

## INDUSTRIAL TEMPERATURE DATA LOGGING SYSTEMS

### CAS DATALOGGERS OFFERS WIDEST RANGE OF STYLES

Do you need to monitor the temperature of industrial equipment or of an industrial process? At CAS DataLoggers we sell hundreds of [industrial temperature monitoring devices](#) and systems each year. Our [industrial data loggers](#) are ideal for a wide variety of applications including oven temperature profiling, equipment and process monitoring, environmental monitoring, and more. We've put together this quick guide exploring some of the key capabilities of our industrial data loggers which replace labor-intensive and inaccurate manual measurements. By automating the data collection process, industrial data loggers provide timely, mistake-free data, and can automate the archival process.

### DATA LOGGER TYPES

Broadly speaking, our industrial temperature data loggers can be divided into 2 categories:

- **Single-input dataloggers** are designed to measure one parameter, temperature, using a specific type of sensor. These loggers are available with 1 to 8 channels and are ideal for applications where cost is a concern.
- **Universal input dataloggers** are available with a capacity up to hundreds of input channels along with the ability to accept multiple sensor types such as voltage, current, pressure, flow, etc. They can be used to record multiple types of data on a piece of equipment or within a production process.



Our rugged and reliable intelligent data loggers offer a host of additional features to increase their value in an application including:

- Built-in logic and calculation capabilities

- Sophisticated alarm functions with local outputs and email notification
- Automated data transfer via email or FTP
- Support for industrial communications protocols such as Modbus and Profibus to interface with PLC's, HMI's, or other intelligent sensors.

## FIND THE PERFECT PRODUCT

Our data loggers are ideal for temperature logging in many applications including process monitoring, temperature profiling, fault identification, quality control process documentation, R&D, and more. In addition to the standard data logging function, network-connected data loggers can provide monitoring and alarming functions that increase their value to the business.

At CAS DataLoggers, our Applications Specialists know the right questions to ask to determine the ideal industrial temperature monitoring system for your application. These include:

- How many inputs are needed?
- What is the required accuracy?
- What type of sensor(s) will be used?
- How much data do you need to store?
- How often do you need to record a measurement?
- Do you need an alarm either locally or remotely?
- Do you require a real-time display?
- How will data be viewed or retrieved?
- Do you need to interface the data logger with other equipment or computer systems?

We also understand that cost is important so we offer you instruments with added value that goes beyond price alone. We also realize that there is no one-size-fits-all solution so we offer an extremely wide range of devices to cover virtually any application. Here are a few manufacturers producing popular industrial temperature monitoring solutions:

## DATA TAKER

[dataTaker](#) data loggers are one of the workhorse products in our portfolio. These sophisticated

and versatile loggers can connect to almost any type of sensor. They also offer powerful alarm and programming capabilities allowing them to process measurements and initiate actions on their own. Their extensive communications features include serial, USB, and Ethernet with support for Modbus RTU/TCP, FTP, and email.

They are available in a range of models with 2 to 16 input channels along with channel expansion modules that allow over 900 inputs depending on sensor type. For example, the [dataTaker DT80](#) is an intelligent data logger with an extensive array of features allowing it to be used across many different applications. The dataTaker DT80 allows up to 10 differential or 15 common-referenced analog inputs for use in many combinations.

This robust, standalone, low-power data logger features USB memory stick support for data retrieval, 18-bit resolution, extensive communications capabilities, and a built-in display. The DT80 also has Modbus and slave interfaces for use with Modbus sensors or with existing SCADA systems, switchable 5V/12V regulated output to power sensors, Ethernet with web, FTP, and email support. The dEX software provided with the logger allows users to configure the DT80, access logged data, and see current measurements as mimics or in a list using any web browser.

## Novus

CAS also offers the [Novus FieldLogger](#), a versatile and cost-effective industrial data logger that captures analog signals at high resolution and speed. Easy to configure and operate, the FieldLogger has 8 configurable analog inputs that can read thermocouples, RTDs, voltage, and current signals. This logger also has 2 relay outputs and 8 digital channels individually-configurable as inputs or outputs. The RS-485 interface can operate as a MODbus RTU master or slave allowing users to expand the system using Modbus expansion modules and wireless communication accessories or to interface the FieldLogger to other systems.



