## MODEL 607A61 INDUSTRIAL ACCELEROMETER

# Spindler® ICP® Industrial Accelerometer

Miniature yet Rugged Sensor Monitors Vibration Levels of High-Speed Spindle Bearing

- Ideal for High-Speed Spindle Vibration Monitoring
- Unique Patented Swivel Mounting Facilitates 360° Cable Orientation (US Patent Number 6,435,902)
- Small Size (9/16 Inch Footprint, Low-profile)
- Lower Cost Alternative to Through-bolt Sensors
- Internal Electronic Filter Prevents High Frequency Saturation Problems
- Armored Cable Prevents Damage from Flying Metal Chips
- Cable May be Positioned in Any Direction



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Model 607A61 Spindler<sup>®</sup> ICP<sup>®</sup> Industrial Accelerometer from the IMI Sensors division of PCB<sup>®</sup> provides unique advantages for monitoring vibration levels of high-speed rotating machinery. The small size and swivel mounting permit installation in close quarters, yet the durable, stainless steel housing, with sealed armored cable stands up to the rigors of cutting fluids and flying debris. Integrated electronic filtering prevents saturation problems while maintaining the ability to respond to high frequency vibrations. The sensor is ideal for predictive maintenance and condition based monitoring applications, as well as facilitating machined part quality assurance by detecting tool wear.

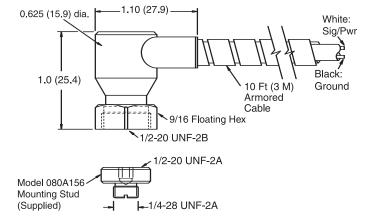
As with all PCB<sup>®</sup> instrumentation, this equipment is complemented with toll-free applications assistance, 24-hour customer service, and is backed by a no-risk policy that guarantees satisfaction or your money refunded.



