

# SINGLE CHANNEL TEMPERATURE DATA LOGGER

SL51T BUTTON DATA LOGGERS

Miniature

Sample Rates from 1 minute

Monitor from -40°C to +85°C

Signalrol

Self Contained Temperature Data Logger

Splashproof

TempIT Compatible

## INTRODUCTION

The SL51T is self contained single channel temperature data logger with the ability to record up to 2,048 data points. The SL51T will measure from -40°C to +85°C with a typical accuracy of  $\pm 1^\circ\text{C}$ . They are very small (about the same size as a watch battery) which enables them to be inserted into small items and packages.

The SL50R Button Reader™ interfaces to the RS232 or USB port of a PC and is totally compatible with the TempIT-lite operating software which enables the logger to be set up and the data read and displayed in graphical format. Data can be stored and retrieved at a later time. The software can be up-graded to TempIT-Pro which provides various additional features such as data table view, export data to spreadsheet, email graphs, and automated MKT Calculations etc.



## SPECIFICATIONS

Description	SL51T
Sensor - Internal Temperature Sensor	-40°C to +85°C
Sensor Accuracy	$\pm 1^\circ\text{C}$ from -30°C to +70°C $\pm 1.3^\circ\text{C}$ Outside this band
Battery Life	10 Years or 1 million samples*5
Sample Rates (User Selectable)	1 to 255 Minutes
Memory Size	2048 Readings
Battery	3.0V Lithium: Non Replaceable
Resolution	8 Bit (0.5°C)
Response Time	Typically 90 seconds in circulating air
Size	17mm Diameter x 6mm Height
Case Material	305 Stainless Steel
Weight	4 grams
Sealing	IP55 - Water Resistant See protective enclosures for waterproof applications.
Communication	RS232 Serial or USB
Clock Accuray	$\pm 2$ Minutes per Month
Sampling Methods	Continuous (First in First Out) or Stop When Full*2
Alarms	High and Low
Start Delay	Up to 45 days, 1 Minute Resolution
Start on Alarm	No
Owner Manifest Data	Up to 32 Characters
User Manifest Data	Up to 64 Characters

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## Computer Requirements

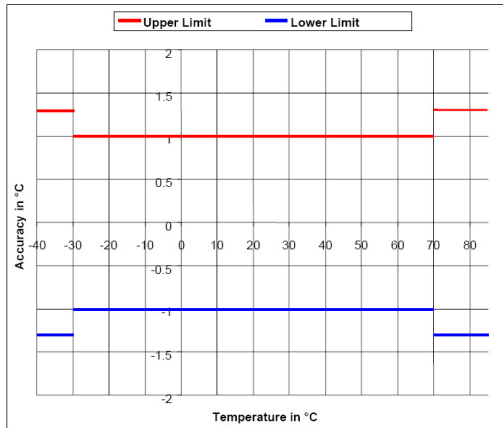
Operating System: Windows 2000, WinXP or Vista32.  
IBM PC or compatible computer 500 MHz ( 1GHz recommended) with 256MB Ram (512MB Recommended)

## Software Requirements

TempIT-Lite ( free from Signatrol website: [www.signatrol.com](http://www.signatrol.com) ) or TempIT-Pro

## Error Curve

The SL51T actual error depends upon the ambient temperature according to the following graph:

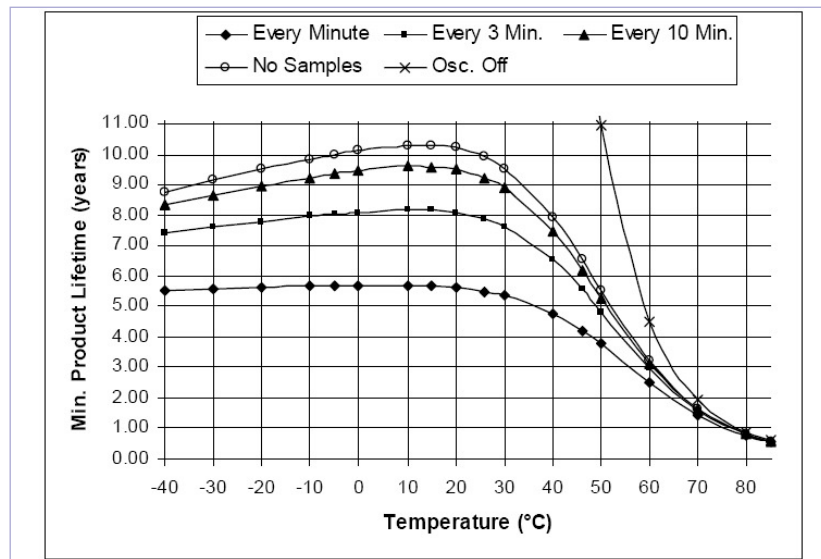


## APPLICATIONS

Food processing verification, pharmaceutical storage, laboratories, transportation of temperature sensitive goods, equipment run time, HVAC system testing and balancing, etc.

