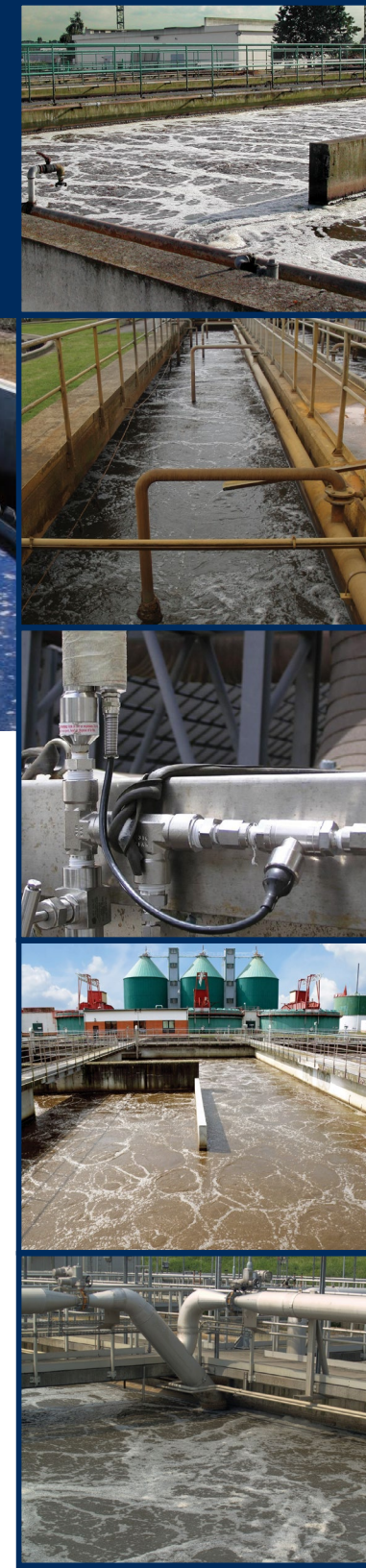# DATA LOGGING SOLUTIONS
WATER TREATMENT & WASTEWATER

Across the country, a vast network of municipal and private facilities ensure protection of both the environment and public health in regards to water treatment.

Whether monitoring drinking water from the source or treating wastewater before it can be released into the ecosystem, managing water resources involves multiple highly complex processes. MadgeTech, a leader in data logger technology based in Warner, New Hampshire, offers a number of data logging tools to assist in compliance with local, EPA, and National Primary Drinking Water regulations. Here are just a few areas in which MadgeTech offers water treatment solutions:

Water Level Monitoring

Water Temperature Monitoring

Water Pressure Monitoring

pH Monitoring

4-20 mA Output

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The MadgeTech Advantage

Ensure safety, quality and efficiency by measuring and recording crucial data for inconsistencies that directly impact the success of a business. Our customizable data logging solutions provide real-time monitoring for applications where the slightest change in environment could be destructive. Coupled with the accuracy and reliability of our products, we also offer free software and cloud services, making compliance and validation reporting a breeze.

Why Choose MadgeTech?

At MadgeTech we take pride in maintaining meaningful relationships with our customers, going above and beyond to turn their everyday problems into new data logging solutions. To ensure the instrument's accuracy, MadgeTech offers in-house standard and customized calibration services, including ISO/IEC 17025 accredited calibrations for certain products.

Benefits:

- ▲ Calibration
- ▲ ISO/IEC 17025 Accreditation
- ▲ IQ/OQ/PQ On-Site Services
- ▲ Free Technical Support
- ▲ Free Software
- ▲ Cloud Services
- ▲ 21 CFR Part 11 Compliance

MadgeTech data loggers are designed, manufactured and serviced in the USA and distributed worldwide.

HEADQUARTERS
Warner, New Hampshire

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MadgeTech data loggers can accurately monitor and record water level and temperature over time in harsh, difficult environments to assist in compliance with standards enforced by the Environmental Protection Agency and National Primary Drinking Water Regulations.

Submersible Water Level & Temperature Data Logger

The **Level1000** is a rugged, submersible, battery powered, stand alone water level and temperature data logger. Its stainless steel enclosure makes it perfect for use in lakes and streams. This is an all-in-one, compact, portable, easy-to-use device that will measure and record data for up to 16,383 measurements. The storage medium is non-volatile solid state memory, providing maximum data security, even if the battery becomes discharged. The device can be started and stopped directly from your computer, and its small size allows it to fit almost anywhere. The Level1000 data logger makes data retrieval quick and easy. Simply plug it into an empty COM or USB port and our user-friendly software does the rest. Data can be displayed in pressure measurements such as feet, inches, meters, centimeters, millimeters or PSI.

