

# Signatrol.com

## Data Logging Solutions

### RC51T / RC51T-A Quickstart Guide

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#### Introduction

Thank you for purchasing your data loggers from Signatrol. There is no operating software supplied with this data logger, the software is downloadable from the Signatrol website:

[www.signatrol.com/rc51](http://www.signatrol.com/rc51)

#### Installation

**The software should be installed BEFORE connecting the data logger to the computer.**

Download the software from the site above. Once downloaded, locate the file and run it. Follow the on screen instructions. All relevant drivers should automatically install.

#### Computer Requirements

Operating System: Windows 7 or later  
Ram - 2GB Recommended

#### Operating for the first time

Once the software has been installed, there will be an icon on the desktop:



Double clicking on the icon will start the software.

Once the software has started, connect the data logger to the USB port on the computer.

#### Configuration

Once the data logger has been connected, click on the Logger Setup icon on the left hand side:



The current setup of the data logger will be displayed.

The main areas of interest in this window are:

**Log Interval.** This is how often the data logger will wake up and take a reading.

**Cycle.** This is how long it will take to fill the memory at the current log interval.

**Stop Mode.** With manual enabled, pressing the button on the logger for 5 seconds will stop recording. With manual disabled, the logger will stop recording when the memory is full or stopped using the software. You can stop the data logging process at any time by using the software.

**Start Mode.** There are three start methods. "Right Now" will start the logging as soon as the configuration is save to the data logger. "Manual" requires the button on the data logger to be pressed for 5 seconds to start logging. "Timing" starts logging at a specific time and date.

**Description.** This is a free type field when you can enter something specific to the application you are logging.

**Multiple Work.** This should be set to enable to allow the data logger to be reused. If set to "disable" the logger cannot be restarted without using the software.

The next option is to configure and alarms. If no alarms are required, select the "No Alarm" button. If alarms are required, select the "Multiple Alarms" button and the alarm section will be shown:



Here you can set alarm limits. Multiple high and low alarms are possible. The alarm mode determines the type of alarm. If "Single" mode is used, the alarm will triggers as soon as the temperature is measure above the high alarm or below the low alarm. If "Cumulative" mode is selected the alarm condition needs to exist for a specified amount of time.

Once the parameters have been set as required, click on the Save icon:



Please note, clicking on the Save icon will clear any stored readings held within the data logger. Ensure you have downloaded any stored readings before clicking on the Save icon as all readings will be lost.

#### Using the LCD during operation

During normal logging operation the display will be blank. Momentarily pressing the button on the data logger will turn the display on for approximately 15 seconds.

The first press will show the current temperature and a tick or cross in the lower left hand corner of the screen will indicate if the data logger has gone above or below the programmed alarm limits.



In the example above, the current temperature is 2.3°C and with the tick showing, no alarm conditions have been encountered.

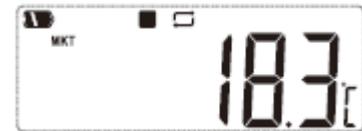
Pressing the button again before the display turns off will show the number of readings the data logger has taken, 32,000 in this example:



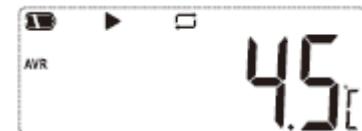
Pressing the button again will show the current sample rate or log interval. 12 minutes 50 seconds in this example:



A further press will show the Mean Kinetic Temperature (MKT):



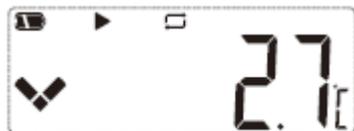
A further press will show the Average Temperature (AVG):



A further press will show the maximum temperature the data logger has experienced since logging started. 9.8°C in the example shown:



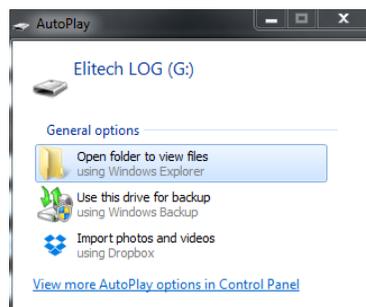
A further press will show the minimum temperature the data logger has experienced since logging started. 2.7°C in the example shown:



### Downloading Stored Readings (Without Software)

Although the software can be used to view the stored readings, the software is NOT required to view the PDF report. The data logger will appear in Windows Explorer as a USB drive.

Put the data logger into the USB port on the computer. Normally the "AutoPlay" window will pop up:



Select "Open Folder To View Files" and the PDF file will be shown. The opened using the free of charge Adobe Acrobat Reader. The file can also be copied to the computer or emailed.

### Downloading Stored Readings (With Software)

Start the software and put the data logger in the USB port of the computer.

Click on the Upload icon:



After a short while, the readings will be copied to the computer and the summary screen shown. This shows information on the data contained within the data logger. The data remains in the data logger memory until the data logger is restarted in the logger setup screen.

