

JMI-100/200-D MEMS Inclinometer Series

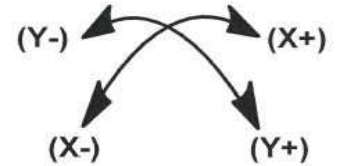
±5VDC Output



Making Sense out of Motion...

Jewell has a 40+ year history of providing precision force-balanced inclinometers and is pleased to provide MEMS parts with the same attention to detail that our customers demand.

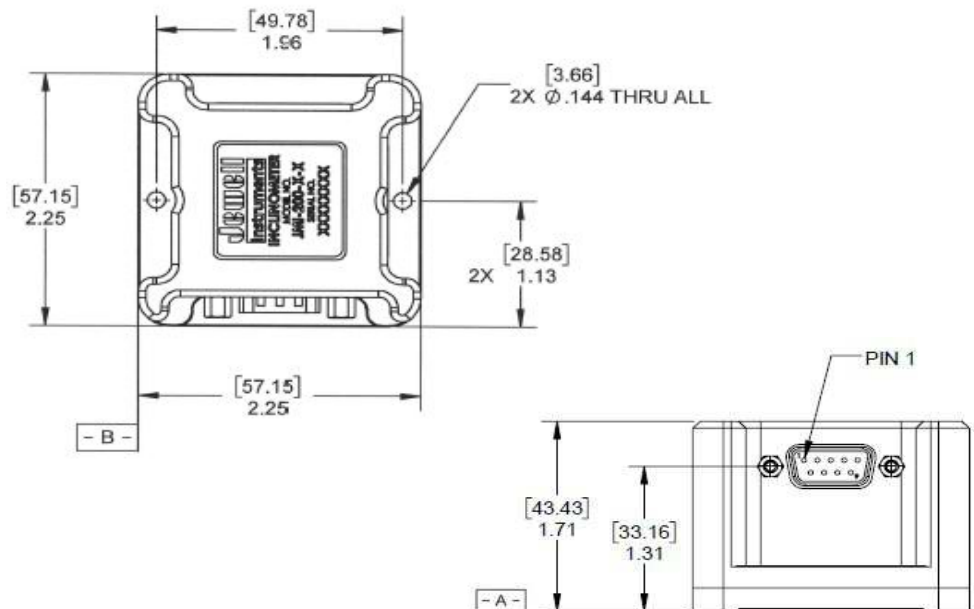
The JMI-100/200 series is available in single (JMI-100) and dual (JMI-200) axis configurations. This presents a robust and rugged design for industrial use, but with the benefit of low-cost MEMS technology.



Features

- Robust and Rugged Enclosure
- Single and Dual Axis Models Available
- Low-Cost MEMS Technology
- RoHS Compliant
- Filtering Available
- Dual Power Input
- ±5 VDC Output
- Temperature Sensor Option Available
- IP65 Seal

Outline Diagram



NOTES:

1. UNITS: [mm]
IN
2. UNIT IS AVAILABLE IN TWO VERSIONS: SINGLE AXIS (X AXIS), DUAL AXIS (X & Y AXIS). DUAL AXIS SHOWN HERE
3. DATUM [- A -] AND [- B -] ARE DEFINED AS REFERENCE SURFACES.

Applications

- Industrial Automation & Control
- Solar Tracking
- Construction & Agricultural Equipment
- Mobile Cranes
- Platform Leveling/Positioning
- Mobile Radar Equipment
- Railway Track Alignment & Maintenance

Pin Out

Pin #	Function
1	+Vin
2	Pwr Gnd
3	-Vin
4	X Out
5	Y Out
6	N/C
7	Sig Rtn
8	Temp Out
9	N/C

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JMI-100/200-D MEMS Inclinometer Series

±5VDC Output

Performance Specifications

STATIC/DYNAMIC

Measurement Range ¹ (°)	±14.5	±30	±90
Output Voltage Range (VDC)	±5.00	±5.00	±5.00
Scale Factor Tolerance (%)	±1	±1	±1
Scale Factor Temp. Coefficient (PPM/°C max)	150	150	150
0° Output (Volts max)	±0.03	±0.03	±0.03
0° Output Temp. Sensitivity (V/°C max)	±0.004	±0.004	±0.004
Transverse Axis Misalignment (° max)	±0.5	±0.5	±0.5
Resolution (° max)	0.002	0.002	0.004
Threshold (° max)	0.002	0.002	0.002
Non-linearity (% FRO max)	0.05	0.05	0.05
Nonrepeatability, Hysteresis (° max)	0.004	0.004	0.004
Bandwidth (Hz nom) (-3 dB)	5	5	5
Warm Up Time (Seconds max)	0.5	0.5	0.5
Voltage to Radian conversion ²	ASIN(<voltage>/20)	ASIN(<voltage>/10)	ASIN(<voltage>/5)

