

Description	PRTC110	
Internal Channel Temperature Sensor	Semiconductor	
Internal Channel Temperature Range	-20 °C to +80 °C	
Internal Channel Temperature Resolution	0.1 °C	
Internal Channel Temperature Accuracy	±0.5 °C	
Remote Channel Temperature Sensor	Thermocouple Types J, K, T, E, R, S, B, N	
Remote Channel Temperature Range, Resolution and Accuracy	*See Table Below for Details	
Pressure Range (Nominal)	0 to 2 inH2O (differential)	0 to 5 inH2O (differential)
Pressure Range (Max)	-2 to +4 inH2O (differential)	-2 to +8 inH2O (differential)
Pressure Resolution	0.002 inH2O	0.005 inH2O
Pressure Accuracy	0.5%FSR, 0.25% @ 25 °C Typical	
Cold Jct. Compensation	Automatic	
Channels	2 Internal & 1 Remote	
Memory	21,844/channel	
Sample Rate	2 seconds up to 12 hours	
LED Indicator	Red	
Required Interface Package	IFC110 or IFC200	
Baud Rate	57,600	
Typical Battery Life	2 years	
Operating Environment	-20 °C to +80 °C, 0 to 95%RH (non-condensing)	
Dimensions	2.7" x 1.6" x 0.8" (68 mm x 41 mm x 20 mm)	
Material	ABS plastic	
Weight	8.8 oz (250 g)	
Approvals	CE	

\* Remote Channel

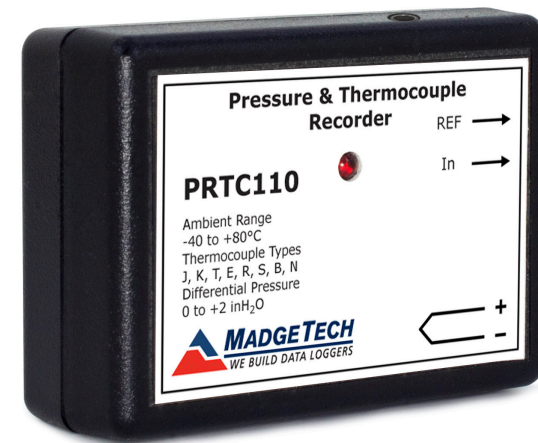
Thermocouple	Range (°C)	Resolution	Accuracy
J	-210 to +760	0.1°C	±0.5°C
K	-260 to +1370	0.1°C	±0.5°C
T	-260 to +400	0.1°C	±0.5°C
E	-260 to +980	0.1°C	±0.5°C
R	-50 to +1760	0.5°C	±2.0°C
S	-50 to +1760	0.5°C	±2.0°C
B	+60 to +1820	0.5°C	±2.0°C
N	-260 to +1300	0.1°C	±0.5°C

### 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.*

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**PRTC110**  
Differential Pressure and Thermocouple  
Temperature Data Logger

## Product Notes

### Pressure Sensor

The PRTC110 measures differential pressure in the range of 0 to 2inH<sub>2</sub>O or 0 to 5inH<sub>2</sub>O, depending upon the range purchased. The device is also equipped with one thermocouple input. Two 0.080" diameter pressure ports are located on the side of the device. The pressure ports will accept 1/16"ID flexible rubber tubing with up to 5/32"OD. The tubing can be connected to two different pressure locations in which the device will measure the difference between the two pressure's.

### LEDs

Once started, the LED will flash at the selected reading rate to indicate that the device is running.

### 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

- Connect the logger to the interface cable.
- 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:

Small Phillips Head Screwdriver

Replacement Battery (LTC-7PN)

- Puncture the center of the back 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.
- Screw the enclosure back together securely.

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

### Recalibration

The PRTC110 standard calibration is two pressure points at 14.7 PSI and 30 PSI and one point at 0mVs for the thermocouple channel.

#### Pricing:

Recalibration traceable to NIST	\$110.00
Recalibration	\$70.00

#### Additional Services:

Verification Point	\$15.00 per point
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*Prices and specifications subject to change. See MadgeTech's terms and conditions at [www.madgetech.com](http://www.madgetech.com). To send the devices back, visit [www.madgetech.com](http://www.madgetech.com), select Services then RMA Process.*