

MACHINE MONITORING USING ANALYSIS PREVENTS FAILURES

HIGH-SPEED DATA COLLECTION PROVIDES MACHINE BREAKDOWN ANALYSIS



Plant machinery and processes are controlled by PLC systems or industrial PCs that link digital and analog systems into complex programmable procedures using [deterministic algorithms](#). Organizations stand to lose a lot of money if the process gets fouled, causing failures and irregular production patterns to occur. It is impossible to manually acquire and analyze all the data fast enough because of the processing speed and the overall amount of data generated. Using a high-speed, [machine monitoring](#) data logger to acquire the physical data from a PLC, industrial PC, or directly from the machines and then analyze at real-time speed to determine a fault is the only

option to prevent catastrophe.

DATA LOGGING FOR FAULT DIAGNOSTICS

An ideal device for many machine monitoring applications, the [Delphin Expert Transient](#) Data Acquisition System is a device able to synchronously sample each analog and digital input at speeds up to 50kHz each, independently determine if a fault has occurred in milliseconds, and then react accordingly by starting a shutdown sequence, activating a local alarm or sending an email notification to a desired email address.

Measurement data can be recorded either continuously or according to triggered events like the start of a process or when a threshold is reached capturing only the data that is of interest. Later analysis using a signal sequence diagram is especially useful in providing an overview of the chronology leading up to the fault.

The Expert Transient is equipped with powerful field-programmable gate array (FPGA) technology allowing quick program updates in response to local variables increasing its flexibility. The Expert Transient does not need PC support like most data acquisition systems because the internal 16 GB of memory allows for stand-alone operation while parallel recording to a high-capacity external NAS device is also supported, or the Expert Transient can be outfitted with an optional Wi-Fi interface.



PROFISIGNAL SOFTWARE

By using [ProfiSignal](#), you can portray and analyze online and offline measurement data from Delphin devices. Only a few steps are required to go from configuring measurement channels to portraying trends. The portrayal of online and offline measurement data is virtually limitless. In online mode, users can zoom in on historical data with no

interruption in the data being displayed.

Channels are represented in a clear and intuitive Windows Explorer style environment and all measured values can be transferred to online storage using the included Data-Service software. Data files can be exported in a CSV file format for importing into most spreadsheet software packages or even fed into operational SCADA systems using Modbus TCP, OPC UA or simple digital outputs to trigger the system response.

CUTTING EDGE DATA ACQUISITION

Delphin data acquisition systems solve a variety of measurement and control problems in industrial applications. They feature different analog and digital I/O configurations that can be used with a wide range of signal types including voltage, 4-20 mA current, thermocouple, RTD, and Resistance. Delphin data loggers also offer powerful alarm and programming capabilities making them perfect for process measurement and identification of fault events. Delphin systems can be used for local data acquisition and logging when connected to a PC, remote unattended data collection connected to the internet or stand-alone devices.

For more information on [Delphin Data Loggers](#), 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.