

UNIVERSAL DATA LOGGER

SL7000 SERIES

16 Bit Resolution
Universal Input Data Logger

1, 2, 3, 4, 5, 6, 7, 8 and 9 Channels

www.signatrol.com

LCD Display Option

User Replaceable Battery

Typical 6 Years battery Life

INTRODUCTION

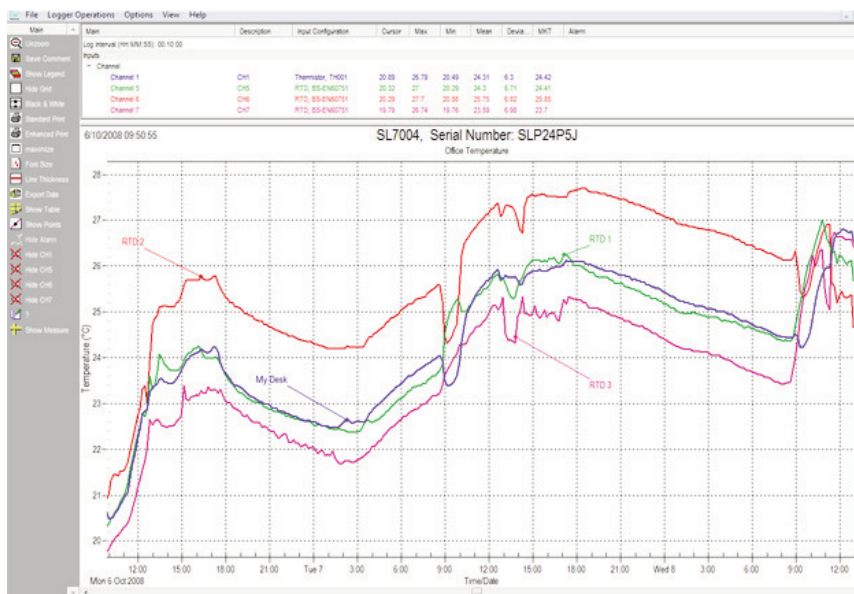
The SL7000 is a data logger that has a very flexible combination of inputs from a single temperature input up to 4 universal inputs (RTD, Thermocouple, mA, V, mV, Thermistor, Slidewire) combined with an internal temperature and RH as well as a optional external temperature and RH sensor. All units feature a digital input which can be used as an event trigger or as a counter input enabling counts of up to 65535 per period to be recorded.

Powered by its own, user replaceable, internal battery that has a typical life in excess of 6 years, up to 128,000 readings can be recorded at intervals from 1 second to 24 hours.

The SL7000 features unprecedented accuracy, combining our extensive knowledge of instrumentation precision with data logging technology. High end resolution of 16 Bit for all universal inputs and a modular build ensures that the unit is competitively priced whatever the application.

An on-board LCD display (Optional) shows selected channel information and integral LED displays provide immediate scanning and alarm status information.

The logger can be set to start immediate, start on an event (either a trigger event or the exercising of an external digital input) or start with the application of an external magnet (Provided). This feature enables loggers to be set up in advance of the mission by a supervisor and to be launched at the start of the journey / log period by an operator.



The SL7000 series data loggers are connected to the computer via a USB cable (provided). It is possible to network up to 64 devices.

All SL7000 series data loggers are supplied with the TempIT-Pro software for configuration and data analysis.

TempIT-pro allows data table view, multi-trace graphing, automatic calculation of mean kinetic temperature (MKT), automatic A0 and F0 calculations, export to spreadsheet function and the facility to email graphs anywhere in the world, assuming you have an Internet connection.

Data is easily exported in comma separated value format (CSV). CSV files can easily be imported into spreadsheets programs like Microsoft Excel.

