

# PRTrans1000IS

Intrinsically Safe Transient  
Pressure Data Logger



## PRODUCT USER GUIDE

To view the full MadgeTech product line, visit our website at [madgetech.com](http://madgetech.com).

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# PRODUCT USER GUIDE

## Product Overview

The PRTrans1000IS samples up to 100 Hz (10 ms) but records data based on user-defined pressure thresholds. The device can be set to start the trigger on high and/or low thresholds and end the trigger after either a chosen number of samples, or when the signal crosses over the set stop threshold. The device can record up to 255 events and take as many as 262,143 pressure samples. The PRTrans1000IS has been certified as intrinsically safe certification in accordance with the latest issue of FM3600 and FM3610.

### 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 PRTrans1000IS 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 PRTrans1000IS (under any circumstances) is 80 °C. The minimum rated operating temperature is -40 °C.
- The PRTrans1000IS is approved for use only with the Tadiran TL-2150/P 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 replacement of the battery, the user may not service the PRTrans1000IS. MadgeTech, Inc. or an authorized representative must perform all other service to the product.

## 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 Interface Cable

To access the COM Port for the interface cable, unscrew the key-ring end cap. Connect the device into a USB port with the interface cable. The drivers will install automatically. Screw the end cap back onto the data logger until the O-ring cannot be seen, before deploying the data logger.

### Pressure Sensor

To use the pressure sensor for gauge measurements, screw the ¼ inch male NPT fitting into the pipe to be measured with a 9/16 inch wrench.

### Ordering Information

- 901271-00 — PRTrans1000IS-1000-PSIA
- 901275-00 — PRTrans1000IS-100-PSIA
- 901279-00 — PRTrans1000IS-100-PSIG
- 901283-00 — PRTrans1000IS-300-PSIA
- 901287-00 — PRTrans1000IS-300-PSIG
- 901291-00 — PRTrans1000IS-30-PSIA
- 901295-00 — PRTrans1000IS-30-PSIG
- 901299-00 — PRTrans1000IS-5000-PSIA
- 901303-00 — PRTrans1000IS-500-PSIA
- 901307-00 — PRTrans1000IS-500-PSIG
- 900298-00 — IFC200 USB Interface Cable
- 901744-00 — Tadiran TL-2150/P Replacement Battery

# PRODUCT USER GUIDE

## Device Operation

### Connecting and Starting the Data Logger

1. Once the software is installed and running, plug the interface cable into the data logger (*see Installing the Interface Cable instructions*).
2. Connect the USB end of the interface cable into an open USB port on the computer.
3. The data logger will automatically appear under **Connected Devices** within the software.
4. For most applications, select **Custom Start** from the menu bar and choose the desired start method, reading interval 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.)
5. The status of the device will change to **Running**, **Waiting to Start** or **Waiting for Trigger**, depending upon your start method.
6. 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. Connect the data logger to the interface cable.
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

The PRTrans1000IS records based off user configured trigger settings.

1. Select **Trigger Settings** from the Device Menu: Start Device or Identify Device and Read Status.
2. 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** video on the **MadgeTech YouTube Channel** for instructions on how to configure Trigger Settings.

**WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD. CONTROL OF ENVIRONMENTAL HUMIDITY TO MINIMIZE THE GENERATION OF STATIC ELECTRICITY OR TOUCH WITH AN INSULATING OBJECT BEFORE USE.**

# NEED HELP?

## Device Maintenance

### O-Rings

O-ring maintenance is a key factor when properly caring for the PRTrans1000IS. 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:** Small needle nose pliers and a replacement Battery (TL-2150/P)

1. Move the device to a non-hazardous location before replacing battery.
2. Observe Operational Warnings when removing and replacing the battery.
3. Carefully unscrew the sensor end cap and pull the electronics out.
4. The battery is the purple cylinder on the circuit board. *Note the orientation of the battery on the board.* Gently pull the old battery out of the circuit board battery sockets.
5. Insert the new battery one lead at a time, using pliers to fully push the leads into the sockets. *Note: The battery should lay flat against the circuit board, and the positive lead should be closest to the communications jack. Device may require a “hard reset” when the battery is changed. Contact [support@madgetech.com](mailto:support@madgetech.com) for assistance if the device does not start properly after battery replacement.*
6. Ensure the circuit board is inserted into the white plastic bushing. The sensor cable should not be twisted or kinked. From the connection to the circuit board, it should run up towards the battery, then down to the sensor.
7. Insert the electronics back into the tube and carefully screw the cap on.

### Recalibration

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



### Product Support & Troubleshooting:

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



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