

PRTemp1000IS

Description	PRTemp1000IS
Temperature Sensor	Internal semiconductor
Temperature Range	-40 °C to +80 °C (-40 °F to +176 °F)
Temperature Resolution	0.1 °C (0.18 °F)
Calibrated Accuracy	±0.5 °C (±0.9 °F)
Pressure Range	*See Table Below
Pressure Resolution	
Pressure Accuracy	
Memory	16,383/channel
Reading Rate	1 reading every 2 seconds up to 1 reading every 12 hours
Units	PSIA(G), inches, altitude, Torr, mmHg, Pascals
Required Interface Package	IFC110 or IFC200
Baud Rate	2,400
Typical Battery Life	1 year
Operating Environment	-40 °C to +80 °C (-40 °F to +176 °F), 0 %RH to 100 %RH
Material	303 stainless steel
Dimensions	6.4 in x 1.25 in dia. (163 mm x 32 mm dia.)
Weight	12 oz (340 g)
Approvals	CE, IS Rated

*PRTemp1000IS

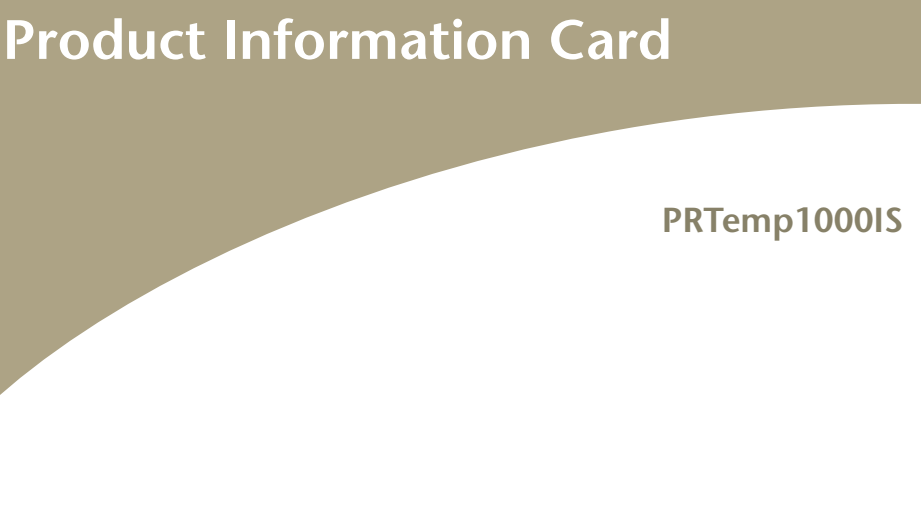
Range (PSI)	0-30	0-100	0-300	0-500	0-1000	0-5000
Accuracy	2 % FSR, 0.25 % @ 25 °C typical					
Resolution (PSI)	0.002	0.005	0.02	0.05	0.05	0.2

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 80 °C (176 °F).

Specifications subject to change.

See MadgeTech's terms and conditions at www.madgetech.com



PRTemp1000IS

Intrinsically Safe Pressure and Temperature Data Logger

MadgeTech, Inc.
6 Warner Road • Warner, NH 03278
Phone 603.456.2011 • Fax 603.456.2012
www.madgetech.com • info@madgetech.com

DOC-1124035-00 REV 12 2014.11.25

Product Notes

Getting Started

To access the COM Port for the interface cable, unscrew the key-ring end cap. Screw the end cap back onto the data logger until the o-ring cannot be seen, before deploying the data logger.

Intrinsic Safety Approval

The PRTemp1000IS has been certified by FM Approvals as Intrinsically Safe (IS) for use in Class I, Division 1, groups A, B, C, D, and Non-incendive (NI) for use in Class I, Division 2, groups A, B, C, D Hazardous (Classified) Locations. The rating listed in the Factory Mutual approval guide is as follows: PRTemp1000IS. Pressure & Temperature Recorder. IS / I / 1 / ABCD T4A Ta=80 °C; NI / I / 2 / ABCD / T4A Ta=80 °C

Special Condition of Use:

1. Use only with Tadiran Battery P/N TL-2150: These are the only safety ratings relevant to the use of this product. Use of this product in hazardous environments not specifically covered by this rating, is prohibited, unless the user takes the appropriate steps to ensure the safety of the product and assumes full responsibility for its safe use.

Pressure Sensor

To use the pressure sensor for gauge measurements, screw the ¼” male NPT fitting into the pipe to be measured with a 9/16” wrench. The NPT fitting can be used for absolute and submersible applications, but it is preferable to use the submersible fitting.

O-Rings

O-ring maintenance is a key factor when properly caring for the PRTemp1000IS. 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.

Installation Guide

Installing the Interface cable

- IFC200: Insert the device into a USB port. The drivers will install automatically.
- IFC110: Plug the serial cable into the port and verify it is secure.

Installing the software

Insert the Software USB Stick in an open USB port. If the autorun does not appear, locate the drive on the computer and double click on **Autorun.exe**. Follow the instructions provided in the Wizard.

Device Operation

Connecting and Starting the data logger

- Once the software is installed and running, plug the interface cable into the data logger.
- Connect the USB end of the interface cable into an open USB port on the computer.
- The device will appear in the Connected Devices list, highlight the desired data logger.
- 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 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

- 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

Materials: Snap ring Pliers, 9/16” (15mm) wrench and a replacement Battery (TL-2150)

- Remove the end cap of the data logger, the retaining clip using pliers and the white Teflon washer.
- VERY CAREFULLY use a 9/16” (15 mm) wrench to remove the NPT end of the data logger.
- Once the NPT end is completely unscrewed, gently slide the circuit board out of the enclosure. Be careful not to break or sharply bend the cable between the level sensor and the electronics.
- The battery is the purple cylinder on the circuit board, gently pull out the battery.
- Insert the new battery one lead at a time, pressing firmly with your index finger to make sure the lead is secure in its terminal. *Note: The battery should be flat against the circuit board, and the positive lead should be closest to the communications jack.*
- Insert the electronics back into the tube. Make sure the cable is not twisted, sharply bent, or kinked. From the connection to the circuit board, it should run up towards the battery, then down the sensor.
- VERY CAREFULLY screw the NPT end cap back onto the tube, making sure the electronics rotate with the end cap.
- Insert the Teflon washer and retaining clip to secure the electronics and replace the end cap.

Recalibration

The PRTemp1000IS standard temperature calibration is one point at 25 °C. The pressure calibration is dependant upon the range.

Range (PSIA)	0-30	0-100	0-300	0-500	0-1000	0-5000
Range (PSIG)	0-30	0-100	0-300	0-500	-	-
Calibration Point (PSIA)	~14.7 and 27-30	~14.7 and 90-100	~14.7 and 270-300	~14.7 and 270-300	~14.7 and 450-500	~14.7 and 450-500

Pricing:

Recalibration traceable to NIST \$110.00
 Recalibration \$70.00

Additional Services:

Custom calibration and verification point options available, please call for pricing.

Call for custom calibration options to accommodate specific application needs.

Prices and specifications subject to change. See MadgeTech’s terms and conditions at www.madgetech.com

To send devices to MadgeTech for calibration, service or repair, please use the MadgeTech RMA Process by visiting www.madgetech.com, then under the services tab, select RMA Process.