**Portable Data Recorder**

For Torque-Angle-Tension Testing of Threaded Fastener Components

**Highlights**

- Streamlined menu system with a tactile feel keypad, USB ports, and analog output
- Measure and record torque, angle, and clamp load characteristics of threaded fastener components
- Two input channels for torque transducers, torque-angle transducers, or fastener tension load cells
- Record graphic data to plot: torque vs. angle, torque vs. tension, torque vs. time, and more
- Print both numeric and graphic data
- Upload numeric and graphic data to a PC via FastPlot2 software

**Applications**

- Verify Fastener Torque-Tension
- Analyze Torque Angle Signatures
- Audit, Calibrate, or Certify Performance of Power Tools and Hand Torque Wrenches
- Dynamic Monitoring of Power Tool Testing
- Troubleshoot Problematic Joints

RS Technologies, a division of PCB Load & Torque Division, Model 962 Portable Data Recorder is a battery-operated, transient recorder with two transducer inputs that can be used with torque-only, torque-angle, or force transducers. It can serve as a portable threaded fastener laboratory for measuring fastener torque, angle of turn, and clamp load. Ideal for performing fastener analysis, for auditing and certifying power tools, and for testing hand torque wrenches; Model 962 is a cost effective, versatile, and easy-to-use recorder that can collect numeric peak data, XY graphic plots, and store the data to a thumb drive. The data can be easily displayed or printed on a PC running FastPlot2 software. The alphanumeric setup and calibration menus assure ease of operation. The unit can be used with all RS Technologies’ rotary torque-angle and clamp force transducers and other conventional and industry-standard strain gage transducers.

Model 962 can print out a numeric data report that contains basic information about the test along with time & date-stamped data for peak torque, angle of turn, clamp load, and torque at tension data. Statistics including high, low, median, ±3 Sigma, etc. are calculated and included on this report. The numeric test data and the graphic data can be uploaded to a computer via the USB port using the FastPlot2 data transfer and plotting utility. FastPlot2 can also provide additional graphic analysis.

As with all PCB® instrumentation, these units are complemented with toll-free applications assistance, 24-hour service, and are backed by a no-risk policy that guarantees total customer satisfaction or your money refunded.
Statistics
After three rundowns, Model 962 Portable Data Recorder updates statistics including standard deviation and Cpk. It also flags data as being high or low depending upon the programmed engineering limits.

Data and Communications
Graphic plots, numeric data reports, and statistics are printed via the parallel port. Recorded data can be downloaded to a PC via the serial port for further analysis using the FastPlot2 software. Program updates are easily uploaded through the USB port.

Real-Time Plotting Capabilities
Model 962 captures real-time and peak readings for torque-angle, torque-clamp load, or torque-time and immediately displays or plots one of the following, based upon the instrument setup:

- Torque vs. Time
- Torque vs. Angle
- Torque & Angle vs. Time
- Torque & Clamp Force vs. Time
- Torque and Clamp Force vs. Angle
- Clamp Force vs. Torque
- Tool RPM vs. Time
- Tool RPM vs. Angle

![Torque vs. Time Assembly Plot](image-url)

**Portable Data Recorder, Model 962**

<table>
<thead>
<tr>
<th>Input and Force Input Channels</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Range</td>
<td>±2.5 mV/V, ±4.5 mV/V, ±5 VDC</td>
</tr>
<tr>
<td>Excitation</td>
<td>5 VDC, 120 mA Maximum</td>
</tr>
<tr>
<td>Resolution</td>
<td>21-bit</td>
</tr>
<tr>
<td>Non-linearity</td>
<td>0.25% Maximum (F.S.)</td>
</tr>
<tr>
<td>Frequency Response</td>
<td>10 kHz</td>
</tr>
<tr>
<td>Positive Voltage Peak Trap Circuit</td>
<td>7 ms Reset Time</td>
</tr>
<tr>
<td>Peak Threshold</td>
<td>Software Programmable</td>
</tr>
<tr>
<td>Peak Reset</td>
<td>Manual or, Software Programmable (Automatic Reset)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Angle Input Channel</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Quadrature A/B Track</td>
</tr>
<tr>
<td>Excitation</td>
<td>5 VDC</td>
</tr>
<tr>
<td>Input Frequency</td>
<td>1000 kHz Maximum</td>
</tr>
</tbody>
</table>

**Display**

- Viewing Area: 4.85 x 2.68 in (123 x 88 mm)
- Resolution: 240 x 128 Pixels, Backlit LCD

**Battery**

- Indication: Battery Low Indication
- Battery Life: 8 Hours Maximum, Continuous Use
- Charge Time: 3.5 Hours, Maximum

**General**

- Temperature Range: +32 to +158 °F (0 to +70 °C)
- Size (W x D x H): 10.12 x 8.50 x 3.25 in (257.0 x 215.9 x 85.1 mm)
- Weight: 6.0 lb (2700 gm)

**Mating Connectors**

- Channel 1 and Channel 2: DB, 15 Pins
- TTL/IO: DB, 25 Pins
- USB Port A: A Type
- USB Port B: B Type

**Supplied Accessories**


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**PCB’s Line of Fastener Test Products**
(formerly the RS Technologies product line) includes test systems and threaded fastener torque/angle/tension systems ideal for use in the Automotive, Aerospace & Defense, Power Generation industries, and for product assembly by manufacturers or processors of threaded fasteners or other companies that use threaded fasteners to assemble their products.