Total Customer Satisfaction Guaranteed

### **Specifications**

| Model 607A61 Spindler®   |   |   |
|--|---|---|
| Dynamic Performance  | English   | SI  |
| Sensitivity (± 15%)  | 100 mV/q  | 10.2 mV/(m/s <sup>2</sup> )   |
| Measurement Range  | ± 50 g  | ± 490 m/s <sup>2</sup>  |
| Frequency Range (± 3dB)  | 30 to 600k cpm  | 0.5 to 10k Hz   |
| Resonant Frequency   | 1500k cpm   | 25k Hz  |
| Broadband Resolution (1 to 10k Hz)   | 350 µg  | 3434 µm/s <sup>2</sup>  |
| Non-linearity  | ±1%   |   |
| Traverse Sensitivity   | ≤ 7 %   |   |
| Environmental  |   |   |
| Overload Limit (Shock)   | 5000 g pk   | 49,050 m/s² pk  |
| Temperature Range  | -65 to +250 °F  | -54 to +121 °C  |
| Electrical   |   |   |
| Settling Time (within 1% of bias)  | ≤ 2.0 sec   |   |
| Discharge Time Constant  | ≥ 0.3 sec   |   |
| Excitation Voltage   | 18 to 28 VDC  |   |
| Constant Current Excitation  | 2-20 mA   |   |
| Output Impedance   | < 150 ohm   |   |
| Output Bias Voltage  | 8 to 12 VDC   |   |
| Electrical Isolation (Case)  | > 10 <sup>8</sup> ohm   |   |
| Physical   |   |   |
| Size (Hex x Height)  | 9/16 x 1.0 inch   | 9/16 inch x 25.4 mm   |
| Weight (without cable)   | 1.1 oz  | 31 gm   |
|  | Stud  |   |
| Mounting   | S   | tuu   |
| Mounting Thread  |   | 8 Male  |
| 0  |   |   |
| Mounting Thread  | 1/4-2   | 8 Male  |
| Mounting Thread<br>Mounting Torque (stud)  | 1/4-2<br>7 to 8 ft-lb<br>2 to 5 ft-lb   | 8 Male<br>9.5 to 10.8 N-m   |
| Mounting Thread<br>Mounting Torque (stud)<br>Mounting Torque (hex nut)   | 1/4-2<br>7 to 8 ft-lb<br>2 to 5 ft-lb<br>Ceram  | 8 Male<br>9.5 to 10.8 N-m<br>2.7 to 6.8 N-m   |
| Mounting Thread<br>Mounting Torque (stud)<br>Mounting Torque (hex nut)<br>Sensing Element  | 1/4-2<br>7 to 8 ft-lb<br>2 to 5 ft-lb<br>Ceram<br>Stainle   | 8 Male<br>9.5 to 10.8 N-m<br>2.7 to 6.8 N-m<br>ic Shear   |
| Mounting Thread<br>Mounting Torque (stud)<br>Mounting Torque (hex nut)<br>Sensing Element<br>Housing Material<br>Sealing<br>Electrical Connector   | 1/4-2<br>7 to 8 ft-lb<br>2 to 5 ft-lb<br>Ceram<br>Stainle<br>Welded   | 8 Male<br>9.5 to 10.8 N-m<br>2.7 to 6.8 N-m<br>ic Shear<br>ess Steel  |
| Mounting Thread<br>Mounting Torque (stud)<br>Mounting Torque (hex nut)<br>Sensing Element<br>Housing Material<br>Sealing   | 1/4-2   7 to 8 ft-lb   2 to 5 ft-lb   Ceram   Stainle   Welded   Integral Ar                                    | 8 Male<br>9.5 to 10.8 N-m<br>2.7 to 6.8 N-m<br>ic Shear<br>ess Steel<br>Hermetic  |
| Mounting Thread<br>Mounting Torque (stud)<br>Mounting Torque (hex nut)<br>Sensing Element<br>Housing Material<br>Sealing<br>Electrical Connector<br>Electrical Connection Position<br>Cable Length   | 1/4-2<br>7 to 8 ft-lb<br>2 to 5 ft-lb<br>Ceram<br>Stainle<br>Welded<br>Integral Ar<br>S<br>10 ft                | 8 Male<br>9.5 to 10.8 N-m<br>2.7 to 6.8 N-m<br>ic Shear<br>ess Steel<br>Hermetic<br>mored Cable<br>ide<br>3.0 m                             |
| Mounting Thread<br>Mounting Torque (stud)<br>Mounting Torque (hex nut)<br>Sensing Element<br>Housing Material<br>Sealing<br>Electrical Connector<br>Electrical Connection Position<br>Cable Length<br>Cable Type   | 1/4-2<br>7 to 8 ft-lb<br>2 to 5 ft-lb<br>Ceram<br>Stainle<br>Welded<br>Integral Ar<br>S<br>10 ft                | 8 Male<br>9.5 to 10.8 N-m<br>2.7 to 6.8 N-m<br>ic Shear<br>ess Steel<br>Hermetic<br>mored Cable<br>ide                                      |
