

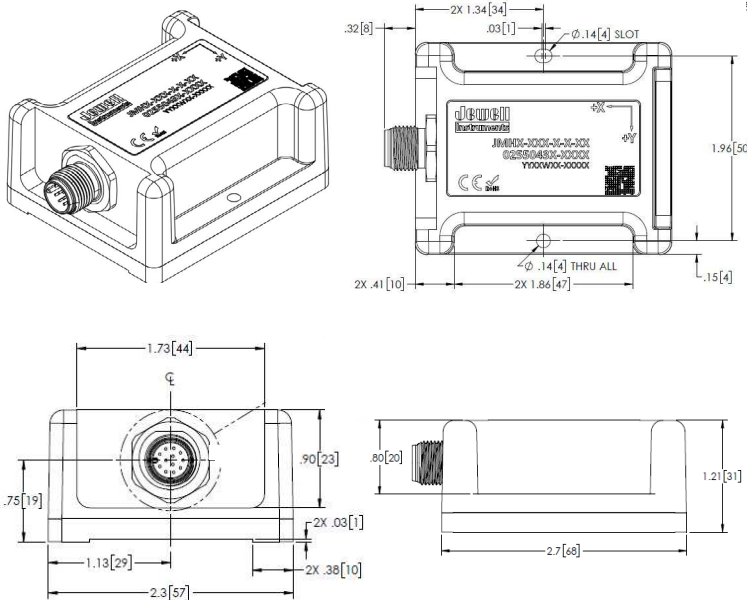
JMHI-200-V

Ruby Vertical Inclinometer

The NEW Ruby Vertical MEMS inclinometer is the latest in our next generation of high-performance inertial sensors. Specifically designed for vertical tilt measurements, it offers all the same improved specifications in a vertically mountable housing - without the need of mounting brackets.

FEATURES:

- Ranges: $\pm 14.5^\circ$ to $\pm 90^\circ$
- Output Signal Options: $\pm 5V$, 4-20mA, or 0-5V
- Resolution: 0.001°
- Operating Temp Range: -40° to $+85^\circ C$
- Seal: IP67
- M12 connector
- RoHS compliant



Dimensions: in [mm]



APPLICATIONS:

- Radar & Antenna Position Control
- Mining
- Bridge and Structural Monitoring
- Platform Leveling
- Tunneling Biaxial Machine Tool Levelling
- Construction
- Offshore Platform Stability
- Production/Manufacturing Process
- Geotechnical Monitoring
- Industrial Measurement & Control

JMHI-D SPECIFICATIONS: $\pm 5\text{VDC}$

STATIC/DYNAMIC

INPUT RANGE (°)	± 14.5	± 30	± 60	± 90
FULL RANGE OUTPUT (VDC) ¹	± 5.00			
RESOLUTION (° max)	0.001			
NONLINEARITY (% FRO) ² max	0.06			
NOMINAL SCALE FACTOR (V/G)	20	10	5.77	5
SCALE FACTOR TEMP COEFFICIENT (PPM/°C max)	150			
0° OUTPUT TEMPERATURE SENSITIVITY (V/°C MAX)	± 0.005	± 0.0025	± 0.00144	± 0.00125
TRANSVERSE AXIS MISALIGNMENT (° max)	± 0.15			
BANDWIDTH (Hz, 3db)	5			
NONREPEATABILITY (° max)	0.004			

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.
- *Specifications subject to change without notice on account of continued product development

ELECTRICAL

NUMBER OF AXES	2
INPUT VOLTAGE RANGE (VDC)	12 to 18
INPUT CURRENT (mA, max)	22
OUTPUT IMPEDANCE (Ohms, nominal)	<1

ENVIRONMENTAL

OPERATING TEMP. RANGE	-40° to +85°C
STORAGE TEMP. RANGE	-55° to +105°C
VIBRATION	20 grms 5Hz to 2KHz
SHOCK	180 g, 0.011 sec, $\frac{1}{2}$ sine

ENCLOSURE

WEIGHT (g)	140
PROTECTION CLASS (per IEC 529)	IP67
CONNECTOR	M12

TEMP. SENSOR

OUTPUT VOLTAGE AT 25 °C	892.2 mV
SCALE FACTOR	3.0 mV/°C

PIN OUTS

DB9 PIN#	FNCTN	M12 PIN#	FNCTN
1	VIN+	1	VIN+
2	GND	2	GND
3	N/C*	3	N/C*
4	X	4	X
5	Y	5	Y
6	N/C	6	N/C
7	GND	7	GND
8	TEMP	8	TEMP
9	GND	9	GND
		10	N/C
		11	N/C
		12	N/C

