

# Data Logging Solutions

# FOOD PROCESSING

For USDA Regulation Compliance and HACCP Programs



Wireless  
Continuous  
Process  
Monitoring



Food  
Storage



Cooking and  
Cooling



Canning  
and Beverage  
Applications



Oven  
Temperature  
Monitoring



Food  
Shipping



Egg Shipping,  
Storage and  
Incubation

# Data Logging Solutions for Temperature Critical Food Processing Applications



MadgeTech has been a key resource for the food and beverage industry for over 20 years, offering a wide range of temperature monitoring solutions.

We have a deep commitment to facilitating regulatory compliance and promoting best practice in food safety. MadgeTech data loggers and monitoring systems have become synonymous with HACCP compliance and process verification throughout the food industry, both domestically and internationally.

Most importantly, the MadgeTech name is widely known for both quality and reliability.

As a provider of leading-edge technology, MadgeTech offers a diverse line of wireless data logging systems for environmental and facility monitoring. This allows FSQA personnel to see both product and process temperatures in real-time. From refrigerators to freezers and blast chillers, from the production floor to packaging and storage, MadgeTech provides an easily scalable temperature and humidity data monitoring solution for even the most challenging environments.

Our goal is to continue to provide the tools needed to help food safety professionals perform their jobs more effectively and efficiently.

When you think food safety, think MadgeTech.





# Wireless Continuous Process Monitoring



## Wireless Meat Temperature Monitoring

MadgeTech's **RFOT** wireless, continuous monitoring data logging system provides a streamlined solution for measuring and recording internal product temperatures throughout the cooking, smoking, cooling and storage of meat and food products. Users can configure email and text message notifications in the event a logger receives data outside of the desired range.



The RFOT monitors and records internal temperature of meat products during cooking, cooling and storage. It can be used inside smokers and other cooking processes up to 212 °F (100 °C) as well as coolers and freezers down to -4 °F (-20 °C). The RFOT is completely splash-proof and can withstand wash down cycles. Once deployed, loggers can be stopped and started remotely and real-time data can be viewed from a central PC or from a smartphone using MadgeTech Cloud Services.



MadgeTech wireless data loggers help users ensure that critical control limits are not exceeded by sending email or text notifications when temperature thresholds are met.



# Food Storage



## Applications

- Coolers
- Freezers
- Warehouses
- Thermal Mapping

## Features

- LCD Screen
- Audible and LED Alarm Indicators
- Battery Life Indicator

## Wireless Ambient Data Loggers

The **MadgeTech 2000A series** of wireless data loggers include models specifically designed to monitor ambient temperature and humidity in warehouses, coolers, freezers and other sensitive environments. Data from each 2000A logger can be viewed locally via LCD screen or remotely using MadgeTech 4 Data Logger Software or MadgeTech Cloud Services.

Programmable alarms can be set to alert users of undesirable temperature or humidity excursions. These alarms are audible and visible on the logger itself and users can also configure text message or email notifications.



**RFRHTemp2000A**  
Wireless Temperature and Humidity Data Logger with LCD display on wall mount.

## Wireless Thermocouple-Based Data Logger

The **RFTCTemp2000A** is a wireless thermocouple temperature data logger. This device can measure ambient temperature and be fitted with a thermocouple probe for targeted remote measurement. It accepts all thermocouple types, allowing the device to measure and record temperatures between -454 °F and +3308 °F (-270 °C to +1820 °C). The convenient LCD provides instant viewing of the current readings, as well as access to minimum, maximum and average statistics.



**RFTCTemp2000A**  
Wireless Thermocouple based Temperature Data Logger with LCD display on table mount.



# Wireless Logging in 4 Easy Steps

STEP 1

Setup the RFC1000's

## RFC1000

### Wireless Transceiver

The **RFC1000** is a wireless transceiver for the RFOT and RF2000A series of data loggers. The RFC1000 features a 7.0 inch (178 mm) pivoting external antenna, which increases the transmission distance and provides greater signal strength and also allows more flexibility with mounting orientation.



## RFC1000-IP69K

### Splash-Proof Wireless Transceiver

The **RFC1000** is a wireless transceiver for the RFOT and RF2000A series of data loggers. The RFC1000 features a 7.0 inch (178 mm) pivoting external antenna, which increases the transmission distance and provides greater signal strength and also allows more flexibility with mounting orientation.



