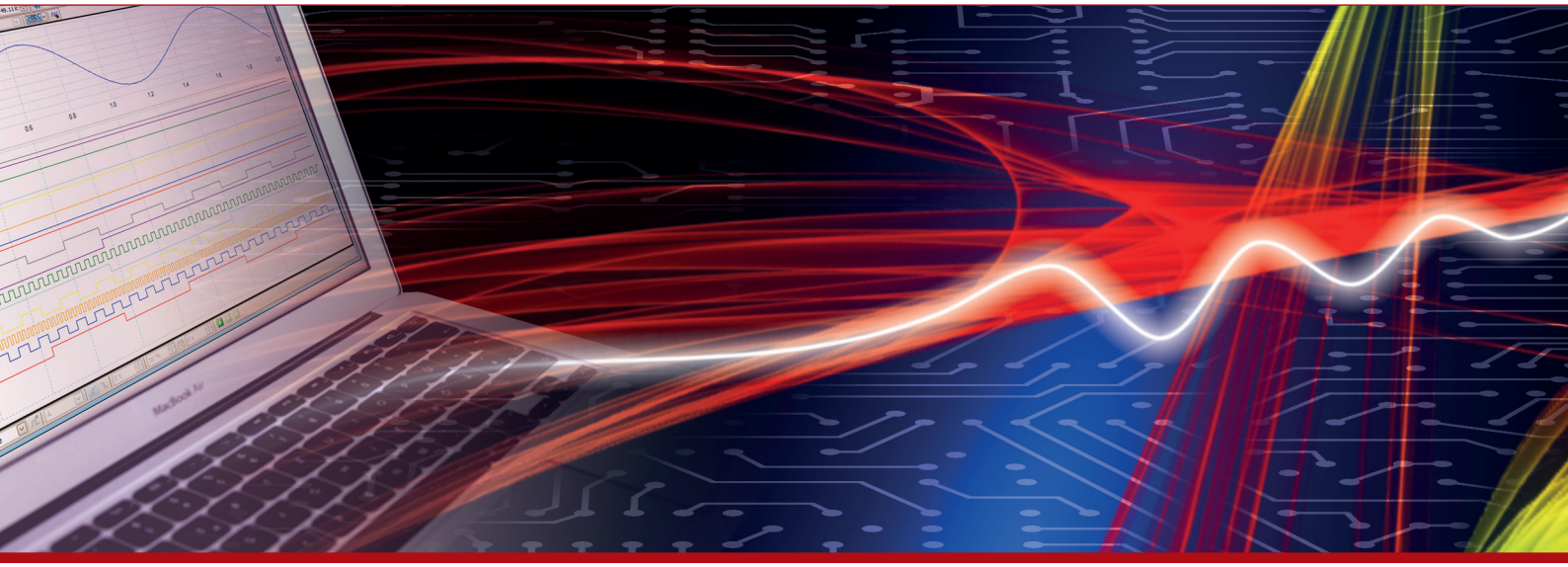
Product Datasheet - Technical Specifications



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Microedge Instruments Inc.

SITE-LOG Pulse/State/Event *Logger Specifications*

OVERVIEW

The Site-Log LPSE-1 is 7-channel, battery powered, stand-alone pulse/state/event data logger. The logger detects electronic or mechanical pulse counts, state changes or events in any of the seven channels and the data are saved in 4MB non-volatile flash memory for later retrieval. It works with gas/water/power meter, rain gauge, flow rate meter and any other digital signal/switch closure output devices.

Powered by configurable channel, internal pull-up and triggering edge selections, the LPSE-1 combines the functionalities of three types of loggers into one compact unit and is suitable for wide industrial applications.

Featuring an aluminum enclosure and conformal coating PCB, the Site-Log data logger has excellent performance in the harshest industrial environment.

Both data logger firmware and PC software are free for on-line upgrading with just couple of mouse clicks.

FEATURES

Multiple Configurable Channels:

The LPSE-1 contains total seven digital channels with pluggable terminal block for easy wiring. Each channel can be configured for pulse count, state change or event signal. The internal weak pull-ups can be turned on or off individually based on if the input is voltage or voltage free.

