

## SITE-LOG LRTD

## Product specifications



### OVERVIEW

The SITE-LOG LRTD-1/2/3 is a 4-channel, battery powered, standalone RTD data logger. The logger records the ambient temperature and four resistance temperature detectors (RTDs). Data is stored in 8MB non-volatile flash memory for later retrieval.

Three models are available for 3 or 2-wire RTD types (PT100, PT500, PT1000). Its versatile equations simplify engineering unit conversion.

Plug & Play USB port makes the communication easy and Its aluminum enclosure makes it excellent in the harshest industrial environment.

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

Simply plug the logger to computer's USB port, and the software automatically recognizes it and handles the 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.
- ❖ **Wide Model Selection:**  
One on-board thermistor channel monitors ambient temperature. Four RTD input channels cover PT100, PT500 or PT1000 RTD types.
- ❖ **Versatile Equations:**  
Two built-in equations handle TCR 0.00385 and 0.00392. Custom equations support any other special RTD sensors.
- ❖ **Multiple Communication Interfaces:**  
One Plug& Play USB port makes communications with PC SiteView software super easy. One TTL serial port supports most legacy devices. Both ports automatically adjust their baud rate of up to 115 kbps.
- ❖ **10-Year Battery Life:**  
The internal lithium battery provides over 10 years of instantaneous logging operation when sampling at an interval of one minute.
- ❖ **Alarm and Excitation Output:**  
The SITE-LOG data logger notifies the alarm condition over alarm terminal strips or communication lines. (USB, Serial Port, MODEM)  
Excitation control turns on the power of external transmitter/transducer only when the logger is sampling.
- ❖ **Fast Sampling Mode:**  
The SITE-LOG data loggers can log data with the sampling interval as fast as 20 milliseconds, replacing data acquisition devices.
- ❖ **Rugged Physical Design:**  
The rugged aluminum enclosure and coated PCB makes the Site-Log data loggers perfect in the harshest industrial environment.



## SiteView Software Overview

SiteView is a PC based application works with Microedge 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.

### 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 graph views allow easy data comparison
- ❖ Dynamic statistics provides detailed information of current zoomed view
- ❖ Export to CSV, TXT, BMP, JPG, TIF, PNG, GIF file formats.





SiteView by Microedge Instruments (Version: 4.2.1)

**SiteView by Microedge Instruments**

File View Tools Help

Unit Category Equation Custom-Line Equation Plot Preferences Special characters USB D

Site-Log LPVB-1 (S/N: 01070100649)

Real-Time Refresh Download Clear Config

General Alarm and Excitation

LED light when sampling

Description: New Logger

Sampling Interval: 1 Minute

Start Time: 6/29/2013 11:19:52 PM

End Time:

Logging Method: Overwrite oldest data w

Total Memory: 2095104 Readings

User Selected Memory: 2095104 Readings

Used M: 7600 R

configured at: 6/29/2013 11:19:52 PM

currently logging data

ate dew point based on ch0: temperature

ouble DewPointEquation(double Input)

ble logEx

temperature

rh = Channels[1].Measurement;

dew\_point = DewPoint(temperature, rh);

on dew\_point;

**Real-Time View**

[0] 25.34 °C

**Configuration Dialog**

USB Port: Site-Log LPVB-1 (S/N: 01070100649)

USB:24 Properties

Baud Rate: 115200 Bits/second

Timeout: 5000 Milliseconds

**Graph View**

**Equation Editor**

```

double DewPointEquation(double Input)
{
    double temperature;
    double rh;
    rh = Channels[1].Measurement;
    dew_point = DewPoint(temperature, rh);
    return dew_point;
}
    
```

**Tabular View**

Time	#0: CH0 [°C]	#1: CH1 [mV]	#2: CH2 [mV]
6/29/2013 11:19:52 PM	24.27	0.610	0.305
6/29/2013 11:20:52 PM	24.40	0.610	0.610
6/29/2013 11:21:52 PM	24.37	0.610	0.610
6/29/2013 11:22:52 PM	24.25	0.610	0.610

**Equation Editor**

Complete Results

Help Apply OK Cancel

Time	Temperature [°C]	CH1 [mV]	CH2 [mV]	CH3 [mV]
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

