

DATA LOGGING SOLUTIONS

To aid in

LABORATORY, WATER, AND WASTE WATER

In Accordance with

- EPA Regulations
- National Primary Drinking Water Regulations

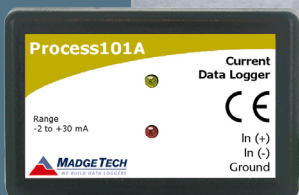
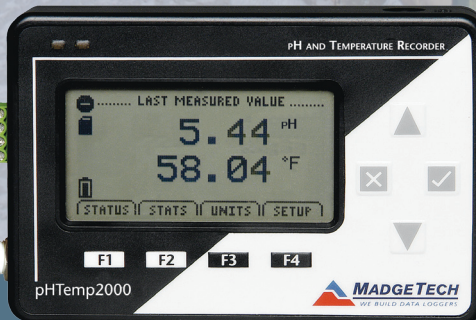


HiTemp140
High Temperature Logger



PR140
Pressure Logger
for High Temperatures

pHTemp2000
pH and Temperature Logger



Process101A
DC Current
Logger



MadgeTech, a leader in data logger technology, offers a number of data logging tools to assist in complying with EPA and National Primary Drinking Water regulations.

AUTOCLAVE VALIDATION



The MadgeTech **HiTemp140** series has been developed exclusively for validating temperatures in autoclaves. These data loggers can measure and withstand temperatures up to 140°C (284°F) and have an accuracy of $\pm 0.1^\circ\text{C}$. Each data logger is calibrated traceable to NIST standards. The devices record measurements at user specified intervals, validating the entire cycle. Probe options are available in 1", 2", 5.25", and 7" rigid models, or a 24" flexible stainless steel model.

MadgeTech's **PR140** is built for use in validating pressure within autoclaves. This rugged device can withstand temperatures up to 140°C and is completely submersible (IP68). The PR140 has an accuracy of ± 0.03 Bar (± 0.435 PSI) over a range of 20°C to +140°C and has a measurement range of 0 to 5 bar (0 to 72.5 PSIA).

State and Federal regulations mandate records for each autoclave cycle test. The MadgeTech software makes it simple to maintain the required records to validate the entire autoclave cycle. Our software also offers calculations of MKT, Min/Max, sterilization, pasteurization, and standard deviation.



HiTemp140

HiTemp140-PT

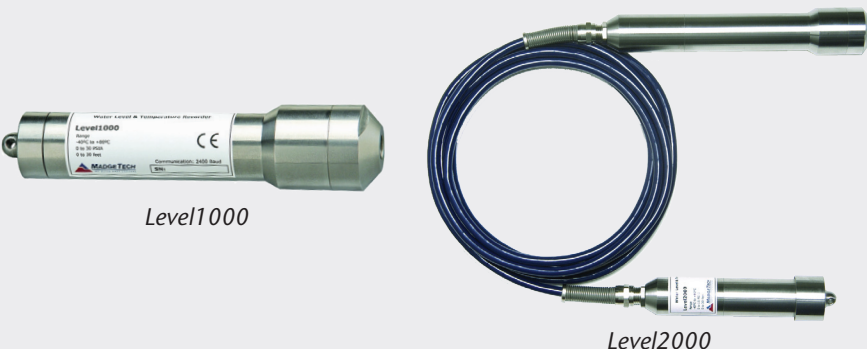
PR140

Standard autoclave cycle:

- **250°F (121°C), at 15 PSI, for a minimum of 60 minutes**
The HiTemp140 series records temperatures up to 140°C, indefinitely.
- **Record data at 2 minute intervals**
The HiTemp140 series can record every 2 minutes.
- **Each autoclave must have a permanent record of all cycles**
The software provides graphical and tabular data.
- **Each autoclave should have a daily log book**
Logs can be printed or saved electronically.

MONITOR AND RECORD WATER LEVELS AND TEMPERATURE

The **Level1000** and **Level2000** accurately monitor and record water level and temperature over time in harsh, difficult environments, to help assist in compliance with standards set by the Environmental Protection Agency and National Primary Drinking Water Regulations.



