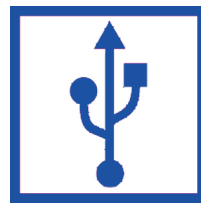
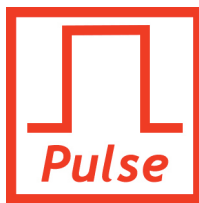
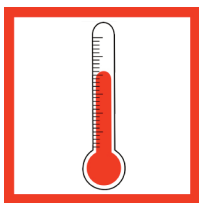


# SL7000 Series

Universal Input Data Loggers



- Pt100, Thermocouples, mA, mV, Volts, Slidewire
- Fully Programmable Inputs Via USB
- Up to 6 Years Battery Life
- Supplied With TempIT-PRO Software
- Up to 128,000 Readings



# SL7000 Series

## Universal Input Data Loggers

The SL7000 data loggers have a very flexible combination of inputs from a single temperature up to 4 universal inputs each of which can be individually configured to accept any combination of the following sensor types:

RTD / Pt100  
Thermocouple (Types J, K, T, R, S, B, N) (isolated tip)  
mA (4/20mA)  
0-10 Volts DC  
mV  
Thermistors  
Slidewire  
Cu  
Ni  
Pulse Counter

The SL7000 data loggers comprise of twelve different models. All have an internal temperature sensor and a digital input which can be used as a trigger to start logging or for interfacing with devices with a pulse output. An optional internal relative humidity sensor with  $\pm 2\%$  accuracy is available and all units will accept an optional external temperature and relative humidity sensor.

Eight models have either two or four universal inputs. Each universal input is configured in the software to accept most of the common industrial sensors, Pt100, thermocouple, mA, mV, Volts, thermistors, slidewire, Cu and Ni. It is possible to have any combination of these sensors and the configuration can be changed at any time provide great flexibility.

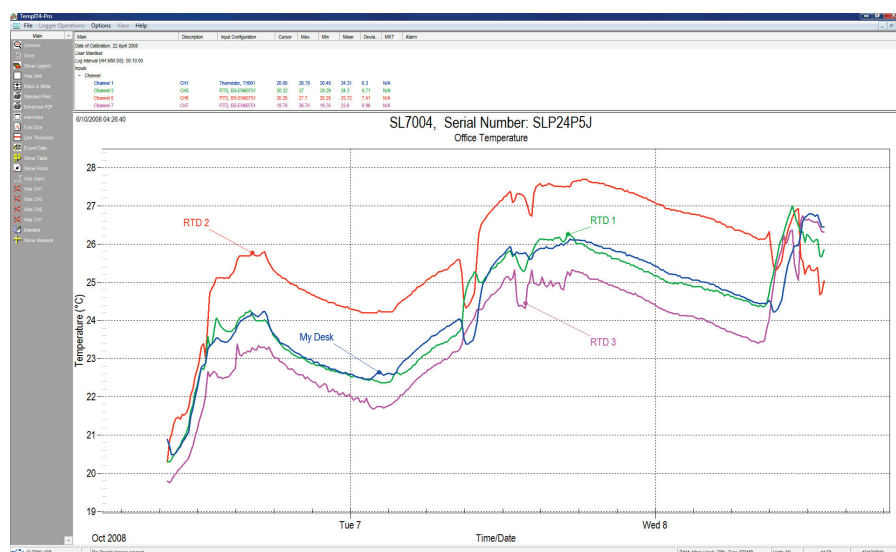
This gives a total of 9 channels - internal temperature, internal pulse counter, internal relative humidity, external temperature & relative humidity and either two or four universal inputs.

There is also the option of a liquid crystal display which will cycle through each of the inputs providing a local indication.

Each SL7000 series data logger is powered by a user replaceable battery, with a typical battery life of 6 years.

The base SL7000 data logger and those with two universal inputs have the ability to store up to 62,000 readings whereas the data loggers with four universal inputs will store up to 128,000 readings.

