



PRTEMP140 High Temperature & Pressure Data Logger ■ Product User Guide



Pressure Sensor: Strain Gauge

Pressure Range: 0 bar to 5 bar

Pressure Resolution: 0.0001 bar

Calibrated Accuracy: ± 0.03 bar (+20 °C to +140 °C)

Temperature Sensor: Resistance Temperature Detector (RTD)

Temperature Range: -20 °C to +140 °C (-4 °F to +284 °F)

Temperature Resolution: 0.01 °C

Calibrated Accuracy: ± 0.1 °C (+20 °C to +140 °C)

Memory: 32,767 readings

Reading Rate: 1 reading every second up to 1 reading every 24 hours

Battery Life: 2 years typical (1 minute reading rate)

Required Interface Package: IFC400 or IFC406 USB docking station required

Operating System Compatibility: XP SP3/Vista/Windows 7/Windows 8

Software Compatibility: Standard software version 4.2.3.0 or later;

Secure software version 4.2.2.0 or later

Operating Environment: -20 °C to +140 °C (-4 °F to +284 °F), 0 %RH to 100 %RH, 0.002 PSIA to 100 PSIA

Material: 316 Stainless Steel

IP Rating IP68

Approvals CE

Battery Warning

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



Flush Top



NPT Top

Dimensions (Body)

Flush Top: 1.98 in x 0.97 in x 0.97 in (50.2 mm x 24.6 mm x 24.6 mm)

NPT Top: 2.3 in x 0.97 in x 0.97 in (58.2 mm x 24.6 mm x 24.6 mm)

Weight:

Flush Top: 90 g (3.2 oz) • NPT Top: 100 g (3.5 oz)

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Product Notes

The PRTemp140 is a pressure and high temperature data logger all in one, created specifically for use in autoclave validation, mapping studies and pressurized processes. Featuring the familiar body style of the 140 series of data loggers and made of rugged stainless steel, this dual purpose device is less than 2.5 inches in length, allowing it to fit discretely inside small spaces. The PRTemp140 is able to measure and record temperatures from -20 °C to 140 °C, and pressure from 0 bar to 5 bar, accommodating a wide range of applications even in the harshest conditions.

Submergibility

The PRTemp140 is fully submersible and is rated IP68.

O-Rings

O-ring maintenance is a key factor when properly caring for the PRTemp140. 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 & software

- IFC400 or IFC406 Refer to the “Quick Start Guide” included in the package.

Device Maintenance

Battery Replacement

Materials:

ER1425S-HT Battery

- Unscrew the bottom of the logger and remove the battery.
- Place the new battery into the logger. Note the polarity of the battery.
- Screw the cover back onto the logger.

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.

Recalibration

The PRTemp140 standard calibration points are +30 °C and +140 °C for the temperature channel and 1 bar, 2.5 bar and 5 bar for the pressure channel.

Call Customer Service 310.478.1134 to send in your unit for calibration.