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Water Temperature Monitoring

The temperature of wastewater is a major concern because when temperature levels are too high, it can have an impact on the microorganisms in the activated sludge system. The maximum temperature of the wastewater entering a biological reactor should be less than 35 °C (95 °F). Any higher temperatures will damage the biological system in the water.
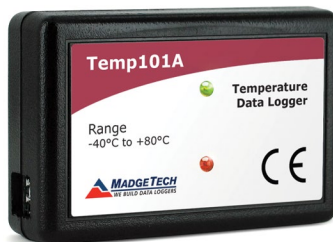
Submersible Temperature Data Logger

The **HiTemp140** series data loggers are MadgeTech's solution for precise temperature monitoring. These data loggers can indefinitely withstand temperatures of up to 140 °C (284 °F) and have an accuracy of ±0.1 °C (±0.18 °F). The HiTemp140 features a rigid external RTD probe capable of measuring extended temperatures, up to 260 °C (500 °F). Varied probe lengths are available up to 7 inches to best fit user needs.

Submersible, Miniature Temperature Data Logger

The **MicroTemp** is a miniature, submersible, self-contained temperature data logger. Only 2.6 inch (66 mm) tall and 0.7 inch (18 mm) in diameter, this data logger can easily fit into the smallest spaces. Don't let the diminutive size fool you — this is an industrial grade instrument which boasts an accuracy specification of ±0.5 °C and will operate in temperatures from –40 °C to +80 °C (-40 °F to +176 °F).

Ambient Temperature Data Logger

For many applications that require the monitoring of ambient temperature, the **Temp101A** is the ideal solution. The Temp101A can measure ambient temperature from -40 °C to 80 °C. This compact device can be placed virtually anywhere to provide an accurate temperature record of the environment. Use several Temp101A's to capture a thorough mapping of large facilities.

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≈ Water Pressure Monitoring

Maintaining correct pressure is necessary to guarantee that water treatment systems are operating as intended. Low pressure may be indicative of problems within the system that lead to sluggish operation while higher-than desired pressures can be damaging to sensitive equipment. MadgeTech manufactures several data loggers that carefully monitor pressure throughout water treatment to ensure process efficacy and protect system integrity.

Differential Pressure & Temperature Data Logger

The **PRTemp1000D** is a rugged, submersible data logger that records ambient temperature and differential pressure. The device is designed to record over long periods of time at the user selected reading rate and has a pressure accuracy of ±.25 % over the Full Scale Range, making the device extremely accurate. The stainless steel enclosure allows it to withstand harsh environments and the flexible cable is equipped with dual 0.25 inch NPT connections for easy installation.

PRTemp1000D Pressure Range

Range	0 - 30 PSIA/PSIG	0 - 100 PSIA/PSIG	0 - 300 PSIA/PSIG	0 - 500 PSIA/PSIG
Resolution	0.002 PSIA/PSIG	0.005 PSIA/PSIG	0.02 PSIA/PSIG	0.05 PSIA/PSIG

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≈ Water Pressure Monitoring

Pressure (Transient) & Temperature Data Logger

The **PR1000** is a pressure and temperature data logger that accurately records data at user programmable reading rates, over long periods of time. The device can be deployed in the field to record data for weeks or even months based on the user selected reading rate. The rugged stainless steel design allows it to be placed in harsh environments which makes it well suited for steam pressure systems. The PR1000 comes standard with a ¼ inch NPT fitting, which allows it to be connected to almost any pressure adapter.

The PR1000 can also monitor and record transient pressure through software configuration of user defined trigger thresholds and time periods. The logger can be configured to record measurements at rates as fast as 128Hz or as slow as once every 24 hours.

The non-volatile memory has a capacity of over 1 million readings.

PR1000 Pressure Range

Range	0 - 30 PSIA/PSIG	0 - 100 PSIA/PSIG	0 - 200 PSIA/PSIG	0 - 300 PSIA/PSIG	0 - 500 PSIA/PSIG	0 - 1000 PSIA	0 - 5000 PSIA
Resolution	0.002 PSIA/PSIG	0.005 PSIA/PSIG	0.01 PSIA/PSIG	0.02 PSIA/PSIG	0.05 PSIA/PSIG	0.05 PSIA	0.2 PSIA

pH Monitoring

Whether treating drinking water for human consumption or preparing wastewater to be released back into the environment, monitoring pH is one of the most important aspects of the treatment process. Monitoring the pH of drinking water is crucial because acidic (low pH) water will leach metal from pipes, causing health risks and damaging infrastructure while basic (high pH) water often has an off-putting taste. In wastewater applications, pH adjustment helps remove heavy metals and other dangerous toxins from the water. To support these processes and more, MadgeTech offers user-friendly pH logging solutions.

pH Data Logger

The **pHTemp2000** is a pressure data logger equipped with an LCD screen. The 8 button keypad and large LCD provide convenient access to current data and recorder setup. Available on-screen data include: statistics (min, max and average), recording status (start, stop and recording rate) and calibration information (data calibrated, date for recalibration). The LCD also displays a graph of the last 100 readings to show data trends.