Level1000

Level2000



MONITOR AND RECORD PRESSURE, TEMPERATURE AND pH LEVELS

Evaluate and record temperature and pressure: Temp1000 and PRTemp1000

These rugged data loggers can record temperature or temperature and pressure remotely. The **Temp1000** has a built in temperature sensor and can be submerged down to a depth of 230'. The **PRTemp1000** has a built in temperature and pressure sensor making it very compact. The device is equipped with a 1/4" NPT that can be directly connected to a 1/4" NPT female fitting. The PRTemp1000 also may be submerged down to 230'.



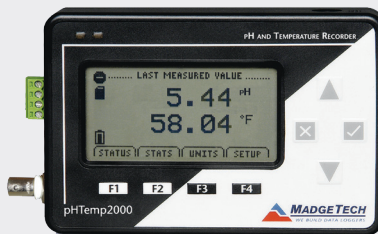
PRTemp1000



Temp1000



Monitor pH levels and temperature: pHTemp2000



pHTemp2000

MadgeTech's **pHTemp2000** measures and records the full pH range from 0 to 14pH with an accuracy of ± 0.1 pH. The device has a male BNC connector to interface directly with electrodes that have a female BNC connector. No additional transmitters are needed! The pHTemp2000 can store up to 131,071 readings, and features a large LCD for on the spot observations.

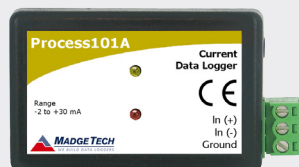
MONITOR AND RECORD 4-20mA OUTPUT

MadgeTech's process data loggers are ideal for measuring and recording 4-20mA output from waste water instrumentation, such as flow meters. The devices are engineered for accuracy and flexibility, unequaled in the 4-20mA loop sensor and control industry. They can be inserted almost anywhere because they add very little resistance to the loop (10Ω typical). Additionally, customized Engineering Units can be defined to map the measured data to almost any unit imaginable. For example, a 4-20mA water meter might exert 4mA current for 0 liters of water and 20mA current for 5 liters of water. Using Engineering Units, the logger can be set to natively display data in liters rather than milliamps.



The **Process101A** is ideal for waste water applications. This low level current data logger is available in three ranges, 20mA, ± 160 mA and ± 3 A. All of the ranges offer a 10 year battery life, a 4Hz reading rate, multiple start/stop functions, ultra-high speed download capability, 1 million reading storage capacity, optional memory wrap, battery life indicator, optional password protection, programmable high-low alarms and more.

Using the MadgeTech Software, starting, stopping and downloading from the Process101A is simple and easy. Graphical, tabular and summary data is provided for analysis and data can be viewed in A, mA or μ A. The data can also be automatically exported to Excel[®] for further calculations.



Process101A

MADGETECH DATA LOGGER SOFTWARE

This 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 reports with just a click of the mouse. This software can be downloaded for free from the MadgeTech website.

Key

- A** pHTemp2000 Graph
- B** pHTemp2000 Tabular Data
- C** Digital Calibration
- D** Engineering Units
- E** Summary
- F** Export to Excel®