Tabular Datasets Session/Statistics Axis Curve Properties

2019-12-13 20:00:01 (23.896 °C) (697.890 mV)

796 °C

8.119 mV

464 mV

464 mV

854 mV

464 mV

159 mV

464 mV

## Specification Details

<b>Product Identification</b>	
Product Name	SITE-LOG
Model	LRTD-1 (for PT100 sensor probe) LRTD-2 (for PT500 sensor probe) LRTD-3 (for PT1000 sensor probe)
<b>Inputs</b>	
Connections	Pluggable terminal block for four external channels, excitation controls and alarm outputs.
Channels	One on-board thermistor temperature (-40°C ~ 70°C, -40°F ~ 158°F). CH1 ~ CH4: three-wire/two-wire RTD. LRTD-1: 20 ~ 400 Ohms (-200°C ~ 850°C) LRTD-2: 90 ~ 1650 Ohms (-200°C ~ 630°C) LRTD-3: 185 ~ 3300 Ohms (-200°C ~ 630°C) Built-in equations for TCR 0.00385 and 0.00392
Resolution	0.0018% (PT100: 0.02°C, PT500,1000: 0.015°C)
Accuracy	Thermistor channel: +/- 0.2°C(0°C ~ 70°C, 32°F ~ 158°F) RTD channels: +/- 0.015% @ 25°C LRTD-1: +/-0.16°C @ 25°C LRTD-2/3: +/-0.13°C, @ 25°C
<b>Alarms</b>	
Channel Alarms	Two editable alarm thresholds per channel.
Alarm Outputs	ALARM1 & A2/EXT terminal strips can be configured as alarm outputs. Alarm-On: MOSFET(N-Channel) switch on. Alarm-Off: MOSFET(N-Channel) switch off. Max Power: 200mA @ 24VDC. With purchase of SiteView software, the Site-Log can report alarm status to host PC via USB, Modem or Ethernet Device Server.
Alarm-On Delay:	Programmable 0 - 10 minutes delay with 1-minute increments.
Alarm Indicator	On-board LED lights in red when in alarm condition.
<b>On-board Memory</b>	
Capacity	8 Mbytes (4 Mega measurements).
Data Retention	Over 20 years.
<b>Sampling &amp; Logging</b>	
Sampling Interval	20 milliseconds to 12 hours user selectable <sup>[1]</sup>
Logging Mode	Stop recording or FIFO when memory is full.
Logging Activation	Programmable instant, start delay or field push-button activation.
<b>Communications</b>	
Interface	USB(USB cable included). AUX(RJ11) for direct TTL level communications. With purchase of DeviceServer Kit, the Site-Log logger can be connected to Ethernet for remote access.
Baud Rate	Auto-detect baud rate from 2400 to 115200 bps on both USB and AUX ports.
<b>Battery</b>	



Power	Built-in 3.6V Lithium Battery.
Life Cycle	10 years based on 1 minute sampling interval.
<b>Software</b>	
SiteView <sup>[2]</sup>	Configuration, downloading, plotting, real-time view, custom calibration and custom equation.
Software Requirements	Computer with 1.0 GHz or faster processor 256 MB 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 or one COM port
<b>Physical</b>	
Material	Aluminum enclosure.
PCB Treatment	Conformal coating.
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.
<b>Others</b>	
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.
Excitation Control	A2/EXT terminal strip can be configured as excitation control output for driving the power of connected devices. Warm-up delay Interval settings: 10 to 240 seconds with 10-second increments.
Operating Environment	-40 ~ +70°C (-40°F ~ 158°F), 0~95%RH non-condensing.
Clock Accuracy	+/- 1 minute per month.
Approvals	CE, FCC

[1]:

Maximum enabled channel: 1 for 20ms sample interval, 2 for 30ms sample interval, 5 for 40ms or bigger sample interval. External power supply required if the sampling interval is less than one second.

[2]: Sold separately.

## 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	4	2 years	1 second	4	12 days
10 seconds	1	1.32 years	100 ms	1	4 days 20 hours
10 seconds	2	242 days	100 ms	2	2 days 10 hours
10 seconds	4	141 days	100 ms	4	1 day 5 hours



# RTD Probe Wiring

