

Signatrol.com

Data Logging Solutions

SL5xUSB Instruction Sheet

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Warning: Please install the TempIT software BEFORE connecting the USB interface to the computer.

Introduction

The SL5x series USB data loggers are designed to provide an accurate record of temperature or temperature & relative humidity exposure and are ideal for the monitoring of sensitive goods in transit and in process applications.

There are three versions of the USB data logger:

The SL51USB is used for general purpose data logging applications.

The SL52USB which has improved accuracy, better resolution, faster sample rates and has a larger memory.

Both operate over the temperature range -10°C to +85°C (14°F to +185°F).

The SL54USB measures both temperature & relative humidity.

The PC operating software, TempIT-Lite is free to download from our web site alternatively; the data logger can be used with the chargeable TempIT-Pro package to provide greater functionality.

Both versions provide a powerful yet easy to use graphing package as well as a platform to set up and issue the logger.

Change Note: CN0057

Software requirements

TempIT-Pro or TempIT-Lite operating software

Installing the software

Insert the TempIT software disk into the CD drive, which will auto run and guide you through the installation procedure. If downloaded from the web site, use explorer to highlight the setup.exe file and double click on the file.

The software will install as TempIT-lite. This can be converted to the TempIT-Pro software platform by inserting the appropriate enabling code, which can be obtained from the Signatrol service department on 01684 299 399 or support@signatrol.com. The software contains a comprehensive 'HELP' function to help guide you through the functions.

Communicating with the data loggers

The USB data loggers are self contained data loggers that require no additional cables. It is essential that the TempIT software has been installed before you connect the data loggers to the computer. Once the software has been installed, plug the data logger into a spare USB slot. Launch the TempIT software. Ensure the correct device type and port are selected in the Device screen (Options>Configuration>Device)

Operating Procedure.

The standard data logger operation is a two stage procedure comprising of the issue, whereby all the relevant operating parameters are downloaded to the data logger and recording is initiated. The second stage is where the stored readings are downloaded from the data logger to the computer and displayed as a graph of temperature against time.

Issue

The relevant parameters are entered into the operating software such as sample rate, alarm parameters etc. The issue logger button is then clicked which sends the configuration data to the button. More details can be found in the Help within TempIT under the quick start guide.

WARNING: Issuing the tag erases all data currently stored in the button, ensure it is saved prior to issue.

To preserve battery life, the data logger should be issued with sample rate of 24 Hours when not in use. Also, setting the memory mode to stop when full, instead of wrap when full will ensure the logger stops reading once full.

Alarms

Two temperature alarms are provided, one high and one low. The alarm set-point is entered during the issue phase. The alarms are 'armed' when the first reading is taken unless delayed start is selected. If the delayed start function is selected the alarm becomes immediately active as soon as the future start Date/time is reached.

Manifest

There are two manifest areas; owner and user. The owner manifest is only entered once, when the logger is issued for the first time. The owner manifest remains within the logger for its entire life and cannot be modified. The owner manifest is normally used to record details of the owner and / or the date purchased.

The user manifest can take up to 64 characters of manifest data which can be entered and stored within the logger and can be changed for every journey.

Manifest data can be free typed at issue and may be used to record such things as the shipment number, the licence number of the truck, the security tie serial number, the drivers name etc.

Data Download

Temperature readings are stored within the button and can be downloaded by clicking the Download Icon. More details can be found in the Help within TempIT under the quick start guide. Once the readings have been downloaded, they are immediately presented on the screen as a graph of temperature against time. So you can see the exact temperature of the data logger at any point in time.

If using the TempIT-Pro software, the readings are also available in a tabular format. High alarms appear highlighted in red and low alarms appear blue. It is important to note that the readings are not saved at this point and if required data can be saved and printed using the appropriate icon in the control panel to the left of the main graph. It is recommended that readings are always saved. Mid-journey data can be saved and at the end of the journey any new data will be appended to the mid-journey data.

Battery Life

The SL51USB data loggers are designed to record in excess of 1,000,000 samples at ambient temperature. This means an operational life in excess of 10 years. The battery life of the SL52USB& SL54USB is less because of the added functions. Typical battery life for these data loggers will be 3-5 years, depending on sample rate and operating temperatures. Increasing the sample period and reducing the temperature exposure will increase life significantly.

To preserve battery life:

1. Select the longest scan interval consistent with the application
2. Select 8 bit rather than 11 bit mode if 8 bit is sufficient.
3. Do not leave the logger in logging in 'Wrap when full' mode when not in use.
4. Do not leave the logger at elevated temperatures when not in use.
5. If using the temperature trigger, make sure the sample rate is set for a long time if the trigger point is unknown as the data logger continues to takes readings in this mode even if the readings are not stored away.

