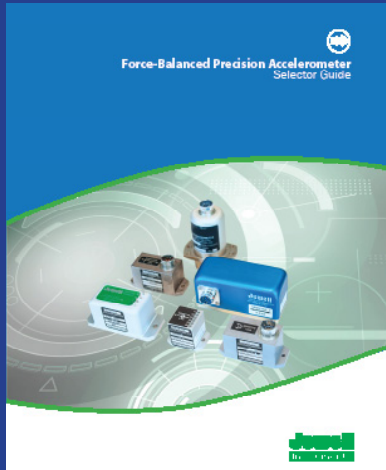


Other Product Groups Available:



Force-Balanced Precision Accelerometer Selector Guide



Force-Balanced Precision Inclinometer Selector Guide



MEMS Inclinometer Selector Guide

Jewell Instruments is a world leader in the manufacture and distribution of acceleration and tilt sensors as well as avionics components, solenoids, and panel meters. From sales and design through manufacturing, testing, delivery and support, Jewell Instruments offers complete customer care and engineering expertise. We have two fully modernized manufacturing facilities, one in Manchester, New Hampshire and one in Barbados, West Indies, to handle the most stringent manufacturing requirements with a cost-competitive advantage.



MEMS Precision Accelerometer Selector Guide



Distributed By:



Making Sense Out of Motion...



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Features & Benefits


Applications

Performance Specs
Static/Dynamic

| |
|---|
| Measurement Range ¹ (g): |
| Resolution (mg, Max.): |
| Bias/Zero (g max): |
| Scale Factor Tolerance (mg): |
| Scale Factor Temp Coefficient (PPM/°C): |
| Non-Linearity (% FRO max): |
| Bandwidth (Hz nom) (-3 dB): |

Industrial Sensor

JMA-100/200/300 Series



- Single, Dual and Triaxial Configuration
- **Rugged & Robust Enclosure**
- **Low-cost MEMS technology**
- RoHs Compliant
- Single or Dual Power Input
- ±0.5 g, ±1.0 g and ±1.5 g ranges

- Vehicle Testing
- Railway Maintenance & Testing
- Acceleration/Deceleration Control
- Aerospace/Space Craft Testing
- Lateral Train Control

Rail Sensors


JMA-165 Series



- ±0.5 g & ±1.0 g full ranges
- **CENELEC/AREMA certified**
- **RoHs Compliant**
- Filtering Available
- Low-cost MEMS technology

- Automated Train Controls
- Rail Maintenance & Testing
- Acceleration/Deceleration Control
- Train Performance Testing

JMA-165 Series
(With Heater)

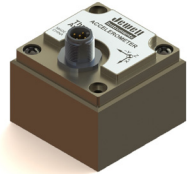


- ±0.5 g & ±1.0 g full ranges
- **CENELEC/AREMA certified**
- **Internal heater for reduced thermal drift**
- Filtering Available
- RoHs Compliant
- Low-cost MEMS technology

- Automated Train Controls
- Rail Maintenance & Testing
- Acceleration/Deceleration Control
- Train Performance Testing

Commercial Sensors

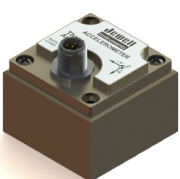
AMA Series



- 1.85" x 1.85" x 1.89" size
- **Analog Output (0-5V or 4-20mA)**
- **Single, Dual and Triaxial Configuration**
- Excellent long term stability
- Ruggedized for harsh environment operation
- High Sensitivity

- Tower Cranes
- Robotics
- Low Frequency Vibration Measurement
- Automatic Control Systems
- Vehicle Testing

DMA Series



- 1.85" x 1.85" x 1.89" size
- **Digital Output (RS232, RS485 or TTL)**
- **Single, Dual and Triaxial Configuration**
- Excellent long term stability
- Ruggedized for harsh environment operation
- High Sensitivity

- Tower Cranes
- Robotics
- Low Frequency Vibration Measurement
- Automatic Control Systems
- Vehicle Testing

Custom Applications



JEWELL INSTRUMENTS' ENGINEERING TEAM PROVIDES THE FOLLOWING:

- Modification of existing products
- New, application specific custom designs requiring special features and specifications and close interaction between Jewell's engineering team and the customer's
- Customer proprietary solutions requiring non-disclosure agreements
- Customization for harsh environments
- Designs to meet EMC surge requirements including lightning strikes
- Qualification to aerospace, military, and industrial standards including CE, RoHS, FAA DO-160 and CENELEC/AREMA

CUSTOM CAPABILITIES

- Custom accelerometer ranges from +/-0.17 to +/-40 g
- Custom filtering to provide bandwidth and response time tailored to the application
- Digital bus outputs including RS232, RS422/485 and Ethernet
- 4 – 20 mA current output to drive long cable lengths
- Custom output impedance
- Temperature compensation, thermal modeling and characterization for the highest levels of accuracy over wide temperature ranges
- Solder terminals and flying leads in place of connectors
- Factory set zero biasing for non-horizontal applications
- Custom mounting plates and mechanical assemblies

Electrical & Environmental

| |
|--------------------------------|
| Output: |
| Input Voltage Range (VDC): |
| Operating Current: |
| Temperature Rating, Operation: |
| Temperature Rating, Storage: |
| Shock: |
| Seal: |
| Weight (grams): |
| Number of Axes: |

| |
|--|
| 0-5 VDC, ±5 VDC or 4-20mA |
| 12 to 30, ±12 to ±18 or 28mA |
| 7 mA or ±8 mA |
| -40 to +85 °C |
| -40 to +95 °C |
| 100 g, 0.011 sec, ½ sine |
| IP65 |
| 165 (1 axis), 170 (2 axes), 180 (3 axes) |
| 1, 2 or 3 |

| |
|-------------------------|
| ±5 VDC |
| ±12 to ±18 |
| ±8 mA |
| -40 to +70 °C |
| -55 to +85 °C |
| 10 g, 0.011 sec, ½ sine |
| IP65 |
| 85 |
| 1 |

| |
|--|
| ±5 VDC |
| ±12 to ±18 |
| -8mA/+150mA quiescent (+500mA peak max., 30 sec. max.) |
| -40 to +70 °C |
| -55 to +85 °C |
| 10 g, 0.011 sec, ½ sine |
| IP65 |
| 85 |
| 1 |

| |
|--------------------|
| 0-5V or 4-20mA |
| 9 to 36 |
| <3mA at 12Vdc |
| -40 to +85 °C |
| -55 to +100 °C |
| 100g 11msec ½ sine |
| IP67 |
| 100 |
| 1, 2 or 3 |

| |
|---------------------|
| RS232, RS485 or TTL |
| 9 to 36 |
| <3mA at 12Vdc |
| -40 to +85 °C |
| -55 to +100 °C |
| 100g 11msec ½ sine |
| IP67 |
| 100 |
| 1, 2 or 3 |

Notes: 1 - Custom ranges available on request.