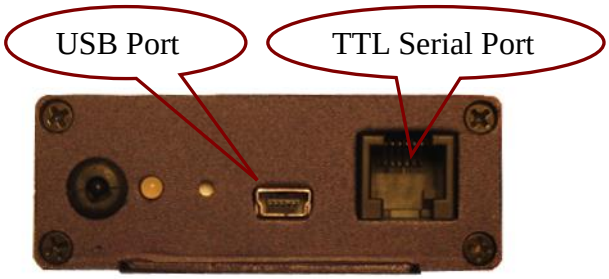
Large Memory Size:

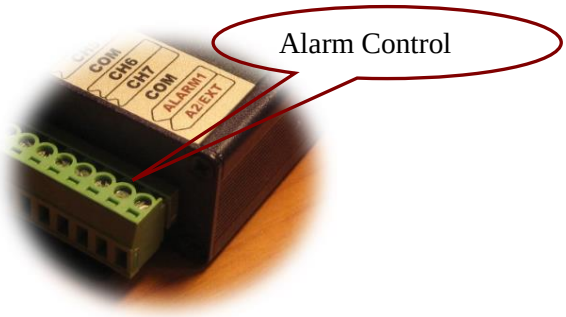
The 4-Mega-Byte Memory stores years of high precision time-stamped measurements.

Multiple Communication Interfaces:

The Site-Log data loggers can be accessed via USB, Serial Port, MODEM, or Ethernet connections with auto baud rate of up to 115 kbps.

Its on-board TTL serial port and USB interfaces meet most communication requirements.





5-Year Battery Life:

The internal lithium battery provides over 5 years of instantaneous logging operation when sampling at an interval of one minute or longer.

Wide Sampling Interval Selections:

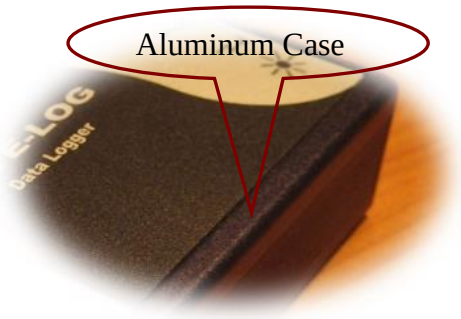
The LPSE-1 can log data with the sampling interval from one second to 12 hours.

Alarm Output:

The LPSE-1 notifies the alarm condition over alarm terminal strips or communication lines. (USB, Serial Port, MODEM)

Rugged Physical Design:

The rugged aluminum enclosure and coated PCB makes the Site-Log data loggers perfect in the harshest industrial environment.



SITEVIEW SOFTWARE FEATURES

SiteView is a PC based application works with SITE-LOG Series data loggers for downloading, configuration and data analyzing and plotting.

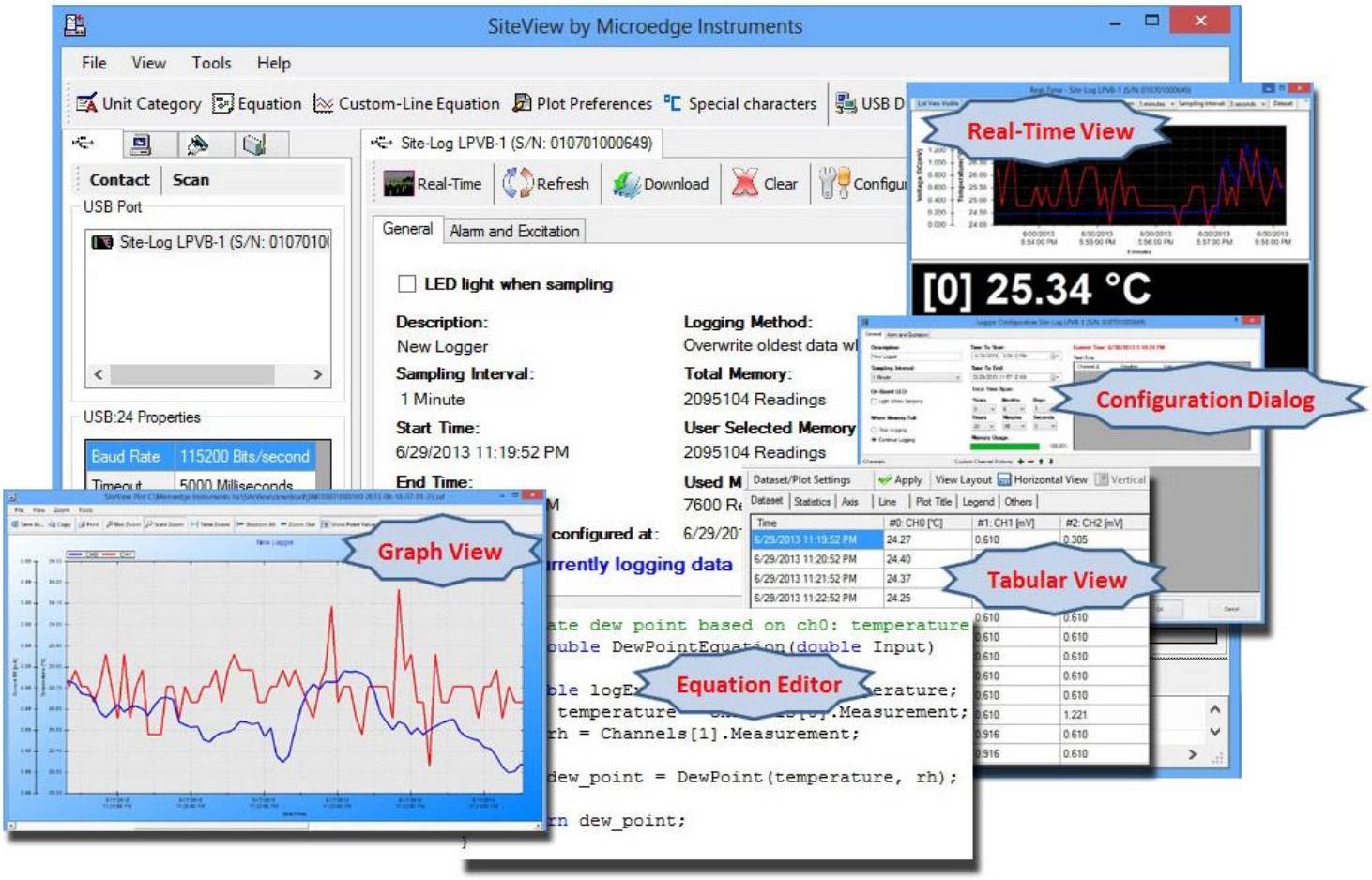
Its user-friendly graphic interface plus powerful functionalities fit both novice and advanced users.

