

POWERNET LT DATA ACQUISITION AND CONTROL



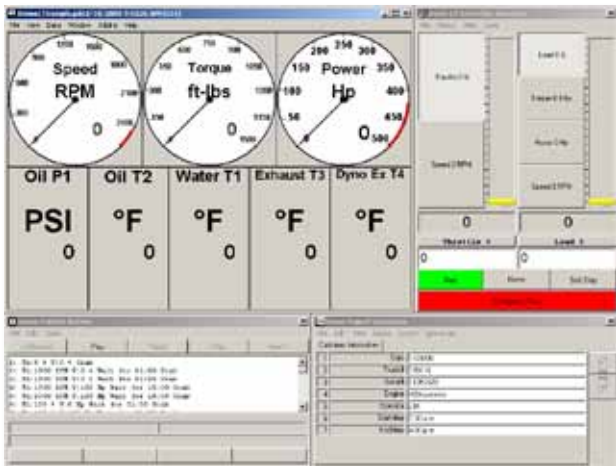
POWERNET LT

PowerNet LT is a complete monitoring and control package for dynamometers and engines. LT transforms a standard desktop computer and a specially designed interface box into high-efficiency engine development and qualification tools. Featuring a condensed version of our PowerNet software, LT offers the ability to run fully automated tests with just a few clicks of the mouse.

PowerNet LT is comprised of the Commander Computer, a modified desktop PC, and the LT Controller, a rugged industrial enclosure containing the temperature sensors for engine, oil, fuel, and air, as well as oil and fuel pressure sensors. The communications are routed through an Ethernet cable, providing rapid data transfer speeds, wiring simplicity, and LAN connections.

PowerNet LT is designed specifically for your engine dynamometer. It uses a Windows®-based software package to provide consistent, automated test results. PowerNet LT allows either manual or automatically controlled operation, warm-up, break-in, and power tests. Accurate test results can be obtained regardless of the operator's skill level.

PowerNet LT's ability to run automatically at predetermined speeds and loads allows the operator to step effortlessly through all testing operations. Automatic mode gives the operator a choice between running a pre-configured test pattern or entering direct numeric setpoints for speed, torque, or power. Manual control is achieved through the use of slider bars. This system gives the operator a quick, effective, and accurate means of controlling test conditions, while providing rapid feedback in an easy-to-comprehend visual format.



A Powerful User Interface

PowerNet LT's user interface was designed to offer a wide range of configuration options, while remaining easy-to-use. Sensor configuration is achieved through an on-screen menu system that provides a visual representation of each sensor input. Each gauge's display can show test ranges, have alarm conditions assigned to them, and be customized to desired units. Once an operator has set PowerNet's gauges to the desired ranges, all testing configurations can be saved to the system's hard drive and recalled as needed.

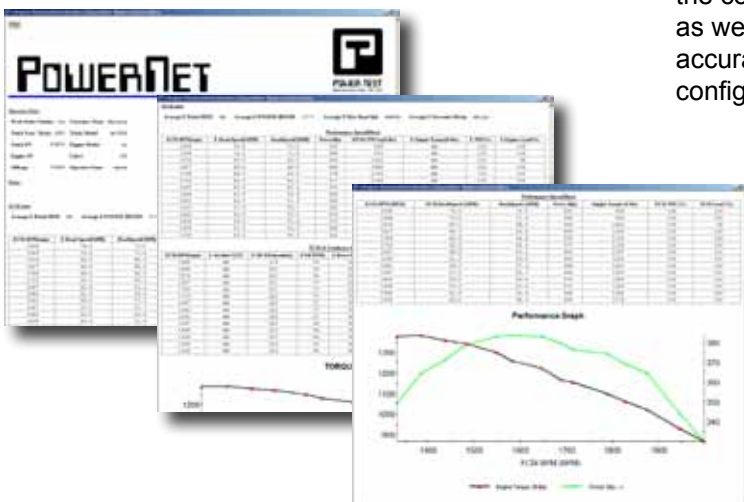
Keeping It Organized

PowerNet LT saves information in a variety of formats, automatically putting the right file types at your fingertips. These files contain all recorded information from a test, including data points and sensor settings. This file management system allows PowerNet LT to automatically filter through your saved files and present you with the correct file choices. LT saves the date each file was created, as well as the name of the file's author, allowing you to keep accurate records of customers, engines, testing data, and sensor configurations.

Custom Reporting

PowerNet LT's report generation system is extremely flexible. Output options range from graphs displaying torque, horsepower, and engine speed to a table of data collected from temperature and pressure sensors.

You choose what to include and the order it appears in the final report. Data collected during an engine test can also be imported into popular spreadsheet applications like Microsoft Excel. PowerNet LT also makes it possible to e-mail all LT files, including data setups and patterns.