| Mounting Thread<br>Mounting Torque (stud)<br>Mounting Torque (hex nut)<br>Sensing Element<br>Housing Material<br>Sealing<br>Electrical Connector<br>Electrical Connection Position<br>Cable Length<br>Cable Type<br><b>Optional Versions</b>   | 1/4-2<br>7 to 8 ft-lb<br>2 to 5 ft-lb<br>Ceram<br>Stainle<br>Welded<br>Integral Ar<br>S<br>10 ft                | 8 Male<br>9.5 to 10.8 N-m<br>2.7 to 6.8 N-m<br>ic Shear<br>ess Steel<br>Hermetic<br>mored Cable<br>ide<br>3.0 m                             |
| Mounting Thread<br>Mounting Torque (stud)<br>Mounting Torque (hex nut)<br>Sensing Element<br>Housing Material<br>Sealing<br>Electrical Connector<br>Electrical Connection Position<br>Cable Length<br>Cable Type   | 1/4-2   7 to 8 ft-lb   2 to 5 ft-lb   Ceram   Stainle   Welded   Integral Ar   S   10 ft                        | 8 Male<br>9.5 to 10.8 N-m<br>2.7 to 6.8 N-m<br>ic Shear<br>ess Steel<br>Hermetic<br>mored Cable<br>ide<br>3.0 m                             |
| Mounting Thread<br>Mounting Torque (stud)<br>Mounting Torque (hex nut)<br>Sensing Element<br>Housing Material<br>Sealing<br>Electrical Connector<br>Electrical Connection Position<br>Cable Length<br>Cable Type<br><b>Optional Versions</b>   | 1/4-2<br>7 to 8 ft-lb<br>2 to 5 ft-lb<br>Ceram<br>Stainle<br>Welded<br>Integral Ar<br>S<br>10 ft<br>Polyurethan | 8 Male<br>9.5 to 10.8 N-m<br>2.7 to 6.8 N-m<br>ic Shear<br>ess Steel<br>Hermetic<br>mored Cable<br>ide<br>3.0 m<br>e (Model 067)            |
| Mounting Thread<br>Mounting Torque (stud)<br>Mounting Torque (hex nut)<br>Sensing Element<br>Housing Material<br>Sealing<br>Electrical Connector<br>Electrical Connector<br>Cable Length<br>Cable Type<br><b>Optional Versions</b><br>Intrinsically Safe<br>Metric Installation<br>Temperature Output  | 1/4-2<br>7 to 8 ft-lb<br>2 to 5 ft-lb<br>Ceram<br>Stainle<br>Welded<br>Integral Ar<br>S<br>10 ft<br>Polyurethan | 8 Male<br>9.5 to 10.8 N-m<br>2.7 to 6.8 N-m<br>ic Shear<br>sss Steel<br>Hermetic<br>mored Cable<br>ide<br>3.0 m<br>e (Model 067)<br>EX      |
| Mounting Thread<br>Mounting Torque (stud)<br>Mounting Torque (hex nut)<br>Sensing Element<br>Housing Material<br>Sealing<br>Electrical Connector<br>Electrical Connector<br>Cable Length<br>Cable Length<br>Cable Type<br><b>Optional Versions</b><br>Intrinsically Safe<br>Metric Installation<br>Temperature Output<br><b>Supplied Accessories</b> | 1/4-2<br>7 to 8 ft-lb<br>2 to 5 ft-lb<br>Ceram<br>Stainle<br>Welded<br>Integral Ar<br>S<br>10 ft<br>Polyurethan | 8 Male<br>9.5 to 10.8 N-m<br>2.7 to 6.8 N-m<br>ic Shear<br>sss Steel<br>Hermetic<br>mored Cable<br>ide<br>3.0 m<br>e (Model 067)<br>EX<br>M |
| Mounting Thread<br>Mounting Torque (stud)<br>Mounting Torque (hex nut)<br>Sensing Element<br>Housing Material<br>Sealing<br>Electrical Connector<br>Electrical Connector<br>Cable Length<br>Cable Type<br><b>Optional Versions</b><br>Intrinsically Safe<br>Metric Installation<br>Temperature Output  | 1/4-2<br>7 to 8 ft-lb<br>2 to 5 ft-lb<br>Ceram<br>Stainle<br>Welded<br>Integral Ar<br>S<br>10 ft<br>Polyurethan | 8 Male<br>9.5 to 10.8 N-m<br>2.7 to 6.8 N-m<br>ic Shear<br>sss Steel<br>Hermetic<br>mored Cable<br>ide<br>3.0 m<br>e (Model 067)<br>EX<br>M |



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#### **Available Versions**

Model 607A61 - Standard 10 ft (3 m) integral, armor-jacketed cable Model 607A61/020BZ - 20 ft (6 m) integral, armor-jacketed cable Model 607A61/030BZ - 30 ft (9 m) integral, armor-jacketed cable Model M607A61 - Supplied with Model M080A159 metric mounting stud (with M6 x 1.0 installation thread) Model T0607A61 - Additional temperature output signal of 10 mV/°C supplied by a 3-conductor integral cable

 ${f C}{f E}$  This product conforms to applicable European Directives for CE marking.



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