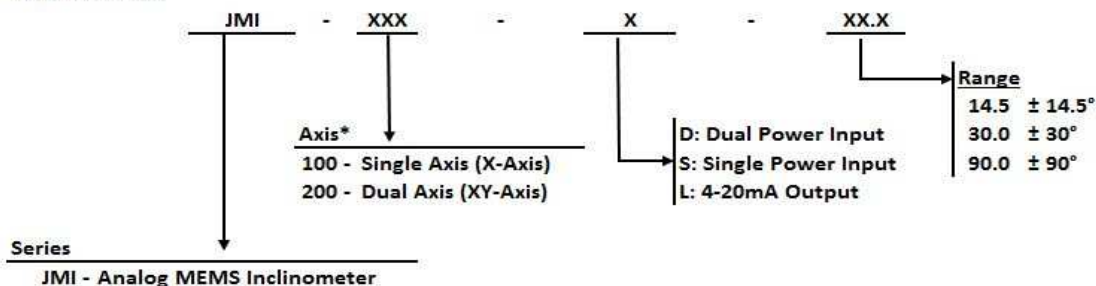
ELECTRICAL AND ENVIRONMENTAL

Number of Axes	1 or 2
Input Voltage Range (VDC)	±12 to ±18
Input Current (mA max)	6 (1-axis), 12 (2-axis)
Output Noise (vrms max)	0.005
Output Impedance (Ohms nom)	1
Operating Temp. Range (°C)	-40 to +85
Storage Temp. Range (°C)	-40 to +95
Shock	100 g, 0.011 sec, ½ sine
Weight (grams)	165 (1 axis), 170 (2 axes)
Seal	IP65

Notes: 1 - Custom ranges available on request.
2 - Does not take into account any sources of error.

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

How To Order:



Example: JMI-100-L-14.5 = JMI series, single axis, 4-20mA Output, ±14.5° range

*Call factory for customized axis configurations

Single Axis Part Numbers

JMI-100-D-14.5	02550375-125
JMI-100-D-30	02550375-126
JMI-100-D-90	02550375-129

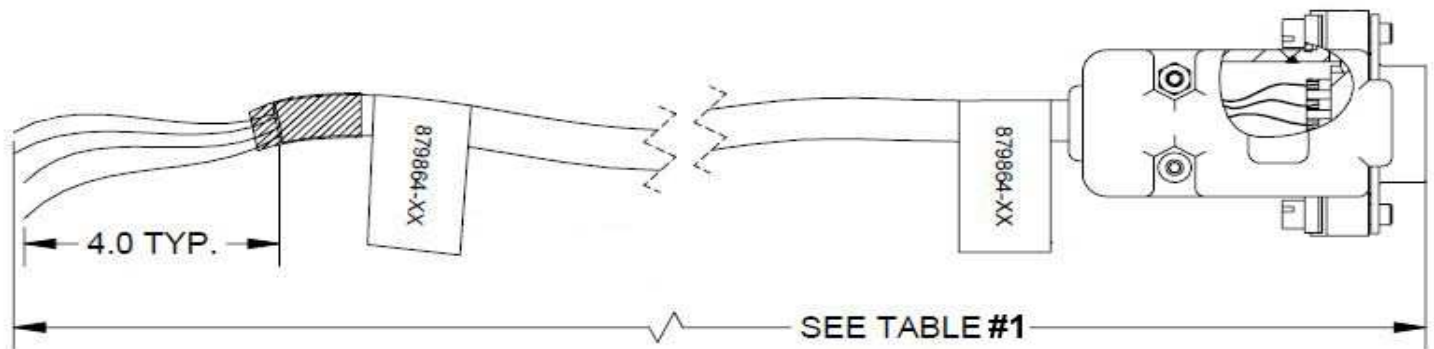
Dual Axis Part Numbers

JMI-200-D-14.5	02550375-225
JMI-200-D-30	02550375-226
JMI-200-D-90	02550375-229

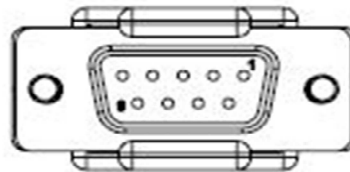
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CABLE ASSEMBLY (PN 879864-XX)

DB9 FEMALE CONNECTOR



Dimensions in feet [m]



CONNECTOR PINOUT		
DB9 PIN	FLY LEADS	FUNCTION
1	RED	+PWR
2	BLACK	PWR RTN
3	VIOLET	N/C
4	GREEN	X OUT
5	ORANGE	Y OUT
6	YELLOW	N/C
7	BROWN	SIG RTN
8	BLUE	TEMP OUT
9	WHITE	N/C

Table #1	
Cable Configuration	
Part #	Length
879864-10	[10m] 32.8 feet
879864-XX	Other lengths available (specify on order)