There is a comprehensive battery life calculator on the Signatrol website.

Previously Stored Data

Previously stored data can be displayed by selecting file and double clicking on the appropriate file. More details can be found in the Help within TempIT.

Self Heating Effects

When the data logger is connected to the computer, there is a slight self heating effect of approximately 4°C when left for a period of 30 minutes or more. These errors are removed once the data logger has been disconnected from the computer.

Troubleshooting

No communications with reader:

Check the correct port and device type have been selected in the software. Ensure that no other software is loaded that is taking control of the port

There are also a number of animated tutorials available within the help section of TempIT.

Reference: SIG-1256-01-02

SL51USB Specifications @ 25°C

Power, Internal Battery	10 years or 1 Million Samples
Measuring Range	-10°C to +85°C (14°F to +185°F)
Accuracy	±1.0°C from -10°C to +70°C
Resolution	0.5°C
Number of Readings	2048
Sample Rate	1 minute to 255 minutes
Ingress Protection	IP20 – 0 to 95%RH Non Condensing
Manifest Text – User	64 Characters
Manifest text – Owner	30 Characters
Delayed Start Available	Yes
Calibration Interval Reminder	12 Months (Recommended)
Warranty	12 Months
Dimensions	6mm Thick x 17mm Diameter

SL52USB Specifications @ 25°C

Power, Internal Battery	~5yrs with 10 min sample rate (Lo Resolution mode) ~2 Years with 10 min sample rate (Hi Resolution mode) ~100 Days with 10 second sample rate and low resolution mode
Measuring Range	-10°C to +85°C (14°F to +185°F)
Accuracy	±0.5°C from -10°C to +65°C
Resolution	0.5°C or 0.07°C (Selectable)
Number of Readings	8192 or 4096 depending on resolution
Sample Rate	1 second to 24 hours
Ingress Protection	IP20 – 0 to 95%RH Non Condensing
Manifest Text – User	64 Characters
Manifest text – Owner	30 Characters
Delayed Start Available	Yes
Calibration Interval Reminder	12 Months (Recommended)
Warranty	12 Months
Dimensions	6mm Thick x 17mm Diameter

SL54USB Specifications @ 25°C

Power, Internal Battery	~5yrs with 10 min sample rate (Lo Resolution mode) ~2 Years with 10 min sample rate (Hi Resolution mode) ~100 Days with 10 second sample rate and low resolution mode
Measuring Range	-10°C to +85°C (14°F to +185°F)
Accuracy	±0.5°C from -10°C to +65°C
Resolution	0.5°C or 0.07°C (Selectable) 0.64%RH
Number of Readings	8192 or 4096 depending on resolution
Sample Rate	1 second to 24 hours
Ingress Protection	IP20 – 0 to 95%RH Non Condensing
Manifest Text – User	64 Characters
Manifest text – Owner	30 Characters
Delayed Start Available	Yes
Calibration Interval Reminder	12 Months (Recommended)
Warranty	12 Months
Dimensions	6mm Thick x 17mm Diameter

Specifications subject to change without notice.

Change Note: CN0057

This Apparatus conforms with:-The protection requirements of Council Directive 89/336/EEC on the approximation of the laws of Member States relating to electromagnetic compatibility (Article 10 (1)), as amended by Council Directives 92/31/EEC, 93/68/EEC and changes.

STANDARD:- BS EN 61326;1998 IEC 61326:1997 Electrical Equipment for measurement, control and laboratory use EMC requirements.

IMMUNITY ANNEX A (Industrial Locations)EMISSIONS CLASS B

Disclaimer: Whilst we at Signatrol Ltd take pride in the performance and accuracy of our products, any product can and will fail. It is therefore recommended that all products are regularly checked for performance and calibration and that any application which involves the health and/or safety of persons, animals or other living organisms should have a secondary system and the Customer should not rely on the data from the product alone.

The Company shall not be liable for any consequential loss or damage, costs, expenses or other claims for consequential compensation or any other claims for indirect or economic loss whatsoever which arise out of or in connection with any Order for the supply of the Goods and/or the provision of the Services.

The Company's liability for damage to tangible property resulting from breach of contract and/or any negligent act or omission of the Company or its employees, agents or sub-contractors shall be limited to £5,000,000 in respect of any one incident or £5,000,000 in respect of any series of incidents arising from a common cause.

Full details of the extent of the Company's liability are contained in the Terms and Conditions of Sale available on request or from our web site www.signatrol.com.



Reference: SIG-1256-01-02