Signatrol.com
Data Logging Solutions



SL7000 TECHNICAL SPECIFICATIONS

| Description | Detail |
|--|---|
| Input Variations | Internal Temperature and counter Internal Temperature + RH and counter Internal Temperature, 2 Channel Universal and counter Internal Temperature + RH, 2 Channel Universal and counter Internal Temperature, 4 Channel Universal and counter Internal Temperature, RH, 4 Channel Universal and counter +Additional External Temp and RH option on all versions |
| Universal Input (maximum 4) Any Combination | Pt 100: 2 or 3 Wire °C or °F (BS EN 60751/JIS1604) Ni100, Ni120: 2 or 3 Wire °C or °F Cu100: 2 or 3 Wire °C or °F Thermocouples Types J, K, T, R, S, B, N °C or °F Thermistor (Various Types) °C or °F (0 to 20) mA Scaled in engineering units ±100mVdc Scaled in engineering units (0 to 1)Vdc Scaled in engineering units (0 to 10) Vdc Scaled in engineering units Slidewire Scaled in engineering units (100 ohm to 10Kohm) |
| Measurement Resolution | All Universal Inputs - 16 Bit ¹ Internal & External Temperature - 12 Bit Internal & External Relative Humidity - 8 Bit |
| Counter Input | Used to start logging or as a counter. Maximum Count = 65535 per sample period. A current flowing into the counter pin >1 mA <10 mA or a Potential Free Contact (PFC) = logic '1'. Counts can be actual counts or scaled in engineering units. Maximum frequency = 32768Hz. |
| Start Options | Programmable Delay Period (10 minutes to 1 year) Start on external magnet swipe Start when counter input goes high Start on event trigger |
| Channel Indicators | 8 Green LED's to indicate logging status changing to Red indicate alarm condition. |
| Communication Indicator | 1 Yellow LED to indicate comms activity |
| Sample Rate | 1 Second to 24 hours for all channels |
| Display | Optional 3.5 Digit LCD with channel indication and low battery warning. Continuous display with value updated every 4 to 255 seconds (programmable). Units displayable are °C, °F, mA, V, % |
| Communication Interface | USB Isolated (mini-USB 1B Male connector) - Cable Supplied |
| Universal Input Connector | 14 Way 2 part plug/socket |
| External Temperature & RH Connector | 6 Pin mini-Din |
| Sample Methods | Point - The sampled measurement is stored directly to memory. Averaging - The average value per period is stored Maximum - The maximum value per period is stored Minimum - The maximum value per period is stored |
| Cold Junction Compensation | Uses internal temperature sensor |

Note 1 Sample Rate > 5 Minutes = 16bit, <5Minutes > 1 Minute = 15 Bit
< 1 Minute> 8 seconds = 14 Bit, <=8 Seconds = 13 Bit