Row #	Date & Time (EST)	Temperature	Units	Annotation	Potential	pH
1	Mar 05, 2012 01:37 PM	24.9	°C			7.0
2	Mar 05, 2012 01:38 PM	24.9	°C			7.0
3	Mar 05, 2012 01:39 PM	24.9	°C			7.0
4	Mar 05, 2012 01:40 PM	24.9	°C			7.0
5	Mar 05, 2012 01:41 PM	24.9	°C			7.0
6	Mar 05, 2012 01:42 PM	24.9	°C			7.0
7	Mar 05, 2012 01:43 PM	24.9	°C			7.0
8	Mar 05, 2012 01:44 PM	24.9	°C			7.0
9	Mar 05, 2012 01:45 PM	24.9	°C			7.0
10	Mar 05, 2012 01:46 PM	24.9	°C			7.0
11	Mar 05, 2012 01:47 PM	24.9	°C			7.0
12	Mar 05, 2012 01:48 PM	24.9	°C			7.0
13	Mar 05, 2012 01:49 PM	24.9	°C			7.0
14	Mar 05, 2012 01:50 PM	24.9	°C			7.0
15	Mar 05, 2012 01:51 PM	24.9	°C			7.0
16	Mar 05, 2012 01:52 PM	24.9	°C			7.0
17	Mar 05, 2012 01:53 PM	24.9	°C			7.0
18	Mar 05, 2012 01:54 PM	24.9	°C			7.0
19	Mar 05, 2012 01:55 PM	24.9	°C			7.0
20	Mar 05, 2012 01:56 PM	24.9	°C			7.0
21	Mar 05, 2012 01:57 PM	24.9	°C			7.0
22	Mar 05, 2012 01:58 PM	24.9	°C			7.0
23	Mar 05, 2012 01:59 PM	24.9	°C			7.0
24	Mar 05, 2012 02:00 PM	24.9	°C			7.0
25	Mar 05, 2012 02:01 PM	24.9	°C			7.0
26	Mar 05, 2012 02:02 PM	24.9	°C			7.0
27	Mar 05, 2012 02:03 PM	24.9	°C			7.0
28	Mar 05, 2012 02:04 PM	24.9	°C			7.0
29	Mar 05, 2012 02:05 PM	24.9	°C			7.0
30	Mar 05, 2012 02:06 PM	24.9	°C			7.0
31	Mar 05, 2012 02:07 PM	24.9	°C			7.0
32	Mar 05, 2012 02:08 PM	24.9	°C			7.0
33	Mar 05, 2012 02:09 PM	24.9	°C			7.0
34	Mar 05, 2012 02:10 PM	24.9	°C			7.0
35	Mar 05, 2012 02:11 PM	24.9	°C			7.0
36	Mar 05, 2012 02:12 PM	24.9	°C			7.0

Unit	Key	Unit Type	Description	Label
352	UNITVOLTS	Voltage	Volts	V
353	UNITMILLIVOL	Voltage	Millivolts	mV
354	UNITMICRODIV	Voltage	Microvolts	µV
358	UNITAMPRES	Current	Amps	A
369	UNITMILLIAM	Current	Milliamps	mA
370	UNITMICROA	Current	Microamps	µA
258	UNITPULSES	General	Pulses	#
259	UNITSTATE	General	State	

Device Name	Device Description	Serial Number	Device ID	Reading Number	Date and Time (EST)	Channel 1 Temperature (°F)	Channel 2 Absolute Pressure (PSIA)
1	PtTemp1000	A00000	PtTemp	1	2008-12-29 13:13:37	76.82	14.702
2	Temperature and Pressure Recorder	A00000	PtTemp	2	2008-12-29 13:14:37	76.82	14.7
3	Temperature and Pressure Recorder	A00000	PtTemp	3	2008-12-29 13:15:37	76.82	14.696
4	Temperature and Pressure Recorder	A00000	PtTemp	4	2008-12-29 13:16:37	76.82	14.698
5	Temperature and Pressure Recorder	A00000	PtTemp	5	2008-12-29 13:17:37	76.82	14.7
6	Temperature and Pressure Recorder	A00000	PtTemp	6	2008-12-29 13:18:37	77	14.694
7	Temperature and Pressure Recorder	A00000	PtTemp	7	2008-12-29 13:19:37	76.82	14.7
8	Temperature and Pressure Recorder	A00000	PtTemp	8	2008-12-29 13:20:37	76.82	14.702
9	Temperature and Pressure Recorder	A00000	PtTemp	9	2008-12-29 13:21:37	76.82	14.698
10	Temperature and Pressure Recorder	A00000	PtTemp	10	2008-12-29 13:22:37	76.82	14.696
11	Temperature and Pressure Recorder	A00000	PtTemp	11	2008-12-29 13:23:37	76.82	14.696
12	Temperature and Pressure Recorder	A00000	PtTemp	12	2008-12-29 13:24:37	76.82	14.698

Software Features

- Multiple graph overlay
- Statistics calculations
- Digital calibration
- Zoom in/ zoom out
- Cooling flags
- Average line
- Lethality equations
- Full time zone support
- Data annotation
- Min./max. line
- Data table view
- MKT (Mean Kinetic Temperature)
- Automatic report generation
- Summary view
- Multilingual