

| Specification                                               | HiTemp140                                                                                                                                                                                                       |
|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Temperature Sensor                                          | 100 $\Omega$ platinum RTD                                                                                                                                                                                       |
| Probe Range                                                 | -200 °C to +260 °C (-328 °F to +500 °F)<br><b>*BODY OF LOGGER CANNOT EXCEED 140 °C</b>                                                                                                                          |
| Temperature Resolution                                      | 0.01 °C                                                                                                                                                                                                         |
| Temperature Accuracy                                        | $\pm 0.1$ °C/ $\pm 0.18$ °F (20 °C to +140 °C/68 °F to +284 °F)<br>$\pm 0.3$ °C/ $\pm 0.54$ °F (-20 °C to +19.99 °C/-4 °F to +67.98 °F)<br>$\pm 0.4$ °C/ $\pm 0.72$ °F (-40 °C to -20.01 °C/-40 °F to -4.02 °F) |
| Memory                                                      | 32,700 readings                                                                                                                                                                                                 |
| Reading Rate                                                | 1 reading every second up to 1 reading every 24 hours                                                                                                                                                           |
| Required Interface Package                                  | IFC400 or IFC406                                                                                                                                                                                                |
| Baud Rate                                                   | 125,000 baud                                                                                                                                                                                                    |
| Typical Battery Life                                        | 1 year (1 minute reading rate at 25 °C/77 °F)                                                                                                                                                                   |
| Operating Environment                                       | -40 °C to +140 °C, 0 %RH to 100 %RH, 0.002 PSIA to 100 PSIA<br><b>BODY OF LOGGER CANNOT EXCEED 140 °C</b>                                                                                                       |
| Material                                                    | 316 Stainless Steel                                                                                                                                                                                             |
| Dimensions (Body: HiTemp140-1)                              | 1.6 in x 0.970 in dia. (40 mm x 24.6 mm dia.)                                                                                                                                                                   |
| Dimensions (Body: HiTemp140-2, HiTemp140-5.25, HiTemp140-7) | 1.9 in x 0.970 in dia. (48 mm x 24.6 mm dia.)                                                                                                                                                                   |
| Weight                                                      | 4.2 oz (120 g)                                                                                                                                                                                                  |
| Submersible                                                 | Yes (IP68)                                                                                                                                                                                                      |
| Approvals                                                   | CE                                                                                                                                                                                                              |
| Model Number                                                | Dimensions (Probe)                                                                                                                                                                                              |
| HiTemp140-1                                                 | 1.1 in x 0.125 in dia. (0.188 in transitional diameter)<br>27 mm x 3.2 mm dia. (4.8 mm transitional diameter)                                                                                                   |
| HiTemp140-2                                                 | 2.0 in x 0.188 in dia. (51 mm x 4.8 mm dia.)                                                                                                                                                                    |
| HiTemp140-2-TD                                              | 2.0 in x 0.125 in dia. (0.188 in transitional diameter)<br>51 mm x 3.2 mm dia. (4.8 mm transitional diameter)                                                                                                   |
| HiTemp140-5.25                                              | 5.25 in x 0.188 in dia. (133 mm x 4.8 mm dia.)                                                                                                                                                                  |
| HiTemp140-5.25-TD                                           | 5.25 in x 0.125 in dia. (0.188 in transitional diameter)<br>133 mm x 3.2 mm dia. (4.8 mm transitional diameter)                                                                                                 |
| HiTemp140-7                                                 | 7.0 in x 0.188 in dia. (178 mm x 4.8 mm dia.)                                                                                                                                                                   |

## Product User Guide

### HiTemp140 Series



**HiTemp140 Series**  
High Temperature Data Loggers  
Probe lengths up to 7" available

## Product Notes

The HiTemp140 is a rugged, high precision, temperature data logger that is built for use with autoclaves and harsh environments. This stainless steel device is submersible, can withstand temperatures up to 140 °C (284 °F) and has an accuracy of +/-0.1 °C (0.18 °F).

**NOTE: BODY OF LOGGER CAN NOT EXCEED 140 °C**

The HiTemp140 can store up to 32,700 readings, and features a rigid external probe capable of measuring extended temperatures, up to 260 °C (500 °F). Custom probe lengths up to 7 inches are available. The device records date and time stamped readings, and has non-volatile solid state memory that will retain data even if the battery becomes discharged. The HiTemp140 can be used in both wet and dry applications up to 140 °C indefinitely.

### Submergibility

The HiTemp140 is fully submersible and is rated IP68. It can be placed in environments with up to 230 feet (70 m) of water.

### O-Rings

O-ring maintenance is a key factor when properly caring for the HiTemp140. 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 on the MadgeTech website, for information on how to prevent O-ring failure.

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

## Installation Guide

### Installing the Interface cable

- IFC400 or IFC406

Refer to the "Quick Start Guide" included in the package.

### Installing the software

The Software can be downloaded from the MadgeTech website. Follow the instructions provided in the Installation Wizard to install the MadgeTech Software.

## Device Operation

### Connecting and Starting the data logger

- Once the software is installed and running, plug the interface cable into the docking station.
- Connect the USB end of the interface cable into an open USB port on the computer.
- Place the data logger into the docking station.
- The data logger will automatically appear under **Connected Devices** within the software.
- 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.)

- The status of the device will change to "**Running**", "**Waiting to Start**" or "**Waiting to Manual Start**", depending upon your start method.
- Disconnect the data logger from the docking station 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, unless user selectable memory wrap is enabled. At this point the device cannot be restarted until it has been re-armed by the computer.

### Downloading data from a data logger

- Place the logger into the docking station.
- Highlight the data logger in the **Connected Devices** list. Click "**Stop**" on the menu bar.
- Once the data logger is stopped, with the logger highlighted, click "**Download**". You will be prompted to name your report.
- Downloading will offload and save all the recorded data to the PC.

## Device Maintenance

### Battery Replacement Warning

When replacing 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.



### Recalibration

The HiTemp140 standard calibration points are 20 °C and 140 °C.

### Battery Warning

**WARNING: FIRE, EXPLOSION, AND SEVERE BURN HAZARD. DO NOT SHORT CIRCUIT, CHARGE, FORCE OVER DISCHARGE, DISASSEMBLE, CRUSH, PENETRATE OR INCINERATE. BATTERY MAY LEAK OR EXPLODE IF HEATED ABOVE 150 °C (302 °F).**