Each SL7000 series data logger is supplied with the TempIT-Pro configuration and analysis software. The TempIT-PRO software allows full configuration as well as the ability to download the stored readings, produce a graph and save the readings. The Pro version of the software also allws you to export the data to a spreadsheet, view the data in a tabular format, add comments and arrows to the graph and use the automatic calculations like MKT, F0, A0 etc.



## Common Specifications

<b>Power</b>	Internal Battery - 3.7v AA Lithium
<b>Battery Life</b>	Typically 6 years at 10 minute sample rate.
<b>Ambient Temperature Range</b>	-30°C to +70°C -22°F to +158°F
<b>Memory Size</b>	0 or 2 Universal Inputs - 62,000 Readings 4 Universal Inputs - 128,000 Readings
<b>Memory Utilisation</b>	Wrap Around (First in, First Out) or Stop when Full (Default)
<b>Sample Rates</b>	1 Second to 24 hours for all channels
<b>Logging Options</b>	Spot Reading or Maximum, Minimum, Average over a number of readings.
<b>Start Logging Options</b>	<p>Programmable Delay Period (10 minutes to 1 year)</p> <p>Start on external magnet swipe</p> <p>Start when counter input goes high</p> <p>Start on event trigger</p> <p>Please note: There are no stop logging functions available. Once started, the data logger will keep taking readings until the memory is full or it will overwrite the oldest reading and provide a rolling window.</p>
<b>Measurement Resolution</b>	All Universal Inputs - 16 Bit Internal & External Temperature - 12 Bit Internal & External Relative Humidity - 8 Bit
<b>Pulse Counter Input</b>	<p>Used to start logging or as a counter.</p> <p>Maximum Count = 65535 per sample period.</p> <p>Maximum Frequency = 32678Hz.</p> <p>Logic 0 &lt; 0.9Vdc.</p> <p>Logic 1 &gt; 1.9Vdc</p> <p>Trigger: Negative Edge</p> <p>User settable filter link 32768Hz or 50Hz. (default: 32768Hz)</p> <p>Can be used with common collector outputs when using an external shunt resistor.</p>
<b>Channel Indicators</b>	8 Green LED's to indicate logging status, changing to Red, to indicate alarm conditions.
<b>Communication Interface</b>	USB
<b>Low Battery Warning</b>	Low Battery displayed when battery life has less than one month to go.
<b>IP / Waterproof Protection</b>	IP50 - Limited protection from dust ingress. No protection for liquid ingress. Waterproof enclosures are available as an option.
<b>Dimensions</b>	124mm (L) x 78mm (W) x 32mm (H)
<b>Weight</b>	165 grams
<b>Material</b>	ABS Plastic - Moulded from RoHS compliant material
<b>Warranty</b>	3 Years (excluding battery)

