LabMaster Portable

For Joint Analysis & Torque-Tension Testing

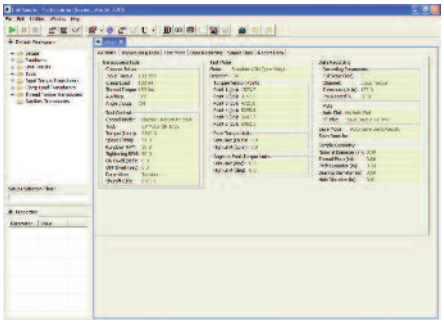
Highlights

- 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 and load cells

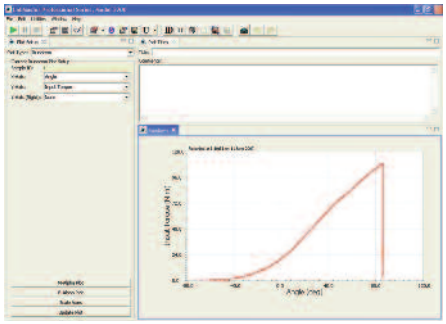
Applications

- Torque-Tension Testing
- Bolted Joint Analysis
- Fastener Coatings, Lubrication, Finish and Plating Evaluation
- Power Tool Testing and Analysis
- Prevailing Torque Testing
- Yield Determination
- Bolt, Nut, Locknut, and Self-tapping Fastener Testing

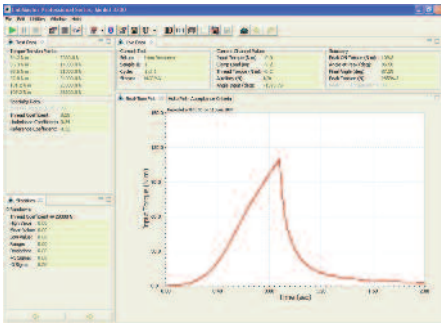
LabMaster Portable	
Inputs	
Four Inputs for Transducers, Load Cells and/or Other Devices	
USB Port for Connection to Desktop or Laptop Computer Running LabMaster for Windows® Software	
Analog Input	
Number of Channels	4
Signal Conditioning	Full Bridge, Strain Gage, Transducer Compatible
Sensitivity	1 mV/V to 4 mV/V, and ±10 VDC
Excitation	10 VDC
Encoder Input	
Number of Channels	1
Counter Resolution	32-bit
Input Frequency	1000 kHz Maximum
Excitation	5 VDC
Computer Requirements	
Windows® 2000, XP, or 7	
2 GB RAM	
60 GB Hard Drive	
CD-ROM Drive	
USB 2.0 Port	
Power Requirement	
110 VAC	
Supplied Accessories	
Power Cord, USB Cable, Testing Software Installation Discs, Instruction Manual, & A2LA Accredited Calibration Certificate	
Recommended Accessories	
Rotary Torque Angle Transducer, Threaded Torque - Fastener Tension Load Cell, & Fastener Force Washers	



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, and 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 4000 Hz (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 ±3 sigma provides insightful data summaries.

Real-Time Display

The LabMaster Portable and the LabMaster for Windows® testing software provide real-time display during the test. A user-selectable automatic "Data Save" feature for both numeric and graphic data speeds technician testing time.

Variety of Plots

After the test is completed, 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.

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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.

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