## Battery Life

Battery life is considerably shortened by logging at temperatures in excess of 30°C. The following graph shows the effect of temperature on the battery life of the SL51T.



SL51T Battery life, in years.

## ORDER CODE

SL51T Low Cost Data Logging button -40°C to +85°C

## STARTER KITS

SL51 - KIT - [ ] - [ ]

Interface:  
USB - USB Interface  
232 - RS232 Interface

Number of Data Loggers:  
2,3,4 or 5

## ACCESSORIES

- SL50-INTERFACE-USB USB Interface cable
- SL50-WALL Wall Mounting Bracket - Pack of 5
- SL50-CLIP Plastic Snap-in Fob - Pack of 5

## SOFTWARE

- TempIT-Lite Operating Software (Free from website)
- TempIT-PRO Standard Operating Software

**signatrol**

## INTRODUCTION

Signatrol offer a range of water-tight secondary enclosures that have been developed to protect the SL50 series of data logging buttons. These are especially recommended when the button is likely or expected to be subjected to pressure variations.

Use of the enclosure slows the response time as detailed in the tables below. To download the logged temperature data, the logger needs to be taken out of the enclosure. The maximum operating temperature is defined by the type of button used.



### SL50-ACC01



Construction	316 Stainless Steel
Protection	Up to 10 Bar / 100m Submersion
'O' Ring	Silicone BS115
Response Time - With SL51T inside - in water.	
63% Step Change	73 Seconds
10 to 90% Step Change	142 Seconds
Response Time - With SL51T inside - in air.	
63% Step Change	373 Seconds
10 to 90% Step Change	717 Seconds

#### ORDER CODE

SL50-ACC01 Stainless Steel Enclosure

### SL50-ACC03



Construction	Polyphenylene Sulphide*
Protection	Up to 1 Bar / 10m Submersion
'O' Ring	Silicone S500-70 FDA Approved
Response Time - With SL51T inside - in water.	
63% Step Change	118 Seconds
10 to 90% Step Change	237 Seconds
Response Time - With SL51T inside - in air.	
63% Step Change	407 Seconds
10 to 90% Step Change	827 Seconds

#### ORDER CODE

SL50-ACC03 Plastic Enclosure

\* The injection molding compounds (Ryton® PPS) used in the SL50-ACC03 are subject to the general safety provisions of the U.S. Food, Drug and Cosmetic Act. It is the responsibility of the purchaser/user the enclosure to determine the safety and suitability of the injection molding compounds for their specific application.

## SL50-ACC05



Construction	316 Stainless Steel
Protection	Up to 0.5 Bar / 5m Submersion
'O' Ring	Silicone BS115
Response Time - With SL51T inside - in water. 63% Step Change 10 to 90% Step Change	40 Seconds 111 Seconds
Response Time - With SL51T inside - in air. 63% Step Change 10 to 90% Step Change	232 Seconds 478 Seconds

### ORDER CODE

SL50-ACC05

Fast Response Stainless Steel Enclosure

## SL50-ACC06



Construction	Silicone Rubber*
Protection	Up to 0.5 Bar / 5m Submersion
'O' Ring	Silicone S500-70 FDA Approved
Response Time - With SL51T inside - in water. 63% Step Change 10 to 90% Step Change	90 Seconds 243 Seconds
Response Time - With SL51T inside - in air. 63% Step Change 10 to 90% Step Change	270 Seconds 575 Seconds

### ORDER CODE

SL50-ACC06-PK5

Pack of 5 Silicone Enclosures

SL50-ACC06-PK10

Pack of 10 Silicone Enclosures

\* Silicone material trade name - Thermoflex compound No 2850R. Minimum operating Temperature -50°C (-58°F). Maximum operating temperature +316°C (+600°F). Please note Maximum operating temperature with SL51T or SL52T data loggers is +85°C (+185°F). When used with the SL53T data loggers, the maximum operating temperature is +125°C (+257°F)