This rugged, splash-proof (IP65) device has one of the largest memory capacities of any similar data recorder on the market, logging up to 262,143 readings. The non-volatile memory will retain recorded data, even when battery power is lost.
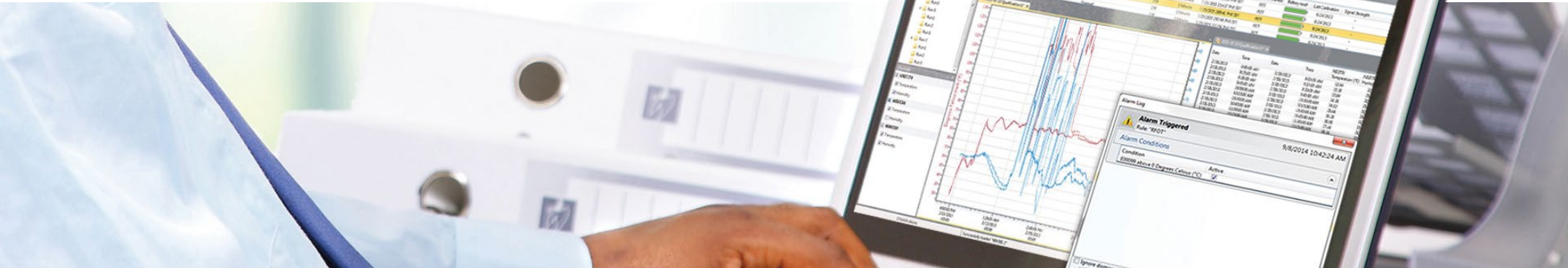
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MadgeTech's process data loggers are ideal for measuring and recording 4-20 mA output from wastewater instrumentation, such as flow meters. The devices are engineered for accuracy and flexibility unequaled in the 4-20 mA loop sensor and control industry. MadgeTech loggers can be inserted almost anywhere because they add very little resistance to the loop (10 Ω typical). Additionally, customized Engineering Units can be defined to map the measured data to almost any unit imaginable.

Low Level DC Current Data Logger

Flow rate can be recorded for analysis and record keeping, which aids in accountability reports for applications such as wastewater monitoring, storm water studies, stream flow recording and irrigation channel research. The **Process101A** data logger, used to record flow rates, is simply connected to a flow meter, then programmed to start and deployed in the field.
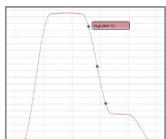
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MadgeTech 4 Software

The simple, easy-to-use, Windows-based software enables the user to effortlessly collect, display and analyze data. A variety of powerful tools can be used to examine, export, and print professional quality reports with just a click of the mouse. This software can be downloaded for free from the MadgeTech website.
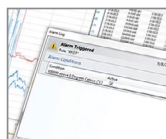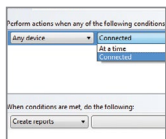

Cooling Flags
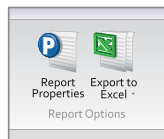

Graph View

Tabular Data View

Alarm Notifications

Automation

Export to Excel

MadgeTech 4 Software Customizable Features and Options

MadgeTech 4 Software can communicate with multiple loggers through multiple interface cables. Capable of simultaneous start, stop and download of over 100 devices, this software serves as your virtual command center for large scale facilities and small. Display your data in graphs, with tabbed views and multi-monitor support. Utilize the infinite graphing flexibility by combining channels and datasets as desired. All graphing makes use of accelerated graphics hardware for real-time updating and high performance visuals.

MadgeTech 4 Software is designed with a built-in database for automatic storage of downloaded data. The look and feel is organized much like standard email programs to aid in user friendliness and ease of use. MadgeTech 4 Software also offers extensive alarming options across multiple devices, wireless and non-wireless. Alarm output options include email, on-screen, text message and run-a-program alerts.

MadgeTech 4 Software has a powerful and comprehensive statistics system that allows the user to customize and view statistics as desired. Another feature is customizable engineering units. This enables users to support and program devices with many different unit types as well as the ability to display them as an alternate unit if desired.

Software Features

- Multiple Graph Overlay
- Statistics
- Digital Calibration
- Zoom In / Zoom Out
- Cooling Flags
- Lethality Equations (F0, PU)
- Mean Kinetic Temperature
- Full Time Zone Support
- Data Annotation
- User Friendly File Management
- Min. / Max. / Average Lines
- Timeslice
- Data Table View
- Automatic Report Generation
- Summary View
- Workflows / Automation

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