APPLICATION NOTE

CAS DATALOGGERS

Fully-Automated Monitoring of Engine Test Equipment

Precision Electrical Measurement Using Delphin

Motor Test stands are required during the automotive R&D phase for serial testing and endurance trials. Measurements taken of engine test equipment during the developmental phase such as Temperature and Voltage are fully automated whenever possible. Sensors check the electrical and mechanical properties of the test sample as well as temperature patterns and overload operation. Testing conditions can vary widely–from the tiniest of motors to large drives in the megawatt range–and need to be adapted to customer requirements.

The modular design of Delphin Expert devices, as well as the compact Expert Key devices, provide an inexpensive, fully-automated solution for motor test stands. In conjunction with a tailor-made ProfiSignal software application, Delphin hardware enables professional measurement and simplifies reporting.

Application Features

- Easy-to-use, automated testing procedures
- Test sample conditioning management, voltage supply, frequency converters, and switch matrixes
- Time-synchronized temperatures, pressures, rotations, electrical measurements and torques
- Precision electrical measurement via power measurement units
- Online monitoring of threshold values during the testing procedure

Practical Example

In an example engine test system, technicians are testing explosion-protected motors during their developmental stage at five independent stations. A single test procedure can comprise multiple, mainly automated, sub-tests. Delphin Expert devices record data, manage the test stands, and are responsible for all test-voltage management.

Delphin Expert hardware controls all relay matrixes and frequency converters as well as all air-conditioning requirements. The devices exchange information directly with each other and require no PC support. Secure and problem-free processing is assured through control redundancy.

Typical Areas of Application:

- Cold-resistance measurement and extrapolation of winding resistances
- Non-load testing
- Rated load testing
- Load curves testing
- Overload trials
- Locked rotor testing
- Torque-speed characteristic curve
- Testing of voltage series
- Determination of efficiency
- Heat testing

Expert Data Acquisition & Control System

Expert Logger systems have been developed for use as modular measurement, control and monitoring units. They have been used successfully in the fields of process technology, test engineering, and research and development. Expert devices process any signal quickly and reliably from just a few thermocouples right up to thousands of measurement points spread over several plant areas.

LogMessage Data Acquisition Systems

LogMessage Data Loggers are advanced high-speed data logger for demanding applications. They are suitable for stand-alone data logging, product testing, quality and reliability testing, process monitoring, R&D, and fault analysis. Virtual internal channels allow calculations, statistics, and various other functions.

Loggito Data Acquisition & Control System

Loggito systems are used worldwide in many different data logging, distributed data acquisition, and testing applications. I/O modules are available for any number of channels and sensor types. A network interface enables Loggito devices to be integrated into a TCP network or to be directly connected to a PC workstation or laptop computer. Online measurement data can be transmitted, saved and processed. The data can be stored simultaneously within the Loggito device itself.

For more information on Delphin Data Acquisition Systems, monitoring engine test equipment or to find the ideal solution for your application-specific needs, contact a CAS DataLogger Application Specialist at **(800) 956-4437** or www.DataLoggerInc.com.