

## Connect Your Machines to the Cloud with Expert Devices

### *Flexible Solutions with Powerful Analysis Software*

The requirements placed on modern data acquisition systems are diverse. On the one hand, they must be reliable and flexible and provide high resolution. On the other, strong communication capabilities are expected. Access to measurement data from the internet or the cloud must be possible from different types of devices, both stationary and mobile. Additionally, measurement data analysis needs to be intuitive without a huge learning curve or complex software.

Today's machine manufacturers and plant engineers want continuous online access to their products – located anywhere in the world – during the installation and warranty periods, and also later for customer service purposes. This is required for fault analysis as well as for process optimization and the evaluation of long-term trends.

[Delphin Expert Series Data Loggers](#), in combination with ProfiSignal analysis software, meet all these requirements.

### Precision and high-resolution data acquisition

The **Delphin Expert series**—with its **Logger, Vibro and Transient** devices—enables stand-alone and fast data acquisition for any type of sensor signal, whether you need to measure data from voltage, current, RTD, thermocouple or vibration sensors.

For applications requiring high-level time resolution, the [Delphin Expert Transient](#) device is very cost-effective. This data logger can be used in fault-analysis applications for processing signals to the microsecond level. All Delphin Expert devices are equipped with internal data storage capabilities so that if the connection to the cloud fails, users don't lose any data.

Monitoring functions can also be performed **independently** within the device. Measurement data and limit-value violations can be forwarded to subsystems, and alarms can be issued via email or used to switch digital outputs.

### Highly communicative at field level

Often, analysis of machinery, systems and test stands is only feasible when all the relevant data can be recorded time-synchronized in one system. This generally means that in addition to connections to direct sensor signals, additional third-party systems

and black boxes also need to be integrated into the measurement data acquisition system. The Expert device is the necessary centralized data collection point for this. Control systems can be coupled via a range of fieldbus interfaces such as Profibus, Modbus RTU and TCP, and CAN. Expert Logger devices utilize real-time clocks which can be synchronized with a time server or GPS to enable all measurement data to be recorded with a precise time stamp.

## Connections to the cloud

Connecting an Expert device to the cloud is possible for a wide range of application scenarios:

In **online applications**, users can use an internet-connected PC to access current and historical measurement data and portray it in trend diagrams.

The Delphin "DataService" software is run on a server in the cloud. Connection of Expert Logger devices to the cloud takes place wirelessly via LTE or LAN/WLAN unsecured via VPN. Delphin's DataService saves the measurement data to a database on the cloud server and portrays measurement data, both online and historical, in trends for users.

In **offline applications**, the Expert device regularly 'pushes' the internal data memory contents onto a cloud drive. Users can then access the measurement data from the cloud and evaluate it offline using Delphin Profisignal software.

Off-line applications require only cloud-based server storage. Here the Expert Logger is connected to the internet via LTE or LAN/ WLAN and transfers its off-line measurement data using FTP, CIFS or NFS. When required, transfer to the server can also be made via a VPN. Users can then download files from the cloud server and evaluate data off-line using ProfiSignal software which provides secure and easy recording of all measurement data.

## Latest standard using OPC UA

All Expert devices can be optionally equipped with an OPC UA Client/Server interface. These equip Expert series devices for the universal exchange of measurement data at field level and for the requirements of Industry 4.0. Measurement data and limit-value violations can be immediately transmitted to subsystems via OPC UA. The OPC UA interface also offers data exchange to PLCs and connections to process control systems.

For more info on [Delphin Data Loggers](#), or to find the ideal solution for your application-specific needs, contact a **CAS DataLoggers Application Specialist** at **(800) 956-4437** or visit our website at [www.DataLoggerInc.com](http://www.DataLoggerInc.com).