STEP 2

Deploy the data loggers



STEP 3

Wirelessly start the data loggers

STEP 4

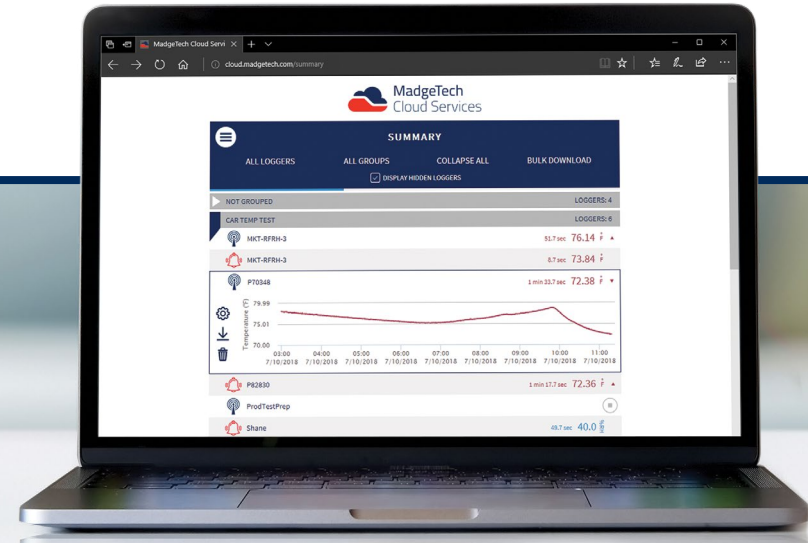
Data is instantly transmitted to a computer or cloud for real-time monitoring





# MadgeTech Cloud Services

Access Data Instantly and Securely  
from Anywhere in the World



The **MadgeTech Cloud** is compatible with all MadgeTech wireless data loggers, providing users with instant access to real-time data from any location. With the MadgeTech Cloud, data loggers can securely transmit data to be viewed on any Internet enabled device such as a computer, tablet or smartphone.

## Scalable Solution

The MadgeTech Cloud is designed to support organizations of any size. From a single data logger to a network consisting of hundreds of loggers, the MadgeTech Cloud provides facilities with on-demand data supervision, attainable results, and flexibility like never before. The MadgeTech Cloud gives users the power to have control of all their critical data right in the palm of their hand.

## Cloud Capabilities

All wireless MadgeTech data loggers can transmit data to the MadgeTech Cloud to be saved, viewed and controlled. The data is available for viewing from any Internet enabled device anywhere in the world. Equipped with many features, the MadgeTech Cloud is flexible enough to adapt to any data logging needs.

## New Logger Groups

Assembling data loggers is easier than ever thanks to the MadgeTech Cloud's Logger Groups. Users have the ability to organize data loggers into groups and subgroups, making all data easily accessible from one central location.

## Email & Text Message Alerts

The MadgeTech Cloud allows users to configure alarms to alert for no readings, channel thresholds or battery level. When an alarm is triggered, text message or email notifications are instantly sent, giving users the ability to view the data and assess the situation immediately.



Quick and  
Easy Setup



View Data  
From Anywhere



Access Data  
Instantly

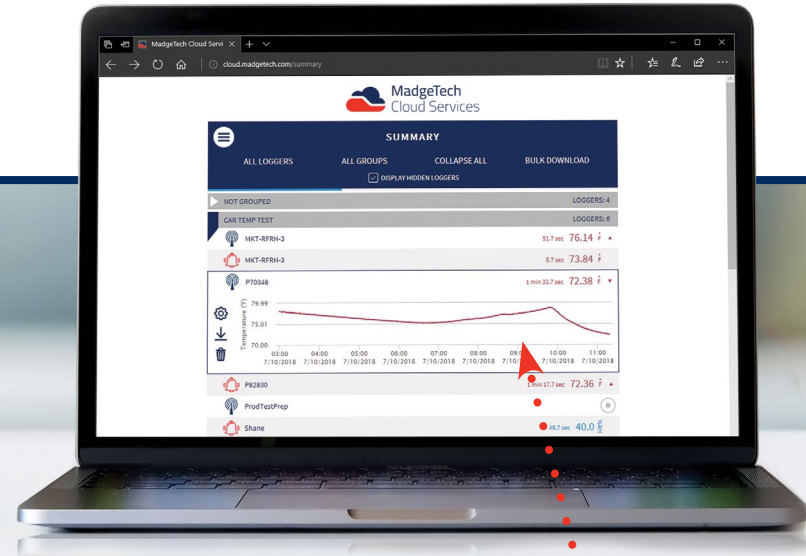


Email and Text  
Notifications



# MadgeTech Cloud Services

## Transmit Data to the MadgeTech Cloud with the RFC1000 Cloud Relay



Taking cloud data logging to a whole new level! The **RFC1000 Cloud Relay** is a data logging hub that connects to the Internet via Ethernet and transmits data directly to the MadgeTech Cloud. This allows users to remotely monitor and manage groups of data loggers throughout a large facility or multiple locations without the need of a central PC.

