIW-L-H-3.0	02550332-201
±14.5	FLOOR	RMIW-L-14.5	02550332-002
	VERTICAL	RMIW-L-V-14.5	02550332-102
	HORIZONTAL	RMIW-L-H-14.5	02550332-202
±30	FLOOR	RMIW-L-30.0	02550332-003
	VERTICAL	RMIW-L-V-30.0	02550332-103
	HORIZONTAL	RMIW-L-H-30.0	02550332-203
±45	FLOOR	RMIW-L-45.0	02550332-004
	VERTICAL	RMIW-L-V-45.0	02550332-104
	HORIZONTAL	RMIW-L-H-45.0	02550332-204
±60	FLOOR	RMIW-L-60.0	02550332-005
	VERTICAL	RMIW-L-V-60.0	02550332-105
	HORIZONTAL	RMIW-L-H-60.0	02550332-205
±90	FLOOR	RMIW-L-90.0	02550332-006
	VERTICAL	RMIW-L-V-90.0	02550332-106
	HORIZONTAL	RMIW-L-H-90.0	02550332-206



RMIW-S: 0-5V OUTPUT

The Jewell RMIW series version S is a rugged, high precision **single-ended** power input inclinometer. This version is wired and features a **0-5V DC output** and input ranges from $\pm 3^\circ$ to $\pm 90^\circ$.

APPLICATIONS:

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

PERFORMANCE SPECIFICATIONS

STATIC/DYNAMIC

INPUT RANGE (°)	± 3	± 14.5	± 30	± 45	± 60	± 90
FULL RANGE OUTPUT (FRO)¹ VDC $\pm 0.5\%$	0-5					
NONLINEARITY (% FRO)² max	0.05	0.02	0.02	0.02	0.04	0.05
SCALE FACTOR (Volts/g) nominal	47.8	10.0	5.0	3.5	2.9	2.5
SCALE FACTOR TEMP. SENSITIVITY (SFTS) PPM/°C max	100					
BANDWIDTH (-3dB) Hz, nominal	5.0					
OUTPUT AXIS MISALIGNMENT, ° max	0.25	0.50	0.50	0.50	0.50	0.50
PENDULOUS AXIS MISALIGNMENT, ° max	0.25	0.50	0.50	0.50	0.50	0.50
0° OUTPUT (Volts Range)	+2.45 to +2.55					
0° OUTPUT TEMP. SENSITIVITY (Volts/°C) max	0.0035	0.001	0.0070	0.0005	0.0005	0.0005
RESOLUTION & THRESHOLD (μrad)³	3.5					
WEIGHT (oz)	4.2					

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

WIRING CODE

RED	POSITIVE INPUT POWER
BROWN	POWER/SIGNAL COMMON
BLACK	NEGATIVE INPUT POWER
GREEN	SIGNAL



PRODUCT SPECIFICATIONS: RMIW-S

ELECTRICAL

NUMBER OF AXES	1
INPUT VOLTAGE RANGE (VDC)	+15 to +30
INPUT CURRENT (mA, max)	40
OUTPUT IMPEDANCE (Ohms, nom)	10
NOISE (Vrms, max)	0.002

ENCLOSURE

SEAL	IP65
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ENVIRONMENTAL

OPERATING TEMP. RANGE	-55° to +85° C
STORAGE TEMP. RANGE	-60° to +90° C
SHOCK	500g, 1 msec, ½ sine

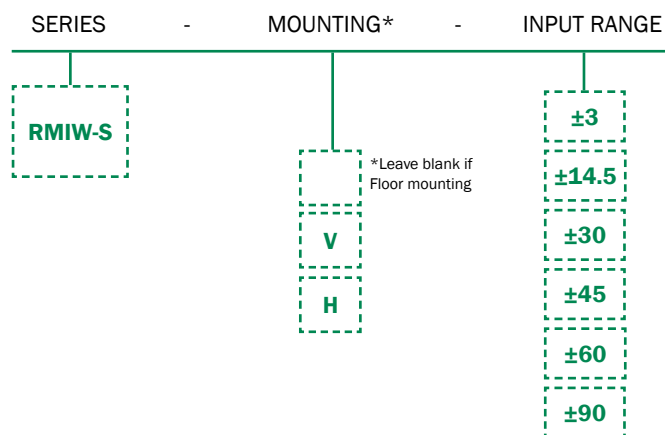
CUSTOM CAPABILITIES

- S-SERIES**
- Pigtail & Connector alternative options available
 - Custom ranges available