* Pin# 3 can be used for -VIN for dual supply configurations

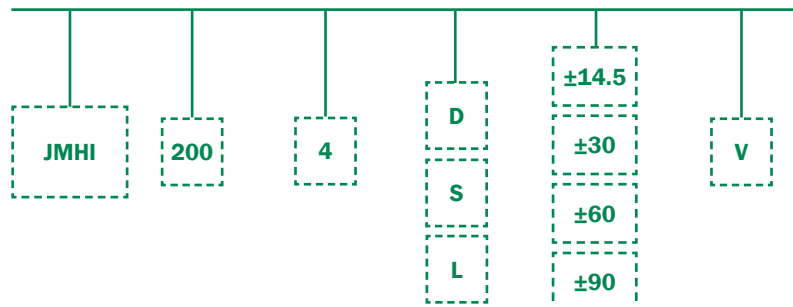


ORDERING INFORMATION

HOW TO ORDER

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

SERIES - AXES - CONNECTOR - VERSION - INPUT RANGE - VERTICAL



D (±5V), S (0-5V), L (4-20mA)

	MODEL #	PART #
±14.5	JMHI-200-4-D-14.5-V	02550433-2124
±30	JMHI-200-4-D-30-V	02550433-2126
±60	JMHI-200-4-D-60-V	02550433-2128
±90	JMHI-200-4-D-90-V	02550433-2129

ACCESSORIES

CABLE

CONNECTOR	MODEL #	LENGTH (m)
M12	F848873-03M	3
M12	F848873-05M	5
M12	F848873-10M	10
M12	F848873-15M	15

JMHI-S SPECIFICATIONS: 0-5VDC

STATIC/DYNAMIC

INPUT RANGE (°)	±14.5	±30	±60	±90
FULL RANGE OUTPUT (VDC) ¹	0-5			
RESOLUTION (° max)	0.001			
NONLINEARITY (% FRO) ² max	0.06			
NOMINAL SCALE FACTOR (V/G)	10	5	2.8868	2.5
SCALE FACTOR TEMP COEFFICIENT (PPM/°C max)	150			
0° OUTPUT TEMPERATURE SENSITIVITY (V/°C MAX)	±0.0025	±0.00125	±0.00072	±0.000625
TRANSVERSE AXIS MISALIGNMENT (° max)	±0.15			
BANDWIDTH (Hz, 3db)	5			
NONREPEATABILITY (° max)	0.004			

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ELECTRICAL

NUMBER OF AXES	2
INPUT VOLTAGE RANGE (VDC)	12 to 18
INPUT CURRENT (mA, max)	22
OUTPUT IMPEDANCE (Ohms, nominal)	<1

ENVIRONMENTAL

OPERATING TEMP. RANGE	-40° to +85°C
STORAGE TEMP. RANGE	-55° to +105°C
VIBRATION	20 grms 5Hz to 2KHz
SHOCK	180 g, 0.011 sec, 1/2 sine

ENCLOSURE

WEIGHT (g)	140
PROTECTION CLASS (per IEC 529)	IP67
CONNECTOR	M12

TEMP. SENSOR

OUTPUT VOLTAGE AT 25 °C	892.2 mV
SCALE FACTOR	3.0 mV/°C

PIN OUTS

DB9 PIN#	FNCTN	M12 PIN#	FNCTN
1	VIN+	1	VIN+
2	GND	2	GND
3	N/C	3	N/C
4	X	4	X
5	Y	5	Y
6	N/C	6	N/C
7	GND	7	GND
8	TEMP	8	TEMP
9	GND	9	GND
		10	N/C
		11	N/C
		12	N/C

