

TruTrack Data Logger

RTD Temperature Logger Model Pt-LCD

Two Channel High Resolution
(16 bit) Temperature Data
Logger with LCD Display.

The **Pt-LCD** is a high resolution (16 bit), handheld temperature data logger with a liquid crystal display. The logger connects to an external RTD probe and also has an internal temperature sensor for convenient logging of ambient temperature if desired. The logger accepts RTD Pt100, Pt500 and Pt1000 probes. The display shows the RTD temperature, logger internal temperature, battery voltage, logger and alarm status. This logger is designed for indoor use (IP 40) but can be supplied with a TruTrack Seahorse Logger Enclosure for outdoor use.

Features.

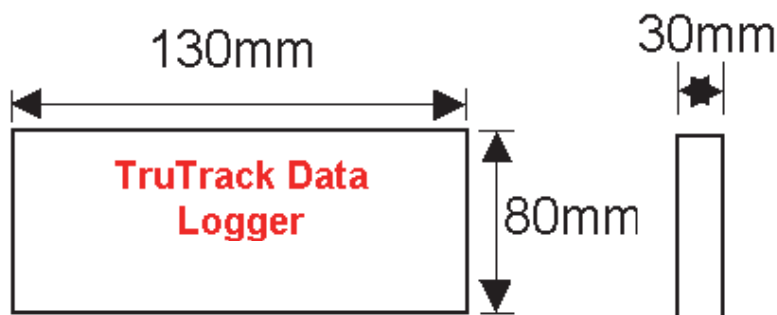
- 6 pin Connector Socket can be used to connect to 2 wire, 3 wire and 4 wire RTD Pt100, Pt500 and Pt1000 temperature probes.
- Storage capacity of over 500,000 samples.
- Easy to use LCD menu options.
- LCD display shows logger status and alarm status continuously.
- LCD display can be set to show; RTD temperature, internal temperature, battery voltage, number of logged samples and alarm status.
- Temperature can be set to any combination of Point, Average, Maximum & Minimum readings.
- The battery voltage of the logger can be logged if required.
- The logger can be run in either "Stop when memory is Full", "Loop Around" mode or set to stop at a future time.
- The logger can be started "Now", at a given time in the future, on a condition (e.g. temperature >20°C) or on Trigger (push button on logger).



Ordering Information. **Pt-LCD** LCD RTD (Pt100, Pt500 & Pt1000) temperature data logger.
TP-Pt100-LCD RTD Pt100 temperature probe for Pt-LCD, range -100~150°C.

DLC8USB [USB] or **DLC8** [RS232] download cable (2m) to connect Pt-LCD with computer.
Please Note: The Pt-LCD data logger is not supplied with an RTD probe. These can be ordered separately from Intech Instruments Ltd if required.

Pt-LCD Dimensions.



Putting into service with Omni7 Data Management software.

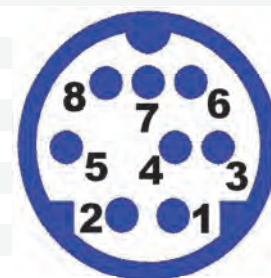
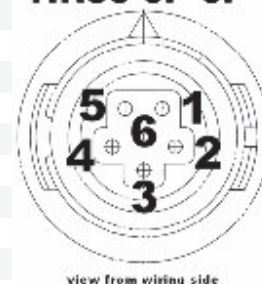
1. From the SWDL-DLC Omni7 software and Download cable kit, **first install the Omni7 software**, then plug the Download cable into a spare USB [standard size] or RS232 serial port on your computer (depending on which type you have). The Omni7 has an excellent "Help". This will need to be read to enable successful operation of the Omni7 Data Management Program and gain familiarisation of the many advanced features available.
2. Connect the data logger to the download cable. Select the correct connection type on the Omni7 screen. Omni7 requires manual connection and disconnection to the data logger using the Green 'Connect' and Red 'Disconnect' buttons. It will not connect to a data logger automatically. (Refer to "Help" for further assistance.)
3. On the "Logger Control" screen, click on "Channel and Probe Setup" button, and check the Battery Condition, plus other configurations.
4. Now click on the "Start Logger" tab for the final configurations, before putting the logger into service.

Specifications.

