

Signatrol.com

Data Logging Solutions

SL150T & SL151T Instruction Sheet

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**Always install software and drivers
before inserting USB devices.**

Introduction

The SL15x series data loggers are designed to provide an accurate record of temperature exposure and are ideal for the monitoring of sensitive goods in transit.

Up to 24,576 readings can be stored in the logger which uses the powerful TempIT-Lite software package, running on a PC, to download the configuration and to retrieve the data. High and Low alarms can be set with a programmable time period for which the alarm limit must exceed before it is recognised as an alarm. Any alarm condition detected is clearly shown on the chart and, in the case of the SL151T, is annunciated by flashing an on-board LED.

The unique fully welded construction results in an exceptionally robust device well suited to the rigors of transportation. It is manufactured from food grade ABS.

The PC application software, TempIT-Lite is free from our web site alternatively; the SL15x 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. Up to 128 characters of manifest information are held within the logger for easy identification and data retrieval.

TempIT Requirements

Operating System: Windows 2000, WinXP or Vista32.
IBM PC or compatible computer 500 MHz (1GHz recommended) with 256MB Ram (512MB Recommended)
SL150R Reader with RS232 or USB interface.

Communicating with the SL15x Series Logger.

The SL15x has a short-range radio communications link that is designed to communicate with a SL150R Reader.

Plug the reader into the relevant comms port (RS232 or USB depending upon the version). Place the SL15x either way up on the reader in the area outlined. Power up the PC and run the TempIT application software.

Operating Procedure.

The standard tag operation is a two stage procedure comprising of the issue, whereby all the relevant operating parameters are downloaded to the Logger. The second stage is where the data are down-loaded from the Tag to the PC via the reader and are displayed on the TempIT application software.

Issue

The relevant parameters are entered into the operating software such as sample rate, alarm parameters etc. The issue tag button is then clicked which sends the configuration data to the Tag. The first readings is taken 1 sample period after issue. If an event is set, the first reading is taken within 1 seconds of the event.

An number of different event starts are available on the SL151, listed below.

Magnetic Start: Once issued the SL151 will not recorded data until a strong magnet is swipped along the length of the case. Suitable magnets are available from your supplier. Applied magnet as shown in [Appendix 1](#).

Level Start: Once issued the SL151 will measure the temperature at the sample rate defined during issue. If the temperature transverses either level limits (high/low) the temperature logging will start and all subsequent measurement will be recorded.

Delayed Start: Once issued the SL151 will not record data unit the date/time set during issue has elapsed.

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

Alarms

Two time/temperature alarms are provided, one high and one low. The alarm setpoint is entered prior to issue together with time for which the temperature must be in alarm before the tag recognises it as an alarm. The alarms are 'armed' the first time the temperature goes into the non-alarm state. e.g if the ambient temperature is 20 °C when the Tag is issued and the high alarm is set for 8 °C, the alarm will not be primed until the first time the measured temperature falls below 8 °C. If the an event start function is selected (SL151 only) this feature is disabled and the alarm becomes immediately active as soon as the future Date/time is reached.

Manifest

There are two manifest areas; owner and user. The owner manifest is entered once only the first time it is issued and remains within the lag for its entire life and is normally used to record details of the owner. The user manifest can take up to 128 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

Data are stored within the Logger and can be downloaded by clicking the Download Icon. Once data are downloaded it is immediately presented on the screen as a graph (In the case of the TempIT-Pro. a data-table is also available). Alarms appear highlighted in red (high) and blue (low). The Data are not saved at this point and if required data can be saved and printed using the appropriate icon. It is recommended that data are always saved. Mid-journey data can be save and at the end of the journey any new data will be appended to the mid-journey data.

Security Tie

The SL15x is equipped has a ring mounting hole which is used to secure the device. This can be achieved by using a standard security tie which is used to ensure that the logger is not tampered with. The security ties are for single use and must be cut off to remove. Each tie has a unique serial number which should be noted and/or programmed into the logger manifest. In this way, the user can be sure that the logger has not been moved from its intended location without the operator knowing. Spare security ties are available from your supplier.

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.

High Security Operation

For applications that require a high level of security a special SL151T/HS (High Security) version has been produced. This is a high integrity system that manages the entire data collection process in line with the requirements of FDA CFR21 Part 11, including full support of electronic signatred. Contact Sales Office for more details.

Troubleshooting

No communications with reader:

Check the correct port has been selected in the software.
Ensure that no other software is loaded that is taking control of the port

No communication with Tag:

Ensure Tag placed on the reader in the centre lining up with graphic

RTC-LOW error:

Logger battery is no longer serviceable.

