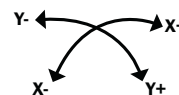




JMI-100/200-L Analog MEMS Inclinometer



Features

- ±14.5°, ±30° and ±90° ranges
- Robust and Rugged Enclosure
- Single and Dual Axis Models Available
- Low-Cost MEMS Technology
- RoHS Compliant
- Filtering Available
- Single Power Input
- 4-20 mA Output
- Temperature Sensor Option Available
- IP65 Seal

Application

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

Introduction

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.

Performance specifications

Static/dynamic

Measurement Range ¹ (°)	±14.5	±30	±60
Output Current Range (mA)	4-20	4-20	4-20
Scale Factor Tolerance (%)	±1	±1	±1
Scale Factor Temp. Coefficient (PPM/°C max)	150	150	150
0° Output (mA)	12 ±0.3	12 ±0.3	12 ±0.3
0° Output Temp. Sensitivity (mA/°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
Current to Radian conversion ²	$\arcsin((\text{<output> - 12mA}) / 32mA)$	$\arcsin((\text{<output> - 12mA}) / 16mA)$	$\arcsin((\text{<output> - 12mA}) / 8mA)$

Electrical and environmental

Number of Axes Notes:	1 or 2
Input Voltage Range (VDC)	12 to 30
Input Current (mA max)	28 (1-axis), 56 (2-axis)
Output Noise (vrms max)	0.01
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

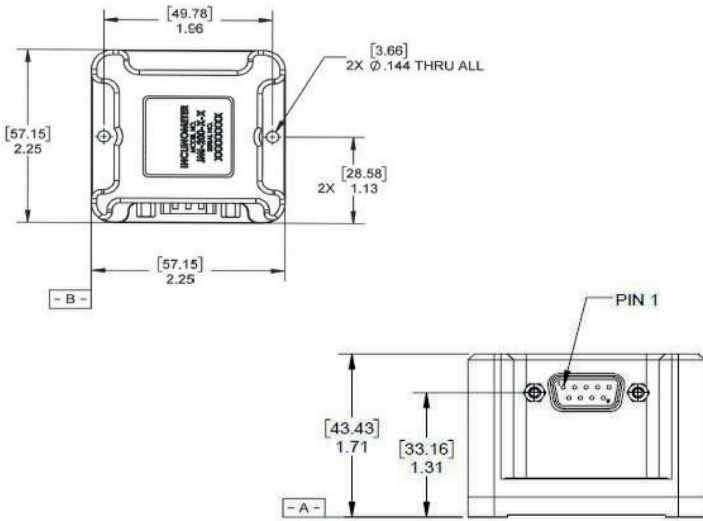
Notes

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

Outline Diagram

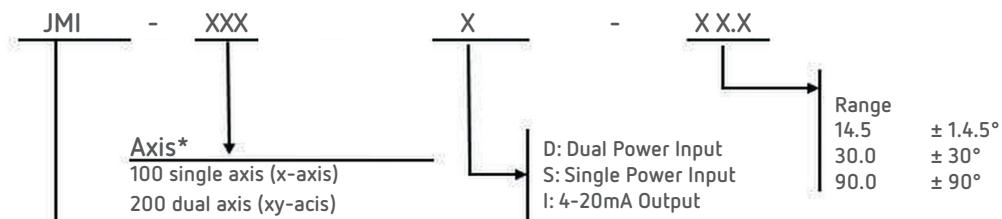


1. Dimensions in inches [mm]
2. Unit is available in two versions; single axis (x axis), Dual axis (X & Y axis). Dual axis shown here.
3. Datum - A - and - B - are defined as reference surfaces.

Pin Out

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

Ordering information



Series
 JMI - Analog MEMS Inclinometer

Example:
 JMI-100-L-14.5 = JMI series, single axis, 4-20mA. Output, ±14.5° range
 *Call us for customized axis configurations

Part numbers

Single Axis Part Numbers

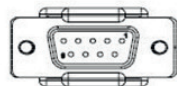
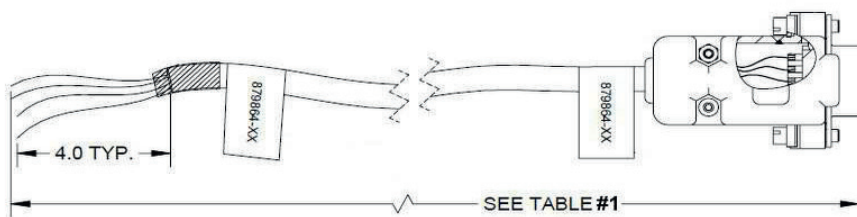
JMI-100-L-14.5	02550375-135
JMI-100-L-30	02550375-136
JMI-100-L-90	02550375-139

Dual Axis Part Numbers

JMI-200-L-14.5	02550375-135
JMI-200-L-30	02550375-136
JMI-200-L-90	02550375-139

Cable assembly (PN 879864-XX)

DB9 FEMALE CONNECTOR



Dimensions in inches [mm]

CONNECTOR PINOUT

D89 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)