

Description	PRTC210
Internal Channel Temperature Sensor	Semiconductor
Internal Channel Temperature Range	-20 °C to +80 °C (-4 °F to +176 °F)
Internal Channel Temperature Resolution	0.1 °C (0.18 °F)
Internal Channel Temperature Accuracy	±0.5 °C (±0.9 °F)
Remote Channel Temperature Sensor	Thermocouple Types: J, K, T, E, R, S, B, N
Remote Channel Temperature Range, Resolution and Accuracy	*See Table Below
Pressure Sensor	Semiconductor (strain gauge)
Pressure Range (Nominal)	**See Table Below
Pressure Resolution	
Pressure Accuracy	
Cold Jct. Compensation	Automatic
Channels	2 Internal & 1 Remote
Memory	10,922/channel
Reading Rate	1 reading every 2 seconds up to 1 reading every 12 hours
LED Indicator	Red
Required Interface Package	IFC110 or IFC200
Baud Rate	57,600
Typical Battery Life	10 years
Operating Environment	-20 °C to +80 °C (-4 °F to +176 °F), 0 %RH to 95 %RH (non-condensing)
Dimensions	2.2 in x 2.5 in x 0.9 in (55 mm x 63 mm x 22 mm)
Material	Delrin
Approvals	-

*Remote Channel

Thermocouple	Range (°C)	Resolution	Accuracy
J	-210 to +760	0.1 °C	±0.5 °C
K	-260 to +1370	0.1 °C	±0.5 °C
T	-260 to +400	0.1 °C	±0.5 °C
E	-260 to +980	0.1 °C	±0.5 °C
R	-50 to +1760	0.5 °C	±2.0 °C
S	-50 to +1760	0.5 °C	±2.0 °C
B	+60 to +1820	0.5 °C	±2.0 °C
N	-260 to +1300	0.1 °C	±0.5 °C

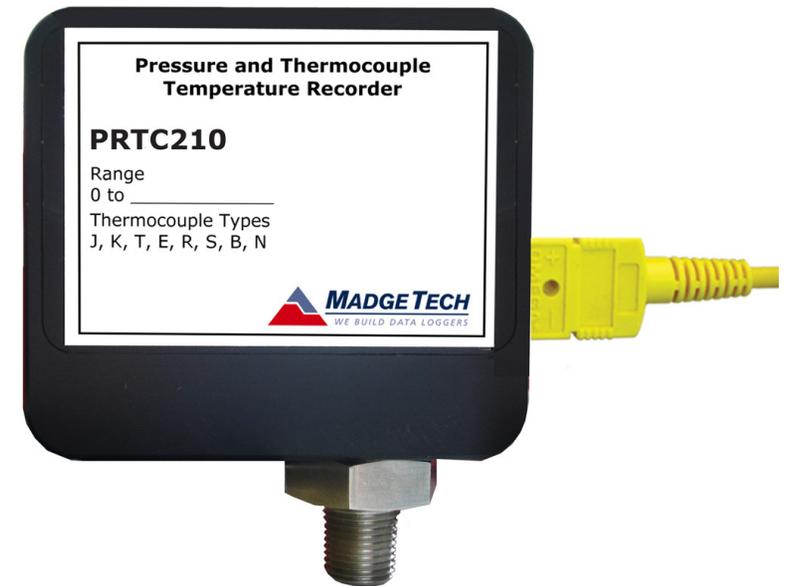
**PRTC210

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

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*



PRTC210
Thermocouple Temperature and Data Logger

Product Notes

Hardware Installation

Use a 3/4 in wrench to tighten the NPT onto the data logger.

Note: Do not use the body of the logger as leverage, this can cause damage to the logger.

Thermocouple Type

To change the thermocouple type in the MadgeTech software:

- In the **Connected Devices** panel, click the device desired.
- On the **Device Tab**, in the **Information Group**, click **Properties**. Or, right-click the device and select **Properties** in the context menu.
- On the **General Tab**, change the **Thermocouple type** in the drop down menu.
- Apply these changes, there will be a prompt to reset the device, select yes.

Please note that the same thermocouple type must be used on all of the channels.

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:

Phillips Head Screwdriver

Replacement Battery (LTC-7PN)

- Puncture the center of the front label with the screw driver and unscrew the enclosure.
- Remove the battery by pulling it perpendicular to the circuit board.
- Insert the new battery into the terminals and verify it is secure.
- Place the nylon spacer over the hole in the center of the board. This protects the screw.
- Place the front cover back on and screw the enclosure back together securely.

Note: Be sure not to over tighten the screws or strip the threads.

Recalibration

The PRTC210 standard calibration is one point at 25 °C for the internal temperature sensor and 0 mV for the thermocouple. The pressure calibration depends on 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