The PowerNet LT Commander

Remote engine control and data acquisition are taken to a new level with PowerNet LT. The Commander Computer combines control, data acquisition, test report generation, test pattern management, and data storage into a desktop package placed in the control area.

Simply click on a sensor to view and edit its settings. Once you have configured the sensor inputs for range, units, and alarm values, the settings can be saved and recalled as needed.

Engine settings are entered into a dialog box with blanks for information like maximum speed, maximum torque, and idle speed. These settings can be saved and recalled whenever that type of engine is tested and the results may be printed out on the included printer.

Gathering and organizing test data has never been easier. Commander can be configured to automatically store test data at predetermined intervals or the operator can grab data points manually. Commander can output this data in graphs, tables, and test report forms with your company's custom logo and address.

System administration options ensure that important data stays safe. A login box prompts operators for their name and password, allowing the PowerNet LT system administrator to set access levels for each employee. Employee access can be set for options like modifying existing test pattern alarm limits and configurations.

PowerNet LT can be connected to an existing local area computer network through its industry standard Ethernet cable. This option allows data backup and storage on network drives and hard copy output on network printers.

The PowerNet LT Controller

The LT Controller contains the temperature sensors for engine, oil, fuel, and air, as well as oil and fuel pressure sensors. An industrial enclosure protects the sensors and control system from harsh test cell conditions. The sensor inputs are located on the side of the control box for quick connections during engine changes. Each sensor is supplied with a quick disconnect.

Information collected from these sensors along with torque, rpm, and power measurements from the dynamometer, is transmitted to the Commander PC and automatically recorded to the computer's hard drive.



A manually operated Emergency Stop button is also located on the outside of the enclosure to increase test cell safety.

Automated Simplicity

With PowerNet LT software installed, standard engine test patterns may be recalled from a file and, by clicking on the start button, a user with any skill level can easily perform and achieve the same automated test results as an experienced operator.

The computer's automation of the engine throttle and the dynamometer load ensures accurate performance of each test step.

The operator simply selects a preset Template and performs the test. For simplicity, the operator may edit a stored Template by adjusting sensor units, ranges, alarm values, the test pattern, and the language of display if desired.

PowerNet LT Specifications

- Windows® XP Computer
- Four (4) Temperature Inputs, Standard
- Two (2) Pressure Inputs, Standard
- Ethernet Connection
- Load Cell Input (torque)
- Speed Input (dynamometer rpm)
- Barometric Pressure Sensor (optional)
- Auxiliary Inputs (optional)

*Temperature inputs expandable to 16 channels,
pressure inputs expandable to 8 channels*

PowerNet LT Features

The LT Commander is a modified desktop PC operating on the popular Windows XP platform. Running our exclusive PowerNet LT software based on an operating system known worldwide provides the ultimate in data acquisition and control that is able to be performed by anyone with basic computer skills.



The LT Controller is a rugged industrial enclosure containing the torque and speed sensors, as well as the temperature sensors for engine, oil, fuel, and air, as well as oil and pressure sensors. Many of the components used in our systems can be sourced from major computer outlets both domestically and internationally, resulting in ease of servicing and minimal downtime in the event of a failure.

The PowerNet LT package offers fully automated load control through the use of an electro-pneumatic water valve. This valve regulates the flow of water to and from the dynamometer to control power absorption.



Our Smart Throttle control system provides automatic throttle control, resulting in ease of use and safety for the operator during testing.

Available Options

Power Test provides an ECM Interface as an option to our standard PowerNet LT package. The ECM Interface consists of a specially designed component that attaches directly to the control system inside the cabinet. This option displays important information from electronic engines, such as engine sensors, pressures, and temperatures.

In addition, Power Test manufactures and supplies a wide variety of engine testing options for the PowerNet LT data acquisition and control system, including additional sensors for temperatures and pressures, fuel measurement systems, smoke opacity and exhaust gas analyzers, breakout boxes for most popular engines, as well as ECM communications, and a variety of application-specific sensors.

Designed for the Future of Engine Testing

PowerNet LT virtually eliminates instrumentation failures by starting with a standard computer platform, ensuring that the technology offered is easily understood, serviced, and updated. Many of the components used in our systems can be sourced from major computer outlets both domestically and internationally.

Designed with the future of testing in mind, Power Test's staff of engineers, programmers, and electronics technicians are dedicated to making sure that our system is on the cutting edge of technology as engines and test requirements change.

A Complete Testing Solution

Power Test provides a full range of data acquisition and control systems and accessories for engine, chassis, and transmission dynamometers. Whether you are dealing with new installation or looking to repair, upgrade or replace an existing dynamometer, Power Test has a solution.

Power Test, Your Full Service Dynamometer Manufacturer

Power Test can provide facility design and installation of every dynamometer we sell. We also offer a complete line of support equipment, including ventilation systems, exhaust systems, auxiliary cooling systems, and water recirculation systems.

Contact your Power Test representative or visit our web site at www.pwrtst.com for more information.