

# HiTemp140-M12

High Temperature Data Logger  
with an M12 Probe Connector



## PRODUCT USER GUIDE

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# PRODUCT USER GUIDE

## Product Overview

The HiTemp140-M12 is a rugged and versatile high temperature data logger featuring an M12 probe connector. Compatible with a wide variety of M12 RTD probe styles, this data logger is capable of measuring up to 850 °C (1,562 °F) (probe dependent).

All of MadgeTech's HiTemp140 data loggers have a water tight body enclosure made of food grade stainless steel and can be placed in environments with temperatures as high as 140 °C (284 °F). The operating range of the data logger body can be extended to higher temperatures when used with MadgeTech's thermal barrier options and a suitable probe.

A wide selection of compatible M12 probes are available on the market to choose from, making the HiTemp140-M12 the most dynamic data logger of its kind. With the ability to change probes as needed, this device satisfies a multitude of application needs with one powerful data logger versus the need for multiple loggers.

*Note: Specific M12 wiring configuration is required for compatibility (see page 3).*

## Water Resistance

The HiTemp140-M12 logger itself is rated IP40 and not submersible. It will inherit the IP rating of the probe it is attached to, allowing for potential submergibility, depending upon the probe.

## Installation Guide

### Installing the Software

The Software can be downloaded from the MadgeTech website at [madgetech.com](http://madgetech.com). Follow the instructions provided in the Installation Wizard.

### Installing the Docking Station

IFC400 or IFC406 (sold separately) — Follow the instructions provided in the Installation Wizard to install the USB Interface Drivers. Drivers can also be downloaded from the MadgeTech website at [madgetech.com](http://madgetech.com).

## Device Operation

### Connecting and Starting the Data Logger

1. Once the software is installed and running, plug the interface cable into the docking station.
2. Connect the USB end of the interface cable into an open USB port on the computer.
3. Place the data logger into the docking station.
4. The data logger will automatically appear under **Connected Devices** within the software.
5. For most applications, select **Custom Start** from the menu bar and choose the desired start method, reading rate and other parameters appropriate for the data logging application and click **Start**. (*Quick Start applies the most recent custom start options, Batch Start is used for managing multiple loggers at once, Real Time Start stores the dataset as it records while connected to the logger.*)
6. The status of the device will change to **Running** or **Waiting to Start**, depending upon your start method.
7. Disconnect the data logger from the interface cable and place it in the environment to measure.

*Note: The device will stop recording data when the end of memory is reached or the device is stopped. At this point the device cannot be restarted until it has been re-armed by the computer.*

### Downloading Data from a Data Logger

1. Place the logger into the docking station.
2. Highlight the data logger in the **Connected Devices** list. Click **Stop** on the menu bar.
3. Once the data logger is stopped, with the logger highlighted, click **Download**.
4. Downloading will offload and save all the recorded data to the PC.

**Note: This product is rated for use up to 140 °C (284 °F). Please heed the battery warning. The product will explode if exposed to temperatures above 140 °C (284 °F).**

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## Device Operation (cont'd)

### Trigger Settings

The device can be programmed to only record based off user configured trigger settings.

1. In the **Connected Devices** panel, click the device desired.
2. On the **Device** Tab, in the **Information** Group, click **Properties**. Or, right-click the device and select **Properties** in the context menu.
3. Select **Trigger** in the Properties window.
4. Trigger formats are available in **Window** or **Two Point Mode**. Window mode allows a high and/or low trigger set point, and a trigger sample count or “window” of time recorded when set points are exceeded to be defined. Two point allows for different Start and Stop setpoints to be defined for both the high and low triggers.

Refer to the **Trigger Settings - MadgeTech 4 Data Logger Software** video on [madgetech.com](http://madgetech.com) for instructions on how to configure Trigger Settings.

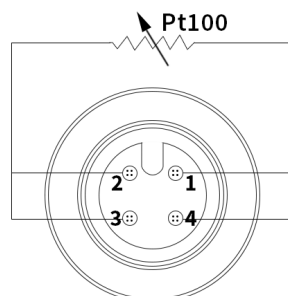
### Set Password

To password protect the device so that others cannot start, stop or reset the device:

1. In the **Connected Devices** panel, click the device desired.
2. On the **Device** Tab, in the **Information** Group, click **Properties**. Or, right-click the device and select **Properties** in the context menu.
3. On the **General** Tab, click **Set Password**.
4. Enter and confirm the password in the box that appears, then select **OK**.

## Wiring the Data Logger

HiTemp140-M12 connector is a 4 pin female M12 connection port which allows the user to change probes as desired. The HiTemp140-M12 will inherit the IP rating of the probe it is attached to, (up to, and including IP68/IP69K).



*The HiTemp140-M12 is compatible with probes that have the wiring configuration as shown above.*

## Probe Connection

### Connecting probes to the HiTemp140-M12

**Materials:** 15 mm wrench,  
Compatible Probe with  
M12 Connector



1. Connect the probe to the data logger, using the wiring diagram in the previous section.
2. Use a 15 mm hex wrench to tighten the threads and secure the probe to the data logger.

## Device Maintenance

### O-Rings

O-ring maintenance is a key factor when properly caring for the HiTemp140-M12. The O-rings ensure a tight seal and prevent liquid from entering the inside of the device. Please refer to the application note **O-Rings 101: Protecting Your Data**, found at [madgetech.com](http://madgetech.com), for information on how to prevent O-ring failure.

### Battery Replacement

**Materials:** ER14250-SM

1. Unscrew the bottom of the logger and remove the battery.
2. Place the new battery into the logger. Note the polarity of the battery. It is important to insert the battery with positive polarity pointing upward towards the probe. Failure to do so could result in product inoperability or potential explosion if exposed to high temperatures.
3. Screw the cover back onto the logger.

### Recalibration

MadgeTech recommends annual recalibration. To send devices back for calibration, visit [madgetech.com](http://madgetech.com).

## NEED HELP?



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## Ordering Information

<b>HITEMP140-M12</b>	PN 900227-00	High Temperature Data Logger with built-in M12 probe connector
<b>HITEMP140-M12-KR</b>	PN 902097-00	High Temperature Data Logger with built-in M12 probe connector with keyring end cap
<b>IFC400</b>	PN 900319-00	Docking station with USB cable
<b>IFC406</b>	PN 900325-00	6 Port, Multiplexer docking station with USB cable
<b>ER14250-SM</b> Formerly ER14250MR-145	PN 900097-00	Replacement battery for the HiTemp140-M12