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 file loading allows easy data comparison
- Dynamic statistics provides detailed information of current zoomed view

- Export to CSV, TXT, BMP, JPG, TIF, PNG, GIF file formats.



SPECIFICATIONS

Product Identification	
Model	LPSE-1
Inputs	
Connections	Pluggable terminal block for seven external channels and alarm outputs.
Channels	Seven external channels record state changes, event or pulse count. Each channel can be configured as either stage, event or pulse channel based on applications. For Event and Pulse configuration, each channel's trigger detection can be configured between Normal Open (High to Low) (suggested) and Normal Close (Low to High) (not suggested)
Type of Inputs	Voltage, solid state switch, coil relay, dry contact, digital TTL signal.
Max. Pulse Count / Interval	65535 pulse counts
Pulse Accuracy	± 1 pulse
Max. Pulse Rate	Without external power supply: 10 HZ (20 HZ if only one channel enabled) With external power supply : 2 KHZ (4 KHZ if only one channel enabled)
Min. Pulse Width	Without external power supply: 35 milliseconds With external power supply: 0.5 milliseconds
Internal Weak Pull-Up	100 KOhms. Switch on/off by software
Input Impedance	>= 1MOhm
Max. Input Voltage	40 Volts
Trigger High Voltage	>= 2.7 Volts
Trigger Low Voltage	<= 0.5 Volt
Alarms	
Channel Alarms	Two editable alarm thresholds per channel.
Alarm Outputs	ALARM1 & 2 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.
On-board Memory	
Memory Capacity	4 MB (698KB Readings).
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). AUX(RJ11) for direct TTL level communications. With purchase of Site USB DeviceServer, 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.
Battery	
Power	Built-in 3.6V Lithium Battery.
Life Cycle	5 years if 1 minute sampling interval or longer, normal open contact
Software	
SiteView [1]	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 1.0 GB of available hard-drive space or higher Windows XP with SP2 or later, Vista, Window 7 At least one USB port or one COM port
Physical	
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.
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

[1]: Sold separately.

