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Logicbus PR1000IS Temperature Data Logger User Guide

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Logicbus PR1000IS Temperature Data Logger

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Product Overview

The PR1000IS is an intrinsically safe pressure and temperature data logger used to accurately monitor and record at user-programmable reading intervals. It carries hazardous location, intrinsically safe certification in accordance with the latest issue of: FM3600, FM3610, CAN/CSA-C22.2 No. 60079-0:15, CAN/CSA-C22.2 No. 60079-11:14

Certified Intrinsically Safe for:

- Class 1 Division 1 Group ABCD
- Class 1 Division 2 Group ABCD
- Temperature Class: T4A

Operational Warnings

- When used in hazardous locations, the PR1000IS is to be installed prior to the location becoming hazardous and removed only after the area is no longer hazardous.
- The maximum allowed ambient temperature for the PR1000IS (under any circumstances) is 80 °C. The minimum rated operating temperature is -40 °C.
- The PR1000IS is approved for use only with the Tadiran TL-2150/S battery. Replacement with any other battery will void the safety rating.
- Batteries are user-replaceable but are to be removed or replaced only in locations known to be non-hazardous.
- Tampering or replacement of non-factory components may adversely affect the safe use of the product and is prohibited. Except for the replacement of the battery, the user may not service the PR1000IS. MadgeTech, Inc. or an authorized representative must perform all other service to the product.

Water Resistance
The PR1000IS is fully submersible and is rated IP68.

Installation Guide

Installing the Software
The Software can be downloaded from the MadgeTech website at 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.

Ordering Information

- 902254-00 — PR1000IS-1000A, 0-1000 PSIA
- 902251-00 — PR1000IS-100A, 0-100 PSIA
- 902257-00 — PR1000IS-100G, 0-100 PSIG
- 902252-00 — PR1000IS-300A, 0-300 PSIA
- 902258-00 — PR1000IS-300G 0-300 PSIG

- 902250-00 — PR1000IS-30A, 0-30 PSIA
- 902256-00 — PR1000IS-30G, 0-30 PSIG
- 902255-00 — PR1000IS-5000A, 0-5000 PSIA
- 902253-00 — PR1000IS-500A, 0-500 PSIA
- 902259-00 — PR1000IS-500G, 0-500 PSIG With Key Ring End Cap:
- 902284-00 — PR1000IS-1000A-KR, 0-1000 PSIA
- 902281-00 — PR1000IS-100A-KR, 0-100 PSIA
- 902287-00 — PR1000IS-100G-KR, 0-100 PSIG
- 902282-00 — PR1000IS-300A-KR, 0-300 PSIA
- 902288-00 — PR1000IS-300G-KR, 0-300 PSIG
- 902280-00 — PR1000IS-30A-KR, 0-30 PSIA
- 902286-00 — PR1000IS-30G-KR, 0-30 PSIG
- 902285-00 — PR1000IS-5000A-KR, 0-5000 PSIA
- 902283-00 — PR1000IS-500A-KR, 0-500 PSIA
- 902289-00 — PR1000IS-500G-KR, 0-500 PSIG Accessories:
- 900319-00 — IFC400 Single Docking Station
- 900325-00 — IFC406 Multiplex Docking Station
- 901745-00 — TL-2150/S Replacement Battery

Device Operation

Connecting and Starting the Data Logger

1. Once the software is installed and running, plug the interface cable into the docking station (IFC400 or IFC406).
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. Remove 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. At this point the device cannot be restarted until it has been re-armed by the computer.
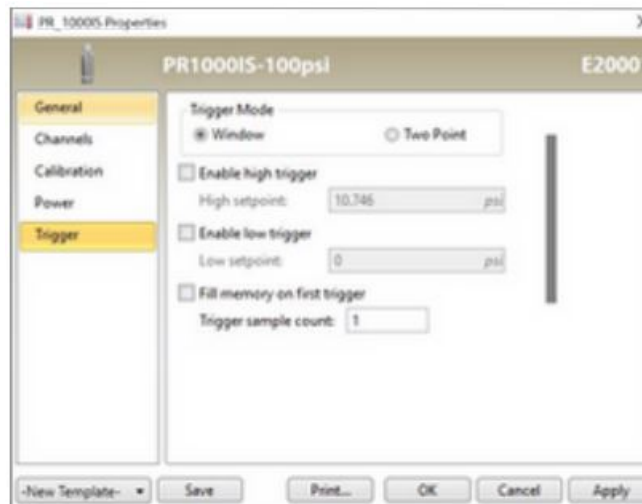
Downloading Data from a Data Logger

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.

Trigger Settings (Transient Mode)
The PR1000IS samples up to 128 Hz (7.8 ms) and begins recording after exceeding user-defined setpoints. After triggering, the device will record a chosen number of samples (Window Mode) or until reaching the stop setpoint (Two Point Mode). The device can take as many as 380,928 readings with both channels enabled and 419,020 pressure-only readings. The data logger will record up to 50 samples of "pre-trigger" data.

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** for instructions on how to configure Trigger Settings.

Communication
To ensure the desired operation of the PR1000IS, please keep the surface clear of any foreign objects or substances. The PR1000IS's data is downloaded through external contact with the IFC400 or IFC406 docking station. Covering the surface with foreign objects (i.e. Calibration Labels) can prevent the communication and/or downloading process.

Device Maintenance

O-Rings
O-ring maintenance is a key factor when properly caring for the PR1000IS. 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, for information on how to prevent O-ring failure.

Recalibration
MadgeTech recommends annual recalibration. To send devices back for calibration, visit **madgetech.com**.

Battery Replacement

- **Materials:** TL-2150/S Battery

1. Move the device to a non-hazardous location before replacing the battery.

2. Observe Operational Warnings when removing and replacing the battery.

3. Unscrew the bottom of the data logger and remove the battery.

4. Place the new battery into the loggers.t ion: Observe correct battery polarity when installing.It is important to insert the battery with the positive polarity pointing upwards towards the

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Product Support & Troubleshooting

- Visit our Resources online at **madgetech.com/resources**.
- Contact our friendly Customer Support Team at (603) 456-2011 or **support@madgetech.com**.

MadgeTech 4 Software Support:

- Refer to the built-in help section of the MadgeTech 4 Software.
- Download the MadgeTech 4 Software Manual at **madgetech.com**.
- Contact our friendly Customer Support Team at (603) 456-2011 or **support@madgetech.com**.
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- **saleslogicbus.com**
- **www.logicbus.com**

Documents / Resources

Logicbus PR1000IS Temperature Data Logger [pdf] User Guide
PR1000IS Temperature Data Logger, PR1000IS, Temperature Data Logger, Data Logger, Logger

References

- 🌐 **MadgeTech Data Loggers | Solutions for Critical Applications**
- 🌐 **Resources | MadgeTech**
- **User Manual**