Dual Bridge Load Cells
For Aerospace Applications

Highlights
- Dual Bridge Output
- High Accuracy
- Temperature & Moment Compensation
- NIST Traceable, A2LA Accredited Calibration to ISO 17025

Applications
- Airframe Structural Test Applications
- Fatigue Testing
- Material Testing
- Rocket Thrust
- Weighing
- Process Monitoring

PCB Load & Torque, Inc., a wholly-owned subsidiary of PCB Piezotronics, manufactures a wide range of high-accuracy, strain gage load cells for aerospace, automotive, industrial, and process control applications.

Series 1400 includes a dual output feature that offers sensor redundancy and the ability to provide control feedback from one sensor while the other is used for data acquisition. These load cells are available in multiple ranges and have a NIST traceable, A2LA accredited calibration to ISO 17025, in both tension and compression directions. Additional features include low deflection, high accuracy and repeatability, thermal compensation and moment compensation.

Fatigue-rated load cells are specifically designed for durability testing machine manufacturers and users, or any application where high cyclic loads are present. Applications include material testing, component life cycle testing, and structural testing. All fatigue-rated load cells are guaranteed against fatigue failure for 100 million fully reversed cycles.

As with all PCB Load & Torque manufactured instrumentation, this equipment is complimented with toll-free application assistance, 24-hour customer support, and the industry’s only commitment to Total Customer Satisfaction.
Dual Bridge Load Cells

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Measurement Range</th>
<th>Sensitivity</th>
<th>Excitation Voltage - Max</th>
<th>Bridge Resistance</th>
<th>Non-Linearity</th>
<th>Hysteresis</th>
<th>Non-Repeatability</th>
<th>Temperature Range</th>
<th>Connector (2)</th>
<th>Mounting</th>
</tr>
</thead>
<tbody>
<tr>
<td>1403-05ADB</td>
<td>5 k lb / 22 k N</td>
<td>2 mV/V</td>
<td>20 VDC</td>
<td>350 ohms</td>
<td>0.04 % F.S</td>
<td>0.04 % F.S</td>
<td>0.02 % F.S</td>
<td>-5 to 200 F</td>
<td>PT02E-10-6P</td>
<td>5/8-18 Thread</td>
</tr>
<tr>
<td>1404-02ADB</td>
<td>12.5 k lb / 56 k N</td>
<td>2 mV/V</td>
<td>20 VDC</td>
<td>350 ohms</td>
<td>0.05 % F.S</td>
<td>0.05 % F.S</td>
<td>0.02 % F.S</td>
<td>-5 to 200 F</td>
<td>PT02E-10-6P</td>
<td>1 1/4-12 Thread</td>
</tr>
<tr>
<td>1404-03ADB</td>
<td>25 k lb / 111 k N</td>
<td>2 mV/V</td>
<td>20 VDC</td>
<td>350 ohms</td>
<td>0.05 % F.S</td>
<td>0.05 % F.S</td>
<td>0.02 % F.S</td>
<td>-5 to 200 F</td>
<td>PT02E-10-6P</td>
<td>1 3/4-12 Thread</td>
</tr>
<tr>
<td>1408-02ADB</td>
<td>50 k lb / 222 k N</td>
<td>2 mV/V</td>
<td>20 VDC</td>
<td>350 ohms</td>
<td>0.05 % F.S</td>
<td>0.05 % F.S</td>
<td>0.02 % F.S</td>
<td>-5 to 200 F</td>
<td>PT02E-10-6P</td>
<td>3/4-8 Thread</td>
</tr>
<tr>
<td>1411-02ADB</td>
<td>100 k lb / 445 k N</td>
<td>2 mV/V</td>
<td>20 VDC</td>
<td>350 ohms</td>
<td>0.06 % F.S</td>
<td>0.06 % F.S</td>
<td>0.02 % F.S</td>
<td>-5 to 200 F</td>
<td>PT02E-10-6P</td>
<td>2 3/4-8 Thread</td>
</tr>
</tbody>
</table>

**Accessories**

- Shunt Resistor: 100-11176-30 (100 kΩ)
- Optional Accessories:
  - Cable: 8311-01-10A
  - Connector Protectors: 084A90
  - Lifting Eyebolt: —
  - Lifting Plug for Eyebolt: —
  - Pre-tension Stud: 084A55
  - Pre-tension Stud: 084A56
  - Pre-tension Stud: 084A57
  - Pre-tension Stud: 084A58
  - Pre-tension Stud: 084A59
  - Pre-tension Stud: 084A59

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for a complete line of Load Cell products.

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The Aerospace & Defense division of PCB Piezotronics serves the Turbine Engine, Helicopter Health and Usage Monitoring (HUMS), Ground Vibration Test, Flight Test, Wind Tunnel Test, Fuze/Safe and Arm, Spacecraft and Aerospace Systems design and development communities with sensors and associated signal conditioning for measurement of acceleration (vibration, shock and rigid body); acoustics; pressure; force; strain; and torque. Sensor technologies employed include piezoelectric, piezoresistive (both strain gauge and MEMS) and variable capacitive (both MEMS and microphone). Manufacturing operations are certified to AS9100:2004 and ISO 9001:2000, with calibration procedures accredited by A2LA to ISO 17025. Products can be manufactured to meet specific aerospace environmental standards, with program design requirements to meet RTCA-D0-160 and MIL-STD-810, and low outgassing designs available for specific applications.

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