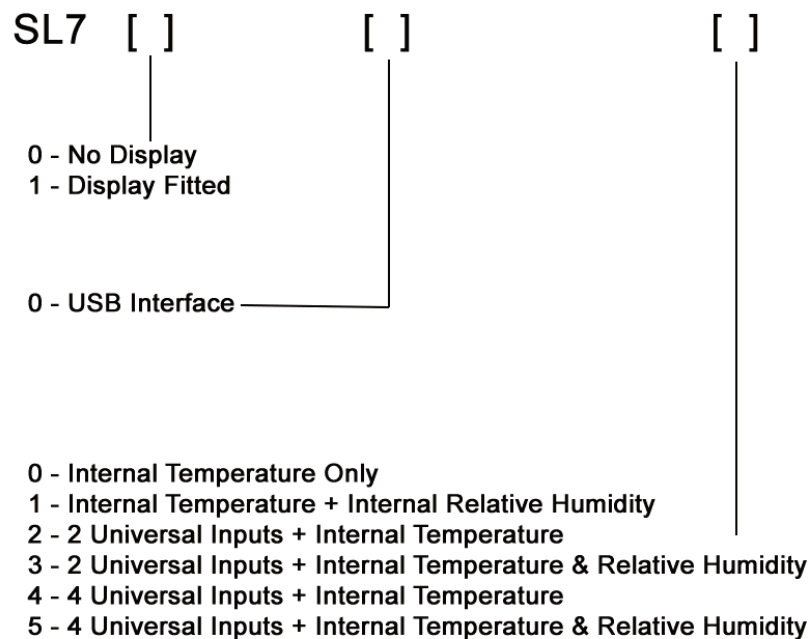
## Measuring Ranges

<b>Internal Temperature</b>	-30°C to +70°C (-22°F to +158°F)
<b>Internal Relative Humidity</b>	0 to 100%RH
<b>External Temperature &amp; Relative Humidity Sensor</b> (Part # SL-ACC7000-01)	-30°C to +70°C (-22°F to +158°F) 0 to 100%RH
<b>Pt100 (EN 60751)</b> <b>Pt100 (JISC)</b> <b>2 or 3 wire configuration</b>	-200°C to +700°C (-328°F to +1292°F) - Wide Measuring Mode -200°C to +260°C (-328°F to +500°F) - Narrow Measuring Mode -100°C to +457°C (-148°F to +854°F) - Wide Measuring Mode -100°C to +260°C (-148°F to +500°F) - Narrow Measuring Mode
<b>Thermocouple Type K</b> <b>Thermocouple Type J</b> <b>Thermocouple Type T</b> <b>Thermocouple Type S</b> <b>Thermocouple Type R</b> <b>Thermocouple Type B</b> <b>Thermocouple Type N</b>	-200°C to +1370°C (-328°F to +2498°F) -200°C to +1200°C (-328°F to +2192°F) -200°C to +400°C (-328°F to +752°F) 100°C to +1760°C (+212°F to +3200°F) 100°C to +1760°C (+212°F to +3200°F) +700°C to 1820°C (+1292°F to +3308°F) -180°C to +1300°C (-292°F to +2372°F)
<b>Ni120</b> <b>Ni100</b>	-80°C to +230°C (-112°F to +446°F) -60°C to +180°C (-76°F to +356°F)
<b>CU10</b> <b>CU100</b>	-200°C to +260°C (-328°F to +500°F) -100°C to +260°C (-148°F to +500°F)
<b>Thermistor</b>  <b>TH-001</b> <b>TH-002 (Vishay 2381-640-6151)</b> <b>TH-003 (Vishay 2381-640-6223)</b> <b>TH-004 (Semitec 103AP-2)</b>	-40°C to +105°C (-40°F to +221°F) -30°C to +90°C (-22°F to +194°F) -35°C to +105°C (-31°F to +221°F) -40°C to +105°C (-40°F to +221°F)
<b>Slidewire</b>	0 to 100%
<b>mV</b> <b>10 Volt</b> <b>1 Volt</b>	-110mV to +110mV (Over Voltage protected to 24VDC) 0VDC to 11VDC (Over Voltage protected to 24VDC) 0VDC to 1.1VDC (Over Voltage protected to 24VDC)
<b>4/20mA</b>	0.1 to 21mA
<b>Pulse Counter</b>	Up to 65,535 pulses per sample period

