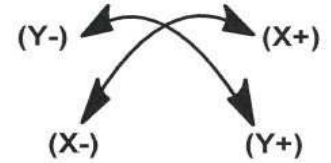


JMI-100/200-S MEMS Inclinometer Series

0-5Vdc Output

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.

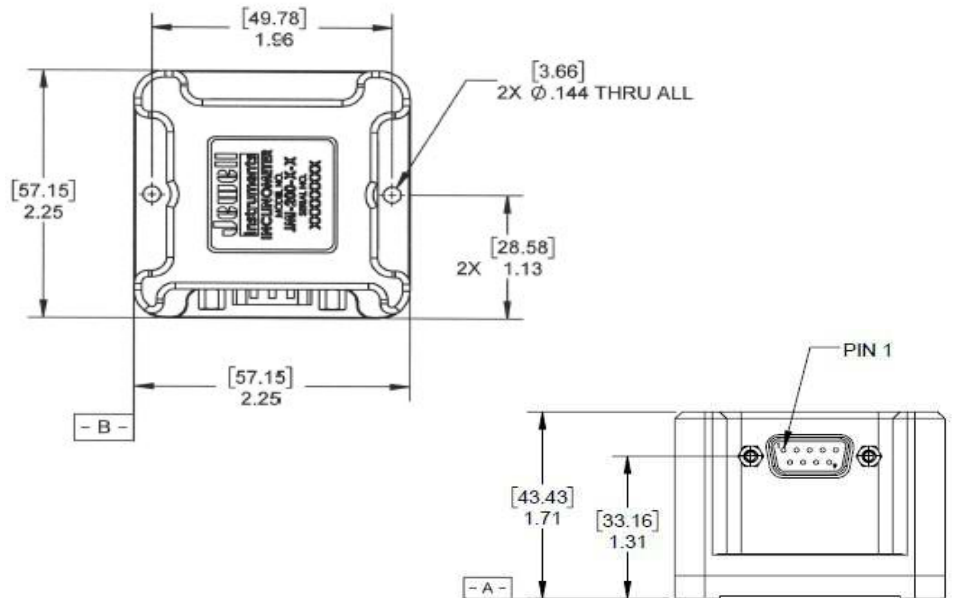
The JMI-100/200 series is available in single (JMI-100) and dual (JMI-200) axis configurations. This presents a robust and rugged design for industrial use, but with the



Features

- $\pm 14.5^\circ$, $\pm 30^\circ$ and $\pm 90^\circ$ ranges
- Robust and Rugged Enclosure
- Single and Dual Axis Models Available
- Low-Cost MEMS Technology
- RoHS Compliant
- Filtering Available
- Single Power Input
- 0-5 VDC Output
- Temperature Sensor Option Available
- IP65 Seal

Outline Diagram



NOTES:

1. UNITS: $\frac{[mm]}{IN}$
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
- Construction & Agricultural Equipment
- Solar Tracking
- Mobile Cranes
- Platform Leveling/Positioning
- Mobile Radar Equipment
- Railway Track Alignment & Maintenance

Pin Out

| Pin # | 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 |

Performance Specifications

STATIC/DYNAMIC

| | | | |
|---|----------------------------|---------------------------|-----------------------------|
| Measurement Range ¹ (°) | ±14.5 | ±30 | ±90 |
| Output Voltage Range (VDC) | 0-5 | 0-5 | 0-5 |
| Scale Factor Tolerance (%) | ±1 | ±1 | ±1 |
| Scale Factor Temp. Coefficient (PPM/°C max) | 150 | 150 | 150 |
| 0° Output Error (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> - 2.5)/10) | ASIN((<voltage> - 2.5)/5) | ASIN((<voltage> - 2.5)/2.5) |

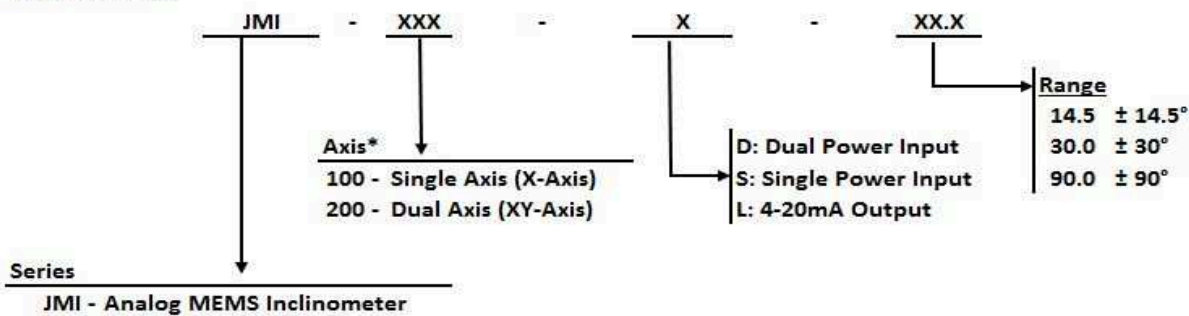
ELECTRICAL AND ENVIRONMENTAL

| | |
|----------------------------|----------------------------|
| Number of Axes | 1 or 2 |
| Input Voltage Range (VDC) | 12 to 30 |
| Input Current (mA max) | 7 (1-axis), 14 (2-axis) |
| Output Noise (vrms max) | 0.005 |
| 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

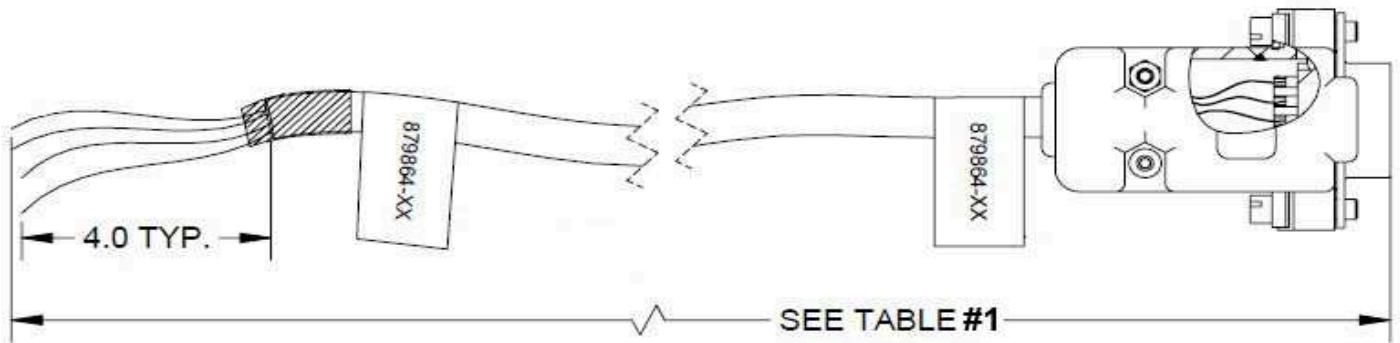
| | |
|----------------|--------------|
| JMI-100-S-14.5 | 02550375-115 |
| JMI-100-S-30 | 02550375-116 |
| JMI-100-S-90 | 02550375-119 |

Dual Axis Part Numbers

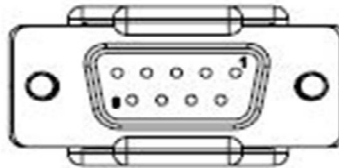
| | |
|----------------|--------------|
| JMI-200-S-14.5 | 02550375-215 |
| JMI-200-S-30 | 02550375-216 |
| JMI-200-S-90 | 02550375-219 |

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) |