ORDERING INFORMATION

HOW TO ORDER

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



	MOUNTING	MODEL #	PART #
±3	FLOOR	RMIW-S-3.0	02550290-001
	VERTICAL	RMIW-S-V-3.0	02550290-101
	HORIZONTAL	RMIW-S-H-3.0	02550290-201
±14.5	FLOOR	RMIW-S-14.5	02550290-002
	VERTICAL	RMIW-S-V-14.5	02550290-102
	HORIZONTAL	RMIW-S-H-14.5	02550290-202
±30	FLOOR	RMIW-S-30.0	02550290-003
	VERTICAL	RMIW-S-V-30.0	02550290-103
	HORIZONTAL	RMIW-S-H-30.0	02550290-203
±45	FLOOR	RMIW-S-45.0	02550290-004
	HORIZONTAL	RMIW-S-H-45.0	02550290-204
±60	FLOOR	RMIW-S-60.0	02550290-005
	VERTICAL	RMIW-S-V-60.0	02550290-105
	HORIZONTAL	RMIW-S-H-60.0	02550290-205
±90	FLOOR	RMIW-S-90.0	02550290-006
	VERTICAL	RMIW-S-V-90.0	02550290-106
	HORIZONTAL	RMIW-S-H-90.0	02550290-206

RMIW SERIES ORDERING INFORMATION

	MNT	MODEL #	PART #
±3	F	RMIW-D-3.0	02550305-001
	V	RMIW-D-V-3.0	02550305-101
	H	RMIW-D-H-3.0	02550305-201
	F	RMIW-L-3.0	02550332-001
	V	RMIW-L-V-3.0	02550332-101
	H	RMIW-L-H-3.0	02550332-201
	F	RMIW-S-3.0	02550290-001
	V	RMIW-S-V-3.0	02550290-101
	H	RMIW-S-H-3.0	02550290-201
±14.5	F	RMIW-D-14.5	02550305-002
	V	RMIW-D-V-14.5	02550305-102
	H	RMIW-D-H-14.5	02550305-202
	F	RMIW-L-14.5	02550332-002
	V	RMIW-L-V-14.5	02550332-102
	H	RMIW-L-H-14.5	02550332-202
	F	RMIW-S-14.5	02550290-002
	V	RMIW-S-V-14.5	02550290-102
	H	RMIW-S-H-14.5	02550290-202

	MNT	MODEL #	PART #
±30	F	RMIW-D-30.0	02550305-003
	V	RMIW-D-V-30.0	02550305-103
	H	RMIW-D-H-30.0	02550305-203
	F	RMIW-L-30.0	02550332-003
	V	RMIW-L-V-30.0	02550332-103
	H	RMIW-L-H-30.0	02550332-203
	F	RMIW-S-30.0	02550290-003
	V	RMIW-S-V-30.0	02550290-103
	H	RMIW-S-H-30.0	02550290-203
±45	F	RMIW-D-45.0	02550305-004
	V	RMIW-D-V-45.0	02550305-104
	H	RMIW-D-H-45.0	02550305-204
	F	RMIW-L-45.0	02550332-004
	V	RMIW-L-V-45.0	02550332-104
	H	RMIW-L-H-45.0	02550332-204
	F	RMIW-S-45.0	02550290-004
	V	RMIW-S-V-45.0	02550290-104
	H	RMIW-S-H-45.0	02550290-204

	MNT	MODEL #	PART #
±60	F	RMIW-D-60.0	02550305-005
	V	RMIW-D-V-60.0	02550305-105
	H	RMIW-D-H-60.0	02550305-205
	F	RMIW-L-60.0	02550332-005
	V	RMIW-L-V-60.0	02550332-105
	H	RMIW-L-H-60.0	02550332-205
	F	RMIW-S-60.0	02550290-005
	V	RMIW-S-V-60.0	02550290-105
	H	RMIW-S-H-60.0	02550290-205
±90	F	RMIW-D-90.0	02550305-006
	V	RMIW-D-V-90.0	02550305-106
	H	RMIW-D-H-90.0	02550305-206
	F	RMIW-L-90.0	02550332-006
	V	RMIW-L-V-90.0	02550332-106
	H	RMIW-L-H-90.0	02550332-206
	F	RMIW-S-90.0	02550290-006
	V	RMIW-S-V-90.0	02550290-106
	H	RMIW-S-H-90.0	02550290-206

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