The RFC1000 Cloud Relay has the ability to transmit data for up to 64 data loggers with no limit on the number of cloud relays that can be connected to a cloud account. This provides users with the ability to obtain information from a single data logger to many data loggers in multiple locations.



Relay Data  
Directly to the  
MadgeTech Cloud



Long Distance  
Wireless  
Transmission



LED Indicators





# Cooking and Cooling



## Verify Wet or Dry Food Processing Applications

MadgeTech **HiTemp140** data loggers are designed for a wide range of food and meat processing applications to assist in compliance with HACCP guidelines and USDA regulations.

HiTemp140 loggers are made from food-grade stainless steel and come in a variety of both rigid and flexible probes. These rugged loggers can indefinitely withstand temperatures of up to 284 °F (140 °C) and are completely submersible, making them perfect to validate cooking, smoking or pasteurization processes.

For applications above 284 °F (140 °C), a thermal shield is available for HiTemp140 series data loggers. Made of food-grade PTFE, the Thermal Shield extends the operating temperature range of the data logger for extreme temperature monitoring.



MadgeTech data loggers help users monitor and record the internal temperature of meat during a process.

## Applications

- Cooking and Smoking
- Pasteurization Processes
- Roasting Ovens
- Lobster Boiling
- Equipment Validation/Profiling





# Canning and Beverage Applications



## Canning

The **CF200 Canning Fitting** securely attaches MadgeTech HiTemp140 data loggers to jar lids, cans or other containers, with the data logger probe inserted into the container to monitor internal temperatures. The CF200 can withstand temperatures up to 140 °C (284 °F) making it ideal for use in a variety of canning applications in a wide range of industries and environments. This accessory is compatible with the HiTemp140-FP, HiTemp140-PT-5, HiTemp140-2-TD and HiTemp140-5.25-TD data loggers.



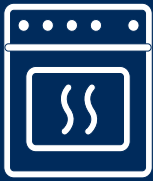
## Suitable Packaging Types

- Cans
- Jars
- Soft Pouches
- Rigid Plastic Containers
- Retort Packages

## Beverage Pasteurization

The **MicroTemp** and **MicroTemp100** are miniature, submersible temperature data loggers. At just 2.6 inches (66 mm) tall and 0.7 inches (18 mm) in diameter, these loggers can easily fit into beverage bottles to monitor and record temperatures from -40 °F to +212 °F (-40 °C to +100 °C) through the entire pasteurization cycle.





# Oven Temperature Monitoring



## Rotary & Conveyor Oven Monitoring

The **ThermoVault Max** is an extreme, high temperature thermal barrier designed for use with MadgeTech's HiTemp140-PT data logger models. Built to endure extreme temperature monitoring environments, this durable enclosure can withstand temperatures up to 752 °F (400 °C) and provides a best-in-class solution for the harshest of applications.

### Features

- No Wires or Thermocouples
- Temperatures up to 752 °F
- Food-Grade Stainless Steel
- Sleek Compact Design



MadgeTech data loggers help verify your equipment is working properly and assist in your preventative maintenance program.



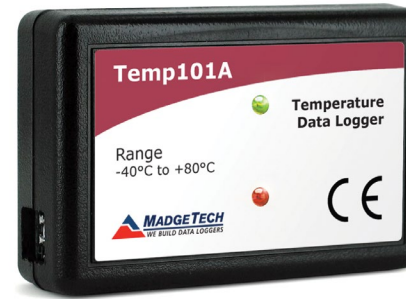


# Food Shipping



## Refrigerated Products

The **Temp101A** is second to none in the compact, portable and low cost data logger class. This device can measure and record ambient temperature from  $-40^{\circ}\text{C}$  to  $80^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$  to  $+176^{\circ}\text{F}$ ) and is approximately the size of a matchbox which allows for easy placement even in tight spaces. Combined with the ability to store over 2,000,000 readings makes the Temp101A the ideal solution for long term temperature deployment and monitoring cycles.



## Freezer Foods & Shipping Containers

The **CryoTemp** is a standalone ultra-low temperature logger that can measure as low as  $-122^{\circ}\text{F}$  ( $-86^{\circ}\text{C}$ ). The enclosure is splash-proof and equipped with LED lights to inform users when programmed temperature limits have been approached or exceeded.