The [Novus AirGate Modbus](#), a wireless multifunctional gateway, allows the transparent and easy

insertion of wireless branches into existing wired Modbus RS-485 networks. The AirGate Modbus can operate as a Modbus Master, a multiplexer, or a simple wireless RS-485 extension. It greatly simplifies the collection of data from multiple devices within a plant by eliminating the need to run wires back to a central collection point.

## T&D

[T&D](#) offers compact, 1 and 2 channel wireless temperature loggers for harsh environments with Wi-Fi, Bluetooth, Ethernet, or USB interfaces. Among the most popular products we offer, the TR-71wb and TR-75wb offer 2 temperature measurement channels, built-in WiFi and Bluetooth interfaces, simple setup, connection to the T&D WebStorage Service for online data monitoring, and a mobile app all for just over \$200.

Another option is the T&D [RTR-500 Series of Wireless data loggers](#) which use a 900 MHz wireless communication link to automatically transmit data from multiple, single-channel temperature



data loggers back to a central base station/gateway which can push the data to the WebStorage service or a local PC. With a wireless communication range of up to 500 ft. (150 meters) it allows data connection at multiple points with no hassles - you simply register the loggers with the base station, mount the low-cost battery near the measurement location, route the sensor to the measurement point, and start collecting data! You can easily expand the wireless communication range by registering an RTR-500 as a repeater.

T&D's [WebStorage Service](#) is the perfect way to access your recorded data via the internet. This free cloud service is ideal for storing and viewing data recorded in remote places or for allowing several people to view the same recorded data at their convenience. Data sent to the WebStorage Service can be accessed via the browser on your computer or mobile device from anywhere, anytime. Data storage capacity is 20MB or 450 days depending on the device. The WebStorage Service provides alarm notification both through the web page and via e-mail notifications plus the ability to download saved data.

## DELPHIN

[Delphin Technology](#) offers three families of data acquisition systems with models to fit virtually any type of project. Designed expressly for industrial applications, the [ProfiMessage](#) is a modular system consisting of a main controller chassis, additional slave chassis if needed, and a family of I/O cards for analog and digital signals. The ProfiMessage provides fast, high accuracy measurements, expandability to handle hundreds of channels, and the ability to handle a wide range of sensors. A key feature of the ProfiMessage system is the support for multiple communications protocols including Modbus RTU and TCP, CANbus, and Profibus to allow easy integration with other devices in an industrial environment. Like all Delphin products, it utilizes Profisignal, a flexible, scalable software package for configuration, live data presentation, analysis, and report generation.

Next in line is the [Expert family](#) of data acquisition systems which includes 4 main types: Expert Key, Expert Logger, Expert Vibro, and Expert Transient with over 20 models with different numbers of channel and channel types. Of particular interest, the Expert Key and Expert Logger are well suited for temperature measurements with support for thermocouples, RTDs, and thermistors. The main difference is the Expert Key is a PC connected data acquisition system while the Expert Logger can operate as a standalone device, on a network, or connected to a PC. Like the ProfiMessage, they utilize the Profisignal software package for data presentation and analysis.



Finally, there is the [Loggito](#), a compact, distributed data collection system. It comes in USB, Ethernet, and WiFi versions. Each individual unit has 4 to 8 channels suitable for temperature measurements using thermocouples or RTD's along with voltage and current measurements. The Ethernet and WiFi models are ideal for projects that require measurement at multiple locations. They can be easily deployed at several different pieces of equipment or spots within a manufacturing process with the data seamlessly integrated together within the Profisignal software. For applications that require more than 8 inputs, a master unit can be clustered together with one or more slave units via USB to build larger systems.

One of the most powerful parts of Delphin systems is the [ProfiSignal software](#). It seamlessly supports all of the Delphin data acquisition and data logging systems. It provides a comprehensive set of capabilities including live data presentation with analysis, customizable dashboards, user input, automation, report generation, historical database storage, alarm management and much more. Recently, it has been updated with a web presentation option that allows the creation of custom web pages containing measured data which can be view using a standard web browser on a PC or mobile device.

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For further information on [Industrial Temperature data loggers](#), or to find the ideal solution for your application-specific needs, contact a CAS Data Logger Application Specialist at **(800) 956-4437** or [www.DataLoggerInc.com](http://www.DataLoggerInc.com).