More details can be found in the Help within Tempit

Specification @ +20°C

SL150T

Measurement Range:	-30 to +60°C.
Temperature Resolution:	0.02°C.
Accuracy:	±0.52°C (-20 to +50°C)
Sample Rate:	1 to 255 minutes, in 1 minute increments.
Max Readings:	2048.
Power:	Internal Battery.
Battery Life:	4 years.
Store Mode:	Stop When Full.
Start Method:	Immediate.
Response Time (63%):	Liquid = 3 min 30 seconds. Air = 6 min 30 seconds.
Internal Clock Accuracy:	±20ppm (2 seconds per day).
Alarms:	No internal alarms. Levels can be set for alarm levels on graph.
LED indicators:	Not available.
Manifest Text:	128 characters.
Reader Log:	16 entries.
Tag Number:	Customer set integer (range 0 to 999999999)
Recommended Calibration Period:	12 months.
Case Material:	Food Grade ABS.
Battery:	Lithium. Not serviceable.
Ingress Protection:	IP68.
Colour:	Top: Yellow, Base: Yellow.
Weight:	Approx 50g.
Dimensions:	(L)117mm (W) 57mm (H)10mm, with mounting hole.

Specification @ +20°C

SL151T

Measurement Range:	-30 to +60°C.
Temperature Resolution:	0.02°C.
Accuracy:	±0.52°C (-20 to +50°C)
Sample Rate:	30 seconds to 24 Hours.
Max Readings:	selectable from 100 to 24576 readings.
Power:	Internal Battery.
Battery Life:	3.5 years.
Store Mode:	Stop When Full.
Start Method:	Immediate, magnetic, level & delayed start.
Response Time (63%):	Liquid = 3 min 30 seconds. Air = 6 min 30 seconds.
Internal Clock Accuracy:	±20ppm (2 seconds per day).
Alarms:	Visual indication of alarm status via LED.
LED indicators:	Green LED "OK", Red LED "Alarm Triggered"
Manifest Text:	128 characters.
Reader Log:	16 entries.
Tag Number:	Customer set integer (range 0 to 999999999)
Recommended Calibration Period:	12 months.
Case Material:	Food Grade ABS.
Battery:	Lithium. Not serviceable.
Ingress Protection:	IP68.
Colour:	Top: Black, Base: Yellow.
Weight:	Approx 50g.
Dimensions:	(L)117mm (W) 57mm (H)10mm, with mounting hole.

SPECIFICATION SUBJECT TO CHANGE WITHOUT NOTICE.



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

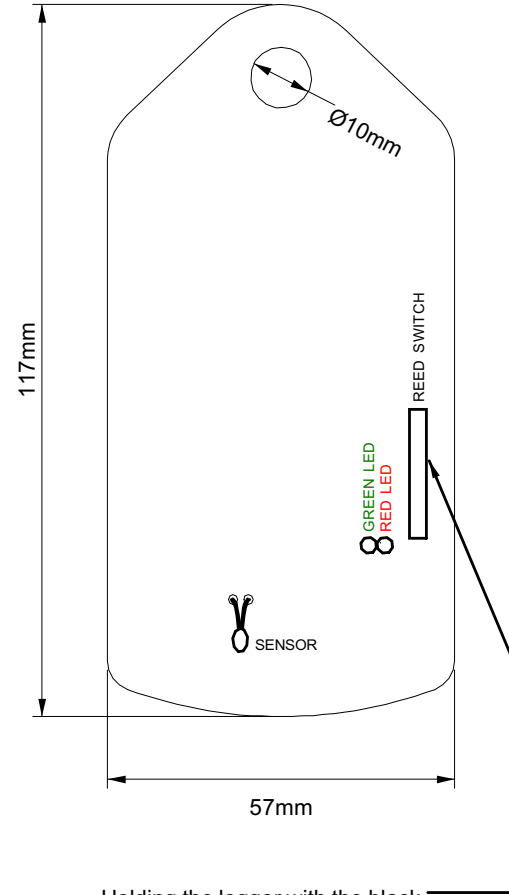
Disclaimer: Whilst we at Signatrol Ltd take pride in the performance and accuracy of our products, any product can and will fail. It is therefore recommended that all products are regularly checked for performance and calibration and that any application which involves the health and/or safety of persons, 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.

Appendix 1.
SL151T Black Face.



Holding the logger with the black side facing you. Swip a strong magnet along the right hand edge.