SL7000 Accuracy @ 25 °C

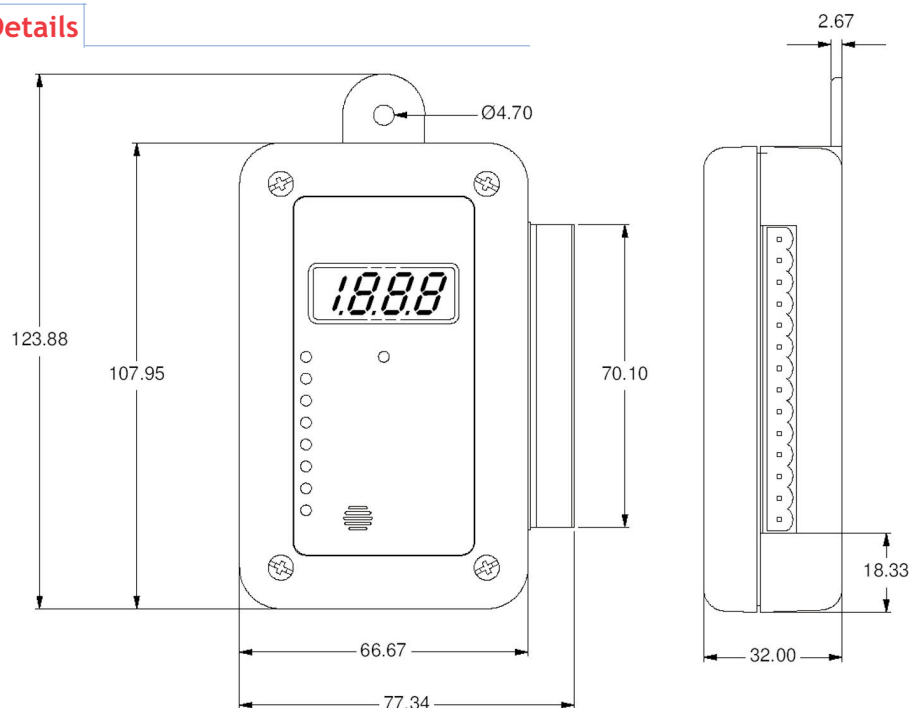
| Description | Detail |
|--|---|
| Internal Temp | ± 0.5 °C (-30 °C to +70 °C) |
| External* Temp | ± 0.4 °C @ +25 °C, ±1.75 °C (-30 °C to +70 °C) |
| Internal/External RH | ± 2.0%RH over 10%-90% ± 4.0% RH over the range 0-10% and 90-100%RH |
| Pt100 2 or 3 Wire °C or °F | ± 0.1 °C ± 0.1% rdg |
| Ni100/Ni120*/Cu100* | ± 0.2 °C ± 0.1% rdg |
| Slidewire | ± 0.02% FSD |
| 0/20mA | ± 0.01% FSD |
| ±100mVdc | ± 0.01% FSD |
| 0/1Vdc | ± 0.01% FSD |
| 0/10Vdc | ± 0.01% FSD |
| Thermistor (Various Types, °C or °F) | Type dependent contact sales office for details |
| Thermocouples J, K, T and N (°C or °F) | ± 0.1% FSD ± 0.5 °C |
| Thermocouples R, S and B (°C or °F) | ± 0.2% FSD ± 0.5 °C |

SL7000 General Specification

| | |
|-------------------------|--|
| Memory Size | 0 or 2 Universal Inputs - 62,000 Readings 4 Universal Inputs - 128,000 Readings |
| Memory Utilisation | Wrap Around (First in, First Out) or Stop when Full (Default). |
| Battery | Lithium AA (3.6V DC) 2.7 Ah User replacable |
| Battery Life | Typically 6 Years (2700mAh) |
| Ambient Operating Range | -30 °C to +80 °C |
| Manifest Text (User) | 256 Characters |
| Manifest Text (Owner) | 256 Characters |
| Alarm Setpoints | Independent High and Low, Latching per channel |
| Alarm Trigger Time | Each Setpoint has an associated time. This time dictates the period the alarm must be continuously present before the alarm is raised. The options are 0 to 255 sample periods. |
| Event Trigger | A programmable level per channel that will cause all channels to start recording when the input first crosses the threshold in the specified direction. An event can also be the exercising of an external digit signal or the activation of a magnetic swipe. |
| Low Battery Warning | Low Battery displayed when battery life has less than one month to go. |

SL7000 Mechanical Details

Dimensions in mm



SL7000 Order Codes

SL7 []

0 - No Display
1 - Display Fitted

0 - USB Interface

0 - Internal Temperature Only
1 - Internal Temperature + Internal Relative Humidity
2 - 2 Universal Inputs + Internal Temperature
3 - 2 Universal Inputs + Internal Temperature & Relative Humidity
4 - 4 Universal Inputs + Internal Temperature
5 - 4 Universal Inputs + Internal Temperature & Relative Humidity

Accessories

- SL-ACC7000-01 External Temp/RH Probe
- SL-ACC7000-02 Replacement Miniature USB connecting lead
- SL-ACC7000-03 Replacement Lithium Thionyl Chloride Battery
- SL-ACC7000-04 External power supply (cannot be used with ACC7000-01)
- SL-ACC7000-05 Spare 14 way input connector