

SINGLE CHANNEL TEMPERATURE DATA LOGGER

Miniature

SL51T, SL52T, SL53T & SL55T BUTTON LOGGERS Sample Rates from 1 second to 24 hours

Monitor from -40°C to +140°C

www.signatrol.com

Self Contained Temperature Data Logger

Splashproof

TempIT Compatible

INTRODUCTION

The SL51T, SL52T, SL53T and SL55T are self contained single channel temperature data loggers with the ability to record up to 8,000 data points. Depending upon the model chosen, they will measure from -40°C to +85°C (SL51T & SL52T), 0°C to +125°C (SL53T) or +15°C to +140°C (SL55T). 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, snap to trace, and automated MKT Calculations etc.



SPECIFICATIONS

Description	SL51T	SL52T, SL53T & SL55T
Sensor - Internal Temperature Sensor	-40°C to +85°C	-40°C to +85°C - SL52T 0°C to +125°C - SL53T +15°C to +140°C - SL55T
Sensor Accuracy	±1°C from -30°C to +70° ±1.3°C Outside this band	±0.5°C from -10°C to +65°C SL52T ±0.5°C from +20°C to +75°C SL53T ±1.5°C from +90°C to +140°C SL55T ±0.5°C from +80°C to +140°C SL55T-A
Battery Life	10 Years or 1 million samples*5	Depends upon sample rate, resolution and ambient temperature*1
Sample Rates (User Selectable)	1 to 255 Minutes	1 second to 24 hours*1 & 2
Memory Size	2048 Readings	8192 - Low Resolution Mode 4096 - High Resolution Mode
Battery	3.0V Lithium: Non Replaceable	
Resolution	8 Bit (0.5°C)	8 Bit - Low Res Mode (0.5°C) 11 Bit - High Res Mode (0.07°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	±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	Yes
Owner Manifest Data	Up to 32 Characters	
User Manifest Data	Up to 64 Characters	

*Notes:

1. Sample rate affects battery life as does high temperature exposure - see charts overleaf
2. "Stop when full" is the only option for sample rates less than 1 minute
3. Resolution is programmable as 8 or 11 bit. More data is stored in 8 bit mode and battery life is enhanced
4. Application pending
5. With ambient temperature less than 50°C

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Data Logging Solutions

Computer Requirements

Operating System: Windows 2000, WinXP or Vista32.

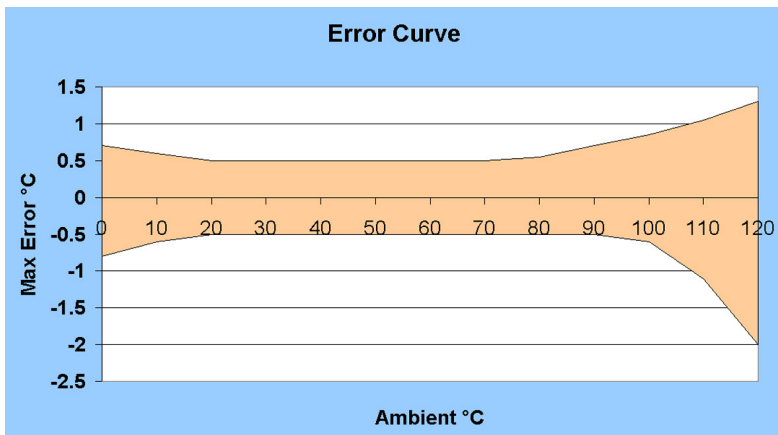
IBM PC or compatible computer 500 MHz (1GHz recommended) with 256MB Ram (512MB Recommended)

Software Requirements

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

Error Curve

The SL53 actual error depends upon the ambient temperature according to the following graph:

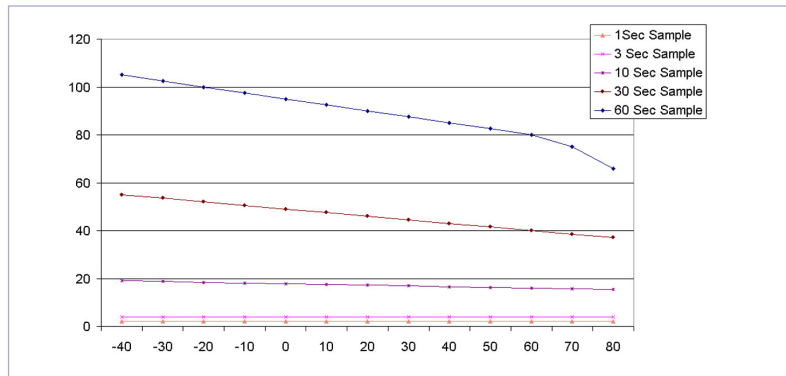


APPLICATIONS

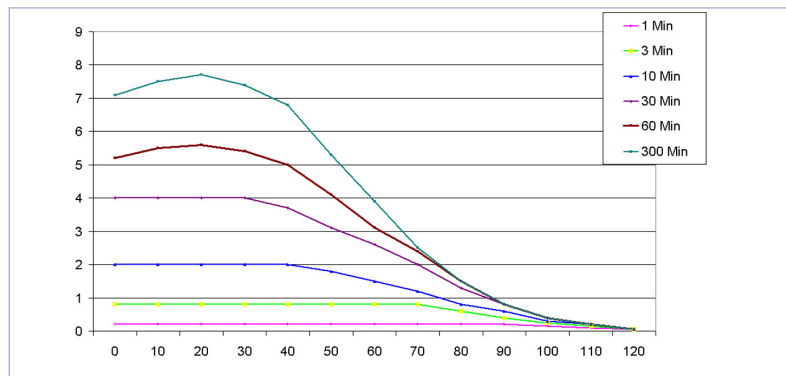
Food processing verification, pharmaceutical storage, laboratories, transportation of temperature sensitive goods, equipment run time, HVAC system testing and balancing, etc.

Battery Life

Battery life is considerably shortened by fast logging and at temperatures in excess of 45 °C. The following graphs show their effect on the product life of the SL53. Because of this effect , the logger can only be used in 'Stop when Full' mode for sample intervals of less than 1 Minute. Graphs shown are for high resolution mode, longer life is achieved using low resolution mode (contact sales office for details.). For extreme worst case applications (1 second log interval @ 125 °C) battery life is restricted to 25 test cycles in high resolution mode and 76 test cycles in low resolution mode. Increasing the sample time and reducing the temperature exposure will increase life significantly.



SL53T Battery life, in days when fast logging. Graph shows days against measuring temperature (°C)



SL53T Battery life, in years when normal logging. Graph shows years against measuring temperature (°C).

ORDER CODE

SL51T	Low Cost Data Logging button -40°C to +85°C
SL52T	Data Logging button -40°C to +85°C
SL53T	Data Logging button 0°C to +125°C
SL55T	Data Logging button +15°C to +140°C
SL55T-A	High Accuracy SL55T

STARTER KITS

_____ - KIT - _____ - _____	
Type:	SL51, SL52, SL53, SL55 or SL55A
Interface:	USB - USB Interface 232 - RS232 Interface
Number of Data Loggers:	1,2,3,4 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