Above the summary table are two further options:



Clicking on "Graph" will show a graph of the stored temperature readings:



Clicking on "Table" will show the readings in a tabular format:

ID	Time	T°C	ID	Time	T°C	ID	Time	T°C	ID	Time	T°C
1	2017/05/12 09:53:37	23.8	26	2017/05/12 09:57:47	24.5	51	2017/05/12 10:01:57	24.4	76	2017/05/12 10:06:07	24.7
2	2017/05/12 09:53:47	23.9	27	2017/05/12 09:57:57	24.5	52	2017/05/12 10:02:07	24.4	77	2017/05/12 10:06:17	24.7
3	2017/05/12 09:53:57	24	28	2017/05/12 09:58:07	24.5	53	2017/05/12 10:02:17	24.4	78	2017/05/12 10:06:27	24.8
4	2017/05/12 09:54:07	24	29	2017/05/12 09:58:17	24.5	54	2017/05/12 10:02:27	24.4	79	2017/05/12 10:06:37	24.8
5	2017/05/12 09:54:17	24.1	30	2017/05/12 09:58:27	24.5	55	2017/05/12 10:02:37	24.4	80	2017/05/12 10:06:47	24.8
6	2017/05/12 09:54:27	24.1	31	2017/05/12 09:58:37	24.5	56	2017/05/12 10:02:47	24.4	81	2017/05/12 10:06:57	24.8
7	2017/05/12 09:54:37	24.2	32	2017/05/12 09:58:47	24.4	57	2017/05/12 10:02:57	24.4	82	2017/05/12 10:07:07	24.8
8	2017/05/12 09:54:47	24.2	33	2017/05/12 09:58:57	24.4	58	2017/05/12 10:03:07	24.4	83	2017/05/12 10:07:17	24.8
9	2017/05/12 09:54:57	24.2	34	2017/05/12 09:59:07	24.4	59	2017/05/12 10:03:17	24.4	84	2017/05/12 10:07:27	24.8
10	2017/05/12 09:55:07	24.3	35	2017/05/12 09:59:17	24.4	60	2017/05/12 10:03:27	24.4	85	2017/05/12 10:07:37	24.8
11	2017/05/12 09:55:17	24.4	36	2017/05/12 09:59:27	24.4	61	2017/05/12 10:03:37	24.4	86	2017/05/12 10:07:47	24.8
12	2017/05/12 09:55:27	24.4	37	2017/05/12 09:59:37	24.4	62	2017/05/12 10:03:47	24.4	87	2017/05/12 10:07:57	25
13	2017/05/12 09:55:37	24.5	38	2017/05/12 09:59:47	24.4	63	2017/05/12 10:03:57	24.5	88	2017/05/12 10:08:07	25
14	2017/05/12 09:55:47	24.5	39	2017/05/12 09:59:57	24.4	64	2017/05/12 10:04:07	24.5	89	2017/05/12 10:08:17	25
15	2017/05/12 09:55:57	24.5	40	2017/05/12 10:00:07	24.4	65	2017/05/12 10:04:17	24.6	90	2017/05/12 10:08:27	25
16	2017/05/12 09:56:07	24.5	41	2017/05/12 10:00:17	24.4	66	2017/05/12 10:04:27	24.6	91	2017/05/12 10:08:37	25.1
17	2017/05/12 09:56:17	24.6	42	2017/05/12 10:00:27	24.4	67	2017/05/12 10:04:37	24.6	92	2017/05/12 10:08:47	25.1
18	2017/05/12 09:56:27	24.6	43	2017/05/12 10:00:37	24.4	68	2017/05/12 10:04:47	24.6	93	2017/05/12 10:08:57	25.1
19	2017/05/12 09:56:37	24.6	44	2017/05/12 10:00:47	24.4	69	2017/05/12 10:04:57	24.6	94	2017/05/12 10:09:07	25.2
20	2017/05/12 09:56:47	24.6	45	2017/05/12 10:00:57	24.4	70	2017/05/12 10:05:07	24.6	95	2017/05/12 10:09:17	25.3
21	2017/05/12 09:56:57	24.6	46	2017/05/12 10:01:07	24.4	71	2017/05/12 10:05:17	24.6	96	2017/05/12 10:09:27	25.3
22	2017/05/12 09:57:07	24.6	47	2017/05/12 10:01:17	24.4	72	2017/05/12 10:05:27	24.6	97	2017/05/12 10:09:37	25.3
23	2017/05/12 09:57:17	24.5	48	2017/05/12 10:01:27	24.4	73	2017/05/12 10:05:37	24.6	98	2017/05/12 10:09:47	25.3
24	2017/05/12 09:57:27	24.5	49	2017/05/12 10:01:37	24.4	74	2017/05/12 10:05:47	24.6	99	2017/05/12 10:09:57	25.3
25	2017/05/12 09:57:37	24.5	50	2017/05/12 10:01:47	24.4	75	2017/05/12 10:05:57	24.7	100	2017/05/12 10:10:07	25.3

### Saving The Data

Clicking on the "Save Data" icon will store the reading in the database file on the computer:



To view the log files held within the database, click on the "DataBase" icon:



A list of all the stored readings will be shown:

Device	Data Points	Highest	Lowest	Start Time	Stop Time	Status
EL1609000621_0000001	200	25.4°C	23.6°C	2017/05/12 09:53:37	2017/05/12 10:26:47	OK
EL1606060313	14665	32°C	14.2°C	2016/09/19 13:02:09	2016/11/29 09:02:09	OK

Select the file you wish to view and click on the "Show" icon along the top to open the specific file.

### Specifications:

Temperature Measuring Range:	-30°C to +70°C
Resolution	0.1°C
Sensor	Internal NTC Thermistor
Accuracy	±0.5°C (-20°C to +40°C) ±1°C (-30°C to +70°C)
Memory Size	32,000 readings
Reusable Memory	Yes
Memory Mode	Stop when full or Wrap when full
Alarms	Yes, high and low
Log Interval / Sample Rate	10 seconds to 24 hours
Data Interface	USB
Report Type	PDF
Power Supply	3.6V Lithium Battery (User replaceable)
Battery Life	Typically 12 months at 25°C with 15 min record interval
Warranty	12 months
Dimensions	131mm x 24mm
Weight	50g

### Replacing The Battery

Remove the clear plastic cap. Insert a small screw driver in the small hole on the side of the data logger, where the thread starts. Push in to release the clip and pull the two halves apart to expose the battery. Replace the battery and the two halves back together.