

PRECISE-LOG PL-TW

Product specifications



OVERVIEW

The PRECISE-LOG PL-TW is an 8-channel, battery powered, standalone and WIFI-enabled thermocouple data logger Modbus server. The logger records eight external thermocouples and saves data in 8-MB memory.

Its aluminum enclosure makes it excellent in the harshest industrial environment.

Embedded WIFI module allows remote data monitoring and downloading. The data logger can be enabled by Modbus TCP protocol and become a Modbus TCP server.

16-bit ADC makes it well suited for science and laboratory applications where precise and accurate measurements are critical.

Simply power the logger in WIFI covered area and access it from your computer for configuration, downloading, graph viewing and more...

FEATURES:

❖ High Data Resolution:

The 16-bit analog-to-digital converter meets most high-resolution requirements.

❖ Large Memory Size:

The 8-Mega-Byte Memory stores years of measurements.

❖ Programmable Input Ranges:

Two software configurable input ranges (73mV, 18mV) cover all types of thermocouples.

❖ Easy Access:

One Plug& Play USB port makes communications with PC SiteView software super easy. On-board WIFI module creates WIFI access point or connects to local network wirelessly, allowing remote monitoring and downloading.

❖ 10-Year Battery Life:

The internal lithium battery provides over 10 years of instantaneous logging operation when sampling at an interval of one minute.

❖ 2-IN-1 Design:

The logger can operate as portable standalone data logger and be powered by internal battery. Or when powered by external 5VDC power supply, the logger automatically connects to WIFI network and be ready for remote access.

❖ Rugged Physical Housing:

The rugged aluminum enclosure makes the PRECISE-LOG data loggers perfect in the harshest industrial environment.

SiteView Software Overview

SiteView is a PC based application works with all MEI data loggers for downloading, configuration and data analyzing and plotting.

Its user-friendly graphic interface plus powerful functionalities fit both novice and advanced users.

The versatility of custom equation and custom-line equation handle complicated measurement requirements.

SiteView is compatible with Window XP, Vista, 7, 8, 10 operating systems.

FEATURES:

- ❖ Support USB, Serial port and Ethernet connections for easy local and remote access
- ❖ Fast communication speed up to 115200 bps makes downloading fast
- ❖ Real-time view and chart recording replaces chart recording device
- ❖ Custom equation and custom-line equation solves scientific and laboratory algorithm difficulties
- ❖ Zoom in/zoom out, annotation/label of graph functions provide detailed view of data
- ❖ Multiple file loading allows easy data comparison
- ❖ Dynamic statistics provides detailed information of current zoomed view
- ❖ Scheduled Download automatically backups data regularly to system database
- ❖ Export to CSV, TXT, BMP, JPG, TIF, PNG, GIF file formats

The collage displays several key features of the SiteView software interface:

- Real-Time View:** A window showing a live graph of data being recorded from a logger. The graph plots multiple channels (CH0-CH5) over time, with a temperature channel showing a fluctuating signal.
- Graph View:** A window showing a zoomed-in view of the recorded data, highlighting a specific segment of the graph.
- Configuration Dialog:** A window for setting up the logger, including options for description, sampling interval, start time, and memory settings.
- Equation Editor:** A window for defining custom equations for data processing. It includes a text editor with a sample equation:


```

      //Calculate dew point based on dbt, temperature, and relative humidity
      public double DewPointEquation(double Inputs)
      {
          double Input1, dew_point, rh, temperature;
          temperature = Channel[1]; //Measurement of
          rh = Channel[2]; //Measurement of
          dew_point = DewPointEquation(temperature, rh);
          return dew_point;
      }
      
```
- Tabular View:** A window displaying a table of recorded data points. The table includes columns for Date/Time, CH0 (CH0) (C), CH1 (CH1) (mV), CH2 (CH2) (mV), and CH3 (CH3) (mV).