# Egg Shipping, Storage & Incubation

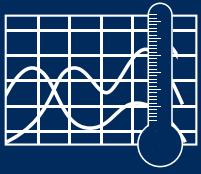


## Validating Egg Processes

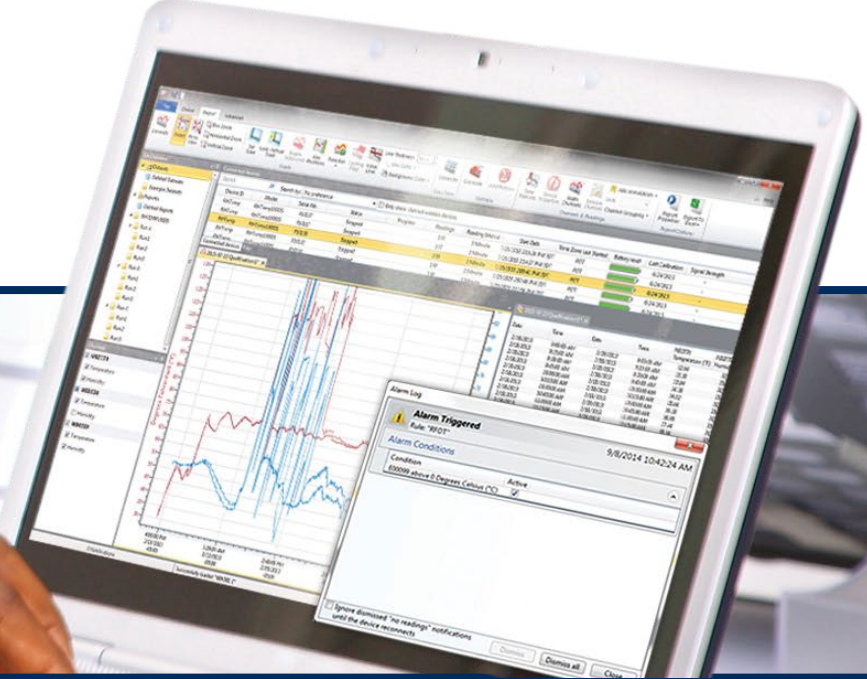
The **EggTemp** and **EggTemp-RH Thermal Shields** are enclosures for the **MicroRHTemp** data logger that are designed to thermally respond to an environment the same way a real egg does. The EggTemp is submersible and measures temperature, while the EggTemp-RH measures temperature and humidity, simulating the experience of the actual product.

These devices are commonly used in monitoring the shipping and storage of eggs as well as monitoring pasteurization cycles. The MicroRHTemp can record temperatures up to 140 °F (60 °C) and has a maximum memory capacity of 32,767 readings.





# MadgeTech 4 Software



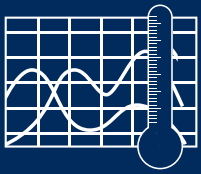
The simple, easy-to-use, Windows-based software enables the user to effortlessly collect, display and analyze data. A variety of powerful tools can be used to examine, export, and print professional quality reports with just a click of the mouse. This software can be downloaded for free from the MadgeTech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

## 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



The MadgeTech Data Logging Software makes record keeping a simple task. Easily tailor graphs and create custom reports for the product being processed to help comply with federal guidelines and regulations.



# MadgeTech 4 Software

## MadgeTech 4 Software Customizable Features and Options

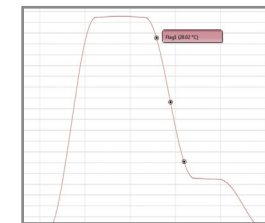
**MadgeTech 4 Software** can communicate with multiple loggers through multiple interface cables. Capable of simultaneous start, stop and download of over 100 devices, this software serves as your virtual command center for large scale facilities and small. Display your data in graphs, with tabbed views 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.



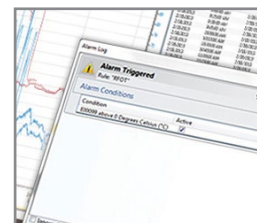
Cooling Flags



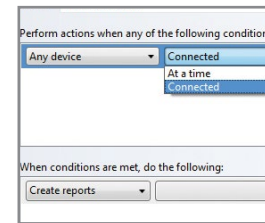
Graph View

Time	Time Zone	Delta
11:37 PM	-04:00	+00:00:00
11:47 PM	-04:00	+00:01:00
11:57 PM	-04:00	+00:02:00
12:07 PM	-04:00	+00:03:00
12:17 PM	-04:00	+00:04:00
12:27 PM	-04:00	+00:05:00
12:37 PM	-04:00	+00:06:00
12:47 PM	-04:00	+00:07:00
12:57 PM	-04:00	+00:08:00
1:07 PM	-04:00	+00:09:00
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1:27 PM	-04:00	+00:11:00
1:37 PM	-04:00	+00:12:00

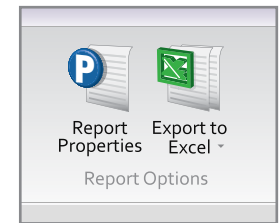
Tabular Data View



Alarm Notifications



Automation



Export to Excel



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