



# LabMaster Portable

For Joint Analysis Torque-tension Testing

## Highlights

- Portable data recorder with 4-channel high-speed data acquisition card
- Transducer signal conditioning card
- Durable hard shell case enclosure
- Includes LabMaster for Windows® fastener testing software for PC interfaced via USB port
- Accepts inputs for torque angle transducers, load cells, and high level devices

## Applications

- Torque-tension Testing
- Bolted Joint Analysis
- Evaluate Fastener Coatings, Lubrication, Finish and Plating
- Power Tool Testing and Analysis
- Prevailing Torque Testing
- Yield Determination
- Test Most Bolts, Nuts, Locknuts, and Self-tapping Fasteners



### LabMaster Portable

Model Number	3210
--------------	------

#### Inputs

Four inputs for transducers, load cells or other devices

USB port for connection to desktop or laptop computer running LabMaster for Windows® software

#### Analog Input

Number of Channels	4
Signal Conditioning	Full bridge, strain gage, transducer compatible
Sensitivity	1 mV/V to 4 mV/V, and $\pm 10$ VDC
Excitation	10 VDC

#### Encoder Input

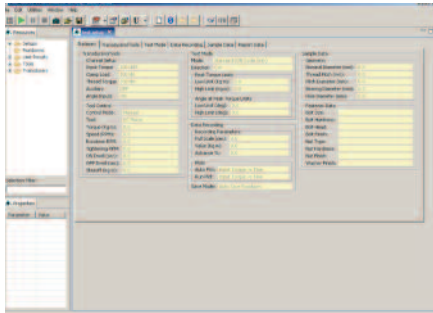
Number of Channels	1
Counter Resolution	32 bit
Input Frequency	1 MHz max.
Excitation	5 VDC

#### Computer Requirements

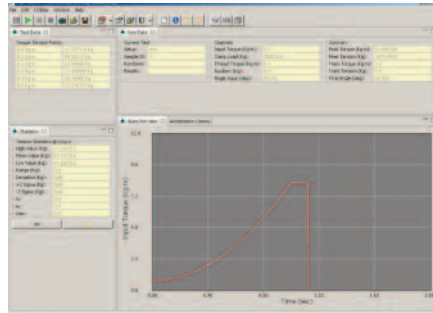
Windows 2000, or XP
512 MB RAM
60 GB hard drive
CD-ROM drive
USB 2.0 Port

#### Power Requirement

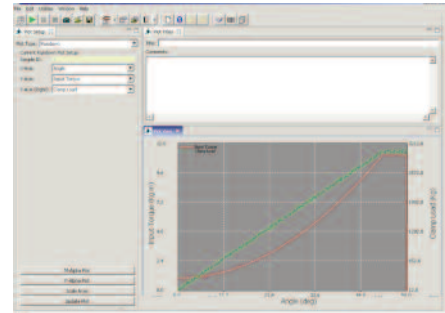
110 VAC
---------



Setup Summary Screen



Real-Time Plot Screen



Graphic Data Screen

## Three-In-One System:

### Test, Analyze, Certify

The LabMaster Portable is an advanced, multi-purpose system designed to test threaded fasteners, analyze bolted joints, and certify power tools. The system is comprised of two components: the LabMaster Portable module, which contains data acquisition, and a laptop or desktop PC running the LabMaster for Windows® testing software. The module and computer interface using a USB port.

### Simple Test Setup

Employing full Windows® functionality with drop-down menus and point-and-click features, the LabMaster for Windows® software provides a user-friendly graphic interface. Quickly make changes to existing test setups, easily select different tools and transducers, or view results of previous tests. An easily accessed transducer parameter and test setup directory further simplifies testing setup.

### Easy Operation

Once the test is set up, the LabMaster Portable module conducts all of the data acquisition operations. The recorded data are then displayed and managed on the computer for access to network printers, archiving, and communications.

## Multiple Inputs

Four analog inputs are available on the LabMaster Portable module to accept data signals from the following:

- Transducers
- Strain gages
- Load cells
- Torque cells
- Force washers
- Bolt extensometers
- Ultrasonic devices
- Any 10 volt analog device

## High Speed Sampling

The LabMaster Portable includes a data acquisition card which provides high-speed sampling of up to 4 kHz (software selectable). Sampling can be done on a time or angle basis.

## Comprehensive Data

A LabMaster Portable system with a torque-tension research head and a torque-angle sensor can measure and calculate the following:

- Input torque
- Clamp force
- Thread friction torque
- Underhead friction torque
- Angle of fastener rotation
- Torque tension coefficient (T = KDF)
- Thread friction coefficient
- Underhead friction coefficient

## Statistical Calculations

The LabMaster Portable offers a variety of statistical reports in numeric and graphic form. Statistical plot of  $\pm 3 \sigma$  provides insightful data summaries.

## Real-Time Display

The LabMaster Portable and the LabMaster for Windows® testing software provide real-time display, printing, plotting, and automatic saving of all measured data. A user-selectable automatic "Data Save" feature for both numeric and graphic data speeds technician testing time.

## Variety of Plots

Rundown data and plots may be viewed on the computer display, printed as hard copy, and/or saved for later data analysis. Numerous configurable plots can be generated.

## Thorough Joint Analysis

A joint analysis system will typically include a rotary torque-angle transducer, a thread torque-tension research head, and a printer for numeric and graphic data reports, all of which are available from RS Technologies.

## Options

Optional features include an auxiliary input for an ultrasonic interface, and a tabletop or mobile test cart.



24350 Indoplex Circle, Farmington Hills, MI 48335 USA

Toll-Free in USA 866-684-2894

24-hour SensorLine™ 716-684-0001

Fax 248-888-8266 E-mail [rsinfo@pcbloadtorque.com](mailto:rsinfo@pcbloadtorque.com)

[www.pcbloadtorque.com](http://www.pcbloadtorque.com)

ISO 9001 CERTIFIED ■ A2LA ACCREDITED to ISO 17025

© 2010 PCB Group, Inc. In the interest of constant product improvement, specifications are subject to change without notice. PCB, ICP, Modally Tuned, Spindler, Swiveler and TORKDISC are registered trademarks of PCB Group. SoundTrack LXT, Spark and Blaze are registered trademarks of PCB Piezotronics. SensorLine is a service mark of PCB Group. All other trademarks are property of their respective owners.

LT-RS-3210-0710

Printed in U.S.A.

**RS Technologies**, a division of PCB Load & Torque, Inc., serves the product assembly and fastener manufacturing communities with a complete line of rotary and stationary torque sensors, hand torque wrenches, measuring instruments, and threaded fastener torque-tension testing systems. A leading manufacturer of transducers and instrumentation used for the verification of torque tool performance characteristics, RS Technologies also supplies reaction torque transducers to several OEM power tool manufacturers. Creative product development efforts, quality engineering capabilities and modern efficient manufacturing facilities have established RS Technologies as a world leader in the design and manufacture of torque and load measurement devices and related instrumentation. PCB® offers exceptional customer service, 24-hour technical assistance, and a Total Customer Satisfaction guarantee.

Visit [www.pcb.com](http://www.pcb.com) to locate your nearest sales office