Date/Time	CH0 (CH0) (C)	CH1 (CH1) (mV)	CH2 (CH2) (mV)	CH3 (CH3) (mV)
2019-12-13 19:05:10	22.751	378.119	74.159	74.769
2019-12-13 19:05:15	22.733	378.729	74.769	74.769
2019-12-13 19:05:20	22.726	378.729	74.464	74.464
2019-12-13 19:05:25	22.728	378.729	74.464	74.159
2019-12-13 19:05:30	22.741	377.813	74.159	74.159
2019-12-13 19:05:35	22.758	378.119	74.464	74.159
2019-12-13 19:05:40	22.763	378.729	74.769	74.159
2019-12-13 19:05:45	22.754	377.813	74.769	74.464
2019-12-13 19:05:50	22.747	377.813	74.464	74.464
2019-12-13 19:05:55	22.721	378.119	74.464	74.159
2019-12-13 19:06:00	22.701	378.119	74.464	74.159
2019-12-13 19:06:05	22.684	378.119	74.464	74.464
2019-12-13 19:06:10	22.681	378.119	74.769	74.159
2019-12-13 19:06:15	22.684	377.508	74.464	74.769

Specification Details

Product Identification	
Product Name	PRECISE-LOG
Model	PL-TW
Inputs	
Connections	Pluggable terminal block for eight external channels
Channels	Eight external thermocouple inputs. Software programmable input range selections for each channel: -8 ~ 73mV, -2 ~ 18mV
Resolution	0.0018%
Accuracy	±0.1% ~ 0.2% + T/C Accuracy @ 25°C
Temperature Compensation	On-board thermistor
Over-voltage protection	+/- 20 VDC
Alarms	
Channel Alarms	Two editable alarm thresholds per channel.
Alarm Indicator	On-board LED lights in red when in alarm condition.
On-board Memory	
Capacity	8 Mbytes (4 Mega measurements).
Data Retention	Over 20 years.
Sampling & Logging	
Sampling Interval	1 second to 12 hours user selectable
Logging Mode	Stop recording or FIFO when memory is full.
Logging Activation	Programmable instant, start delay or field push-button activation.
Communications	
Interface	USB(USB cable included). WIFI Module (USB wall adapter included): Standard Server Mode: join existing WIFI access point. AccessPoint Server Mode: create AP for PC to join. Modbus Protocol for both STA and AP mode
WIFI Module ^[1]	Standard: 802.11b/g/n, Frequency Range: 2.412 – 2.484GHz Transmit Power: 11-18 dBm Receive Sensitivity: -82 to -93 dBm Security: WEP/WPA-PSK/WPA2-PSK Encryption: WEP64/WEP128/TKIP/AES Can be Enabled/Disabled by SiteView software
Battery	
Power	Built-in 3.6V Lithium Battery.
Life Cycle	10 years based on 1 minute sampling interval in stand-alone mode.
Software	
SiteView ^[2]	Configuration, downloading, plotting, scheduled-download, real-time view, custom calibration and custom equation.
Software Requirements	Computer with 1.0 GHz or faster processor 1 GB Memory or higher 10 GB of available hard-drive space or higher Windows XP with SP2 or later, Vista, Window 7, 8, 10 At least one USB port
Physical	
Material	Aluminum enclosure.

Dimension	88 X 64.2 X 24 mm (3.46 X 2.53 X 0.95 inches)
Weight	200g.
Mounting	Probe/Wall-mount holes for hanging/mounting.
Others	
LED Indicator	Tri-Color LED: (can be disabled for power saving) Normal Sampling: green when sampling Alarm: red when sampling Low Battery: amber when sampling.
Operating Environment	-40 ~ +70°C (-40°F ~ 158°F), 0~95%RH non-condensing.
Clock Accuracy	+/- 1 minute per month.
Approvals	CE, FCC
Product Link	https://www.microedgeinstruments.com/pl-tw.php

[1]:

Must be powered by external 5VDC power supply via Mini-USB Port.

[2]: Sold separately.

Please refer to the product page for Modbus specifications:

<https://www.microedgeinstruments.com/pl-tw.php>

LOGGING CAPACITY

Sampling Interval	Enabled Channel	Logging Capacity	Sampling Interval	Enabled Channel	Logging Capacity
1 minute	1	8 years	1 second	1	48 days
1 minute	2	4 years	1 second	2	24 days
1 minute	8	1 year	1 second	8	6 days
10 seconds	1	485 days			
10 seconds	2	242 days			
10 seconds	8	60 days			