LOGGING CAPACITY TABLE

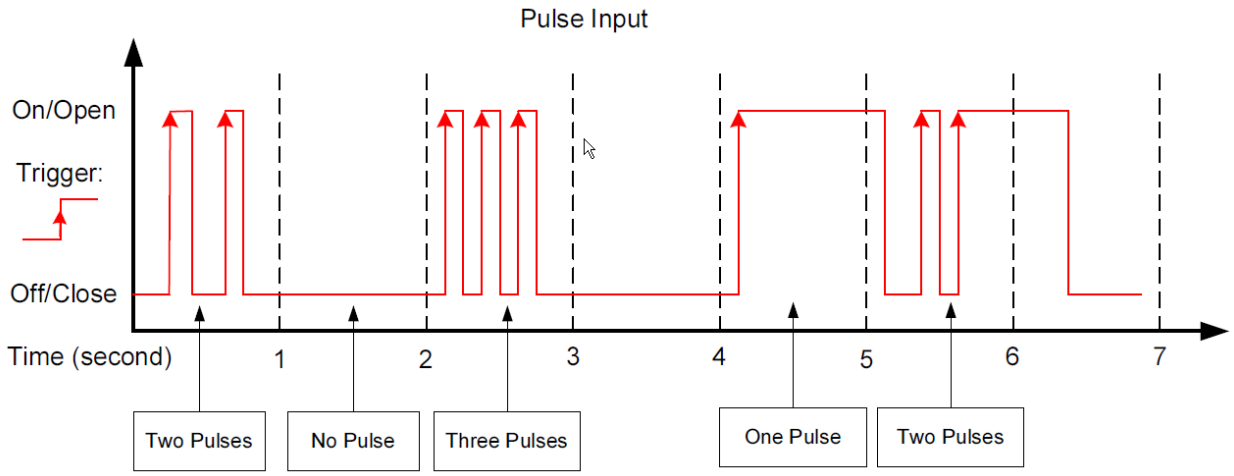
Sampling Interval	Enabled Channel	Logging Capacity	Sampling Interval	Enabled Channel	Logging Capacity
1 minute	1	484 days	10 seconds	7	11 days
1 minute	7	69 days	1 second	1	8 days
10 seconds	1	80 days	1 seconds	7	27 hours

Note: For State and Event channel, the above capacity is calculated based on a state or event occurs in every sampling period.

BASIC KNOWLEDGE OF PULSE/STATE/EVENT CHANNELS

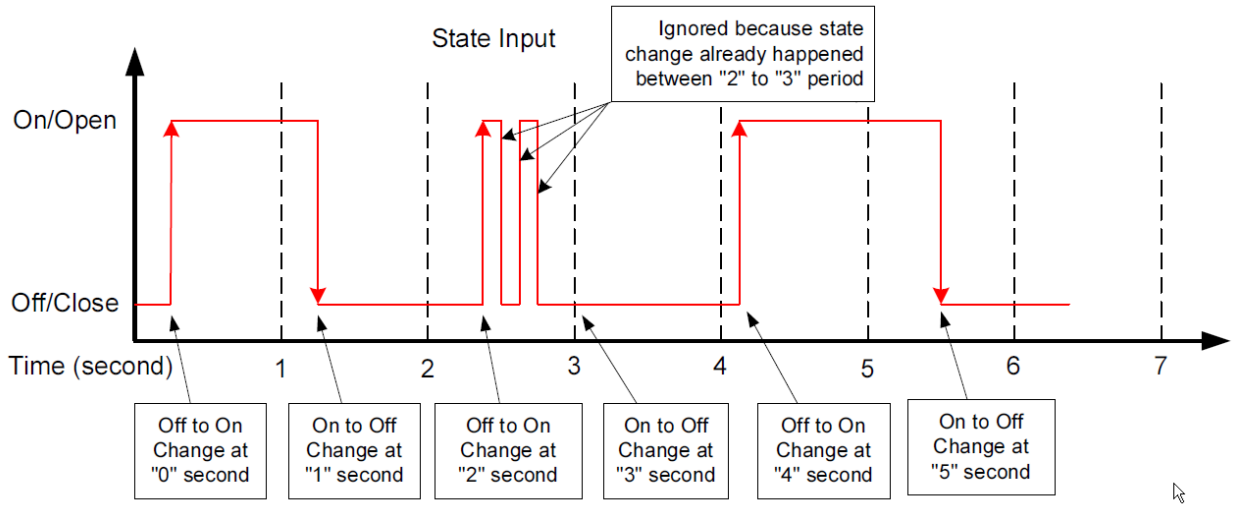
Pulse Channel:

Pulse channel is used to measure and record the pulse signal. It records the total pulse count over the pre-defined sampling interval period and so on. A device with pulse output can be a flow meter, energy meter etc.



State Channel:

State channel is used to detect a state changes. It records the time stamp when a state changed from Off/Close to On/Open and from On/Open to Off/Close . The resolution of the time stamp is the sampling interval. i.e. if a state changed more than once during a sampling interval period only the first state will be recorded (the third period in the diagram below). A typical application is to monitor how long a device is on and off.



Event Channel:

Event channel is used to detect the number of events that occur but not the duration of the event. In each sampling interval period if it detects an event, it saves the event with the time stamp. The

resolution of the time stamp is the sampling interval. i.e. if there are more than one events occur during the same sampling interval period it only saves the first event (the third period in the diagram below). A typical application is to monitor rainfall with tipping bucket.