Signatrol.com
Data Logging Solutions

SL51T, SL52T, SL53T and SL55T Instruction Sheet

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Warning: If using the USB interface, please install the TempIT software BEFORE connecting the USB interface to the computer.

Introduction
The SL50 series button data loggers are designed to provide an accurate record of temperature exposure and are ideal for the monitoring of sensitive goods in transit and in process applications.
There are four versions of the button logger, the SL51T for more general purpose applications, the SL52T which has improved accuracy/resolution and has a larger memory, the SL53T which can measure up to +125°C and the SL55T which can measure up to +140°C.

The PC operating software, TempIT4-Lite is free to download from our web site alternatively; the button can be used with the 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

Software requirements
TempIT4-Pro or TempIT4-Lite operating software

Installing the software
Insert the TempIT4 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 TempITPro 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 SL50 series connect via the holder and cable to the USB port of the computer.
Place the button into the holder with the etched face down. They should only fit in one way.
Launch the TempIT software. Ensure the correct device type and port are selected in the Device screen (Options>Configuration>Device)
See TempIT Quickstart Guide for more detailed information.

Operating Procedure.
The standard button operation is a two stage procedure comprising of the issue, whereby all the relevant operating parameters are downloaded to the button and recording is initiated.

The second stage is where the readings are downloaded from the data logger to the PC via the reader and are displayed in the TempIT Software in the form of a graph.

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 or in 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 prior to issue. 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
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 readings are downloaded, they are immediately presented on the screen as a graph.

Alarms appear highlighted in red. The Readings are not saved at this point and if required data can be saved and printed using the appropriate icon from the panel on the left hand side. It is recommended that data 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 SL51T 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.

IMPORTANT
Battery life is considerably shortened by fast logging and at temperatures in excess of 45 °C

The Signatrol website contains a battery life calculator that can be used to calculate battery life for all of the SL50 series data loggers.

A guide to preserving battery life:

1. Select the longest sample rate 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.

Previously Stored Data
Previously stored data can be access via the Open Graph window. Select the appropriate file by checking the checkbox on the left of the table. TempIT-Pro user can select more than 1 graph file and overlay graphs on the same X axis.

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
No communication with button:
Ensure logger is placed in the holder
More details can be found in the Help within TempIT

SL51T / SL51T-A Specifications @ 25°C
Battery Life: 10 years or 1 Million Samples.
Temperature Range: -40°C to +85°C
Accuracy: ±1.0°C from -30 to +70°C
Resolution: 0.5°C
Number of Readings: 2048
Sample Rate: 1 to 255 minutes (1 min steps)
Ingress Protection: Splash Resistant - IP55
Manifest Text: 64 Characters
Delayed Start: Yes
Case Material: 305 Stainless Steel
Calibration Interval: 12 months recommended
Warranty: 1 Year
Dimensions: 17mm Dia x 6mm Height

SL52T / SL52T-A Specifications @ 25°C
Battery Life: >5yrs with 10min sample 0.5°C resolution.
>2yrs with 10min sample 0.07°C resolution
>100days with 10sec sample 0.5°C resolution
Temperature Range: -40°C to +85°C
Accuracy: ±0.5°C from -10 to +65°C
Resolution: 0.5 or 0.07°C
Number of Readings: 8192 or 4096 (mode dependant)
Sample Rate: 2* seconds to 24 Hours
Ingress Protection: Splash Resistant - IP55
Manifest Text: 64 Characters
Delayed Start: Yes
Case Material: 305 Stainless Steel
Calibration Interval: 12 months recommended
Warranty: 1 Year
Dimensions: 17mm Dia x 6mm Height

SL53T / SL53T-A Specifications @ 25°C
Battery Life: See Graph
Temperature Range: 0°C to +125°C
Accuracy - SL53T: ±0.5°C from +20 to +75°C
Accuracy - SL53T-A: ±0.2°C from +80°C to +125°C
Resolution: 0.5 or 0.07°C
Number of Readings: 8192 or 4096 (mode dependant)
Sample Rate: 1 second to 24 Hours
Ingress Protection: Splash Resistant - IP55
Manifest Text: 64 Characters
Delayed Start: Yes
Case Material: 305 Stainless Steel
Calibration Interval: 12 months recommended
Warranty: 1 Year
Dimensions: 17mm Dia x 6mm Height

SL55T-A Specifications @ 25°C
Battery Life: 150 Hours or 150 cycles when used above +85°C
Temperature Range: +15°C to +140°C

SL55T-A Accuracy: ±0.5°C from +80°C to +140°C
±1.0°C from +15°C to +80°C

Resolution: 0.5 or 0.07°C
Number of Readings: 8192 or 4096 (mode dependant)
Sample Rate: 1 second to 24 Hours
Ingress Protection: Splash Resistant - IP55
Manifest Text: 64 Characters
Delayed Start: Yes
Case Material: 305 Stainless Steel
Calibration Interval: 12 months recommended
Warranty: 1 Year
Dimensions: 17mm Dia x 6mm Height

Specification subject to change without notice.

*As default TempIT will only make available sample rates down to 30 seconds. The User should disable “Suppress fast sample rates” under options>configuration, if sample rates from 1 to 30 seconds are required (model depending).

SL50-ACC01 Enclosure
The SL50-ACC01 is a protective enclosure that should be used to protect the SL50 series data loggers. The SL50-ACC01 is constructed from 316 stainless steel and hold a single button logger. It allows the data logger to be submerged to a depth of 100m or withstand pressure of up to 10 Bar. The enclosure can also be used in harsh environments where contaminants may effect sealing on the standard button.

Operation:
The SL50-ACC01 is a two part enclosure. Unscrew the two halves. You will then have the lid, with a spring fitted and the base. The data logger is placed in the base with the etched face down. This ensures good thermal response through the bottom of the enclosure. The lid can then be screwed on with the spring being used to ensure the etched face of the data logger is always in contact with the base of the enclosure.
If you require more information on the SL50 series accessories, please contact your distributor or the sales office directly on
+44 (0)1684 299 399

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.

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