RTD Input:	RTD Sensor Connector	Hirose Electronics 6 pin HR30-6P-6P Connector Socket (shown on left below)		
	2 wire RTD connection	A to Pin4, B to Pin2, Pin2 to Pin3, Pin4 to Pin5		
	3 wire RTD connection	A to Pin4, B to Pin2, B to Pin3, Pin4 to Pin5		
	4 wire RTD connection	A to Pin4, A to Pin5, B to Pin2, B to Pin3		
Logger Accuracy	Type	at Min Temp	at 0°C	at Max Temp
	Pt100	±1.0°C	±0.5°C	±1.0°C
	Pt500	±1.0°C	±0.5°C	±1.0°C
	Pt1000	±2.0°C	±1.0°C	±1.0°C
RTD probe accuracy depends on the type used				
Temperature Coefficient	±0.1% per °C of logger temperature			
Temperature Range	Type	Min Temp	Max Temp	
	Pt100	-200°C	600°C	
	Pt500	-200°C	600°C	
	Pt1000	-200°C	600°C	
Resolution	0.1°C			
Internal Temperature:	Sensor Type	Thermister		
	Linear accuracy over range	±0.3°C (0°C to 70°C)		
	Repeatability	±0.1°C		
	Long term stability	±0.1°C		
Logger:	Working Temperature	-20°C to +70°C		
	Storage Temperature	-30°C to +70°C		
	Sampling Rate	1 second minimum, 10 hours maximum; in 1 second intervals		
	Storage capacity	522,240 samples logging RTD only 362 days with 1 min logging interval 4.9 years with 5 min logging interval		
Alarms	Two independent Alarms			
	Triggered on any combination of six user configurable Alarm Conditions			
	Both alarms can be configured to send SMS messages if connected to a cell modem			
	Two Open Collector Alarm Outputs			
Start modes	Alarms can be visually checked on the LCD Display or by using the Omni7 software			
	Start immediately; Start on date/time; Start on Condition (e.g. temperature >20°C); Start on trigger (push button on logger)			
Stop modes	Stop when memory is full / Stop on date/time / Loop around (continues logging)			
Logging modes	Each channel can be set to log any combination of:			
		- Point readings	- Average reading	
		- Maximum reading	- Minimum reading	
Warning: When using the Average, Maximum or Minimum reading(s), the logger reads the attached sensor(s) every second. This will reduce battery life.				
Battery	One to Five year life depending on usage as above			
	Using the logger in temperatures below -5°C (23°F) will reduce battery life			
	User Replaceable; Two 3.6 volts Lithium AA cells			
	The data is retained in the case of battery failure			
Download time	9 minutes, 30 seconds for Full Logger			
Case material	ABS Plastic			
IP Rating	40			
Weight	185g			
Size	130mm x 80mm x 30mm			
Communication Connector Pinout	The Pt-LCD has a 8 pin Mini-DIN female socket			
	Pin 1 Common			
	Pin 2 RS232 RX (out of logger)			
	Pin 3 RS232 TX (into logger)			
	Pin 4 RS232 CTS (out of logger)			
	Pin 5 RS232 RTS (into logger)			
	Pin 6 Alarm 1 Open Collector Output			
	Pin 7 Alarm 2 Open Collector Output			
Pin 8 Power 9 to 16V dc				



HR30-6P-6P



A DLC8USB [USB] or DLC8 [RS232] download cable (2m) is required to connect the Pt-LCD to a computer.

Product Liability. This information describes our products. It does not constitute guaranteed properties and is not intended to affirm the suitability of a product for a particular application. Due to ongoing research and development, designs, specifications, and documentation are subject to change without notification. Regrettably, omissions and exceptions cannot be completely ruled out. No liability will be accepted for errors, omissions or amendments to this specification. Technical data are always specified by their average values and are based on Standard Calibration Units, unless otherwise specified. Each product is subject to the 'Conditions of Sale'.

Warning: These products are not designed for use in, and should not be used for patient connected applications. In any critical installation an independent fail-safe back-up system must always be implemented.

Liquid Crystal Display Operation.

The Pt-LCD displays logger status and alarm status continuously and can be set to show the RTD temperature, the internal logger temperature, the battery voltage and the number of logged samples.

Logger status is shown as:

- **Running**
- **Stopped**
- **Waiting** (Waiting for “Start on Condition”)
- **Waiting Trigger** (Waiting for “Start on Trigger”)

If the logger is waiting for “Start on Trigger” it can be started in the field from the Menu provided on the display.

If an Alarm has been triggered the display will show

- **Alarm 1**
- **Alarm 2**

If both Alarms are triggered “**Alarm**” will be displayed continuously and “**1**” and “**2**” will flash consecutively.

Low Batt will be displayed if the internal batteries require replacement.

Pt-LCD Menu Options.

Pressing the **Enter** button on the front panel of the Pt-LCD activates the Menu Display. The **Down Arrow** can then be used to scroll down through the various Menu Options. When the required menu option is displayed, press **Enter** to select this option.

Menu Options on the Pt-LCD are:

- Channel 1 (Display RTD Temperature)
- Channel 2 (Display Internal Temperature)
- Channel 5 (Display Battery Voltage)
- Samples (Display number of samples logged)
- Trigger (If logger is waiting for Start on Trigger)
- Alarm 1 (Reset / Trigger) Trigger is used to test
- Alarm 2 (Reset / Trigger) the Alarms
- °C/°F Toggle

The display will update at 1 second intervals for 1 minute after any button is pushed. It will then slow down to 10 second display updates (this is a power saving feature).



RTD Probe Setup.

The Pt-LCD is factory set for use with a RTD Pt100 probe.

For other RTD probe types the Pt-LCD needs to be setup for the correct RTD probe type using a computer and the Omni7 software. There is no need to alter these settings if you are using an RTD Pt100 probe!

To set the RTD probe type of the Pt-LCD:

- Run the Omni7 software.
- Connect to the logger using a **DLC8USB** [USB] or **DLC8** [RS232] **download cable** (2m).
- Select the Logger Control window.
- Select the 'Channel and Probe Setup' tab.
- Select the 'Ext Temperature (Ch1)' tab.
- In the Probe box, select the required RTD Probe Type.
- Click on the "Write Unit Scaling and Calibration Values to the Logger" button.

Logger Control

Logger Status | Start Logger | Download | Channel and Probe Setup | Alarm Conditions | Pager

(Ext Temperature (Ch1) | (Temperature (Ch2) | (Not Available (Ch3) | (Not Available (Ch4) | (Batt Voltage (Ch5)

Logger Channel Number 1 Name
Long Name: Ext Temperature
Short Name: ETemp
Clear | Reset

Probe
Select the required Probe Type
PT100 Digital
PT500 Digital
PT1000 Digital

Units and Scaling
Offset: 0.00000000 | Select
Gain: 1.00000000 | Clear
Units: °C | Default
Decimal Places: 1 | Calculate

Compensation | Calibration
Actual Value
First Point: 0.00 °C | First Point
Second Point: 0.00 °C | Second Point
Calibration Notes

Remote Address

Write Unit, Scaling and Calibration values to the Logger

Note: For complete calibration instructions for each RTD probe type, please refer to the Omni7 Help.

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