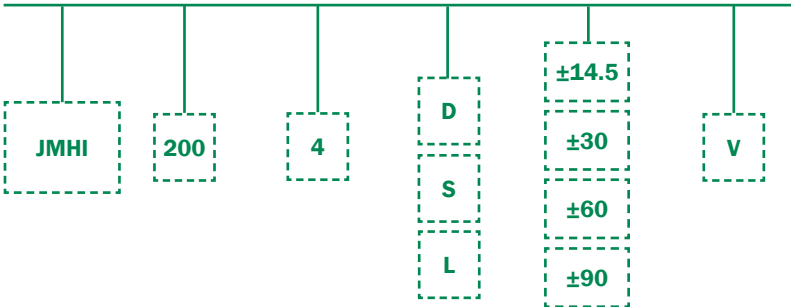


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SERIES - AXES - CONNECTOR - VERSION - INPUT RANGE - VERTICAL



	MODEL #	PART #
±14.5	JMHI-200-4-S-14.5-V	02550444-2414
±30	JMHI-200-4-S-30-V	02550444-2416
±60	JMHI-200-4-S-60-V	02550444-2418
±90	JMHI-200-4-S-90-V	02550444-2419

ACCESSORIES

CABLE

CONNECTOR	MODEL #	LENGTH (m)
M12	F848873-03M	3
M12	F848873-05M	5
M12	F848873-10M	10
M12	F848873-15M	15

JMHI-L SPECIFICATIONS: 4-20mA

STATIC/DYNAMIC

INPUT RANGE (°)	±14.5	±30	±60	±90
FULL RANGE OUTPUT (mA) ¹	4-20			
RESOLUTION (° max)	0.001			
NONLINEARITY (% FRO) ² max	0.06			
NOMINAL SCALE FACTOR (mA/G)	32	16	9.2378	8
SCALE FACTOR TEMP COEFFICIENT (PPM/°C max)	150			
0° OUTPUT TEMPERATURE SENSITIVITY (mA/°C MAX)	±0.016	±0.008	±0.004	±0.002
TRANSVERSE AXIS MISALIGNMENT (° max)	±0.15			
BANDWIDTH (Hz, 3db)	5			
NONREPEATABILITY (° max)	0.004			

NOTES:

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

NUMBER OF AXES	2
INPUT VOLTAGE RANGE (VDC)	12 to 18
INPUT CURRENT (mA, max)	40 (1-axis) 60 (2-axis)
OUTPUT IMPEDANCE (Ohms, nominal)	15

ENVIRONMENTAL

OPERATING TEMP. RANGE	-40° to +85°C
STORAGE TEMP. RANGE	-55° to +105°C
VIBRATION	20 grms 5Hz to 2KHz
SHOCK	180 g, 0.011 sec, 1/2 sine

ENCLOSURE

WEIGHT (g)	140
PROTECTION CLASS (per IEC 529)	IP67
CONNECTOR	M12

TEMP. SENSOR

OUTPUT VOLTAGE AT 25 °C	892.2 mV
SCALE FACTOR	3.0 mV/°C

PIN OUTS

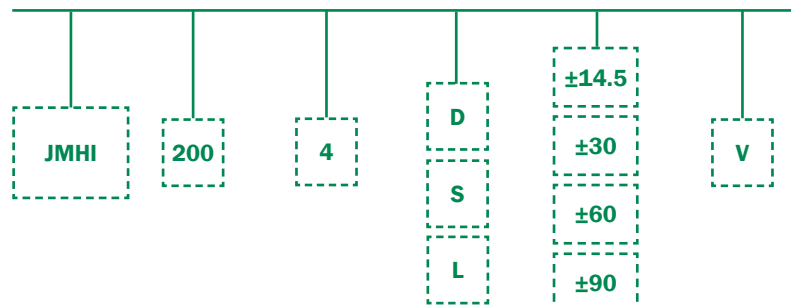
DB9 PIN#	FNCTN	M12 PIN#	FNCTN
1	VIN+	1	VIN+
2	GND	2	GND
3	N/C	3	N/C
4	X	4	X
5	Y	5	Y
6	N/C	6	N/C
7	GND	7	GND
8	TEMP	8	TEMP
9	GND	9	GND
		10	N/C
		11	N/C
		12	N/C

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	MODEL #	PART #
±14.5	JMHI-200-4-L-14.5-V	02550444-2434
±30	JMHI-200-4-L-30-V	02550444-2436
±60	JMHI-200-4-L-60-V	02550444-2438
±90	JMHI-200-4-L-90-V	02550444-2439

ACCESSORIES

CABLE

CONNECTOR	MODEL #	LENGTH (m)
M12	F848873-03M	3
M12	F848873-05M	5
M12	F848873-10M	10
M12	F848873-15M	15