## Measurement Accuracy

Internal Temperature	$\pm 0.5^{\circ}\text{C}$ ( $-30^{\circ}\text{C}$ to $+70^{\circ}\text{C}$ ). Also used for Cold Junction Measurement
Internal Relative Humidity	$\pm 2.0\%\text{RH}$ over 10%-90% $\pm 4.0\%\text{ RH}$ over the range 0-10% and 90-100%RH
External Temperature & Relative Humidity Sensor (Part # SL-ACC7000-01)	$\pm 0.3^{\circ}\text{C}$ @ $25^{\circ}\text{C}$ $\pm 0.5^{\circ}\text{C}$ over the range $0^{\circ}\text{C}$ to $+50^{\circ}\text{C}$ $\pm 1.0^{\circ}\text{C}$ over the range $-30^{\circ}\text{C}$ to $0^{\circ}\text{C}$ and $50^{\circ}\text{C}$ to $70^{\circ}\text{C}$  $\pm 2.0\%\text{RH}$ over 10%-90% $\pm 4.0\%\text{ RH}$ over the range 0-10% and 90-100%RH
Pt100 (EN 60751)  Pt100 (JISC)	$\pm 0.1^{\circ}\text{C} + 0.1\%\text{ rdg}$ - Narrow Measuring Mode $\pm 0.2^{\circ}\text{C} + 0.1\%\text{ rdg}$ - Wide Measuring Mode
Thermocouple Type K Thermocouple Type J Thermocouple Type T Thermocouple Type S Thermocouple Type R Thermocouple Type B Thermocouple Type N	$\pm 0.1\%\text{ FSD} \pm 0.5^{\circ}\text{C}$ $\pm 0.1\%\text{ FSD} \pm 0.5^{\circ}\text{C}$ $\pm 0.1\%\text{ FSD} \pm 0.5^{\circ}\text{C}$ $\pm 0.2\%\text{ FSD} \pm 0.5^{\circ}\text{C}$ $\pm 0.2\%\text{ FSD} \pm 0.5^{\circ}\text{C}$ $\pm 0.2\%\text{ FSD} \pm 0.5^{\circ}\text{C}$ $\pm 0.1\%\text{ FSD} \pm 0.5^{\circ}\text{C}$
Ni120 Ni100	$\pm 0.2^{\circ}\text{C} \pm 0.1\%\text{ rdg}$
CU10 CU100	$\pm 3^{\circ}\text{C} \pm 0.5\%\text{ rdg}$ $\pm 0.2^{\circ}\text{C} \pm 0.1\%\text{ rdg}$
Thermistor  TH-001 TH-002 TH-003 TH-004	$\pm 0.5^{\circ}\text{C}$ $\pm 0.6^{\circ}\text{C}$ (0 to $+70^{\circ}\text{C}$ ) or $\pm 1.2^{\circ}\text{C}$ ( $-30^{\circ}\text{C}$ to $+90^{\circ}\text{C}$ ) $\pm 0.5^{\circ}\text{C}$ $\pm 0.5^{\circ}\text{C}$ (0 to $+70^{\circ}\text{C}$ ) or $\pm 0.8^{\circ}\text{C}$ ( $-40^{\circ}\text{C}$ to $+105^{\circ}\text{C}$ )
Slidewire	$\pm 0.02\%\text{ FSD}$
mV 10 Volt 1 Volt	$\pm 0.01\%\text{ FSD}$
4/20mA	$\pm 0.01\%\text{ FSD}$ (for Isolated Loops) Accuracy may be reduced for non-isolated loops. Some applications may require the use of an external isolator (not supplied). Maximum Volt drop in a 4/20mA loop = 4VDC Will also accept 0/20mA signals

## Order Codes



## Accessories

Part Number	Description
SL-ACC7000-01	External temperature and relative humidity sensor
SL-ACC7000-02	Replacement USB interface cable
SL-ACC7000-03	Replacement Lithium Thionyl Chloride Battery
SL-ACC7000-04	External power supply (cannot be used with SL-ACC7000-01)
SL-ACC7000-05	Replacement / spare 14 way input connector
SL-ACC33	IP65 weatherproof enclosure
TempIT-Pro-4	Additional software licence for the configuration and analysis software

Every effort has been taken to ensure the accuracy of this specification, however we do not accept responsibility for damage, injury, loss or expense resulting from errors and omissions, and we reserve the right of amendment without notice.