

signatrol



dLOG MINIATURE DATA LOGGERS

TEMPERATURE / TEMPERATURE & HUMIDITY DATA LOGGERS

Low cost and simple to use, the dLog series are self-contained, multiple-use, miniature button style temperature or temperature & humidity data loggers that can record up to 9,500 temperatures or 9,500 temperature and 9,500 relative humidity readings, with various temperature ranges and accuracies. All dLog data loggers have the ability to read the remaining battery life and it is also possible to download the data stored within the data logger if the battery is dead.

info@signatrol.com • 01684 299 399 • signatrol.com

INTRODUCTION

SECOND GENERATION BUTTON STYLE LOGGER

FULLY SEALED VERSIONS

FOOD SAFE

FDA AND BS EN 12830:2018 COMPLIANT

REUSABLE

SMALL SIZE

NFC CONTACTLESS COMMUNICATIONS

VERY HIGH ACCURACY

TRACEABLE CALIBRATION CERTIFICATES ARE AVAILABLE

HIGH-SECURITY SOFTWARE PACKAGE

- US NSF 61 @ 23°C & 82°C. US Drinking Water System Components
- USP Class VI Chapter 88
- ISO 10993-5 Cytotoxicity

Zytel® is a DuPont registered trademark.

Note: It is the responsibility of the company or person placing the product into contact with food to determine the overall compliance with applicable FDA food contact regulations.

The **SL62T / SL62T-A & SL63T / SL63T-A** are internally potted using Silicone Elastosil RT604 A/B.

- European Regulation (EC) 1935/2004
- EU 10/2011. Silicone potting compounds are exempted from this regulation.
- FDA CFR21 175.300.
- FDA CFR21 177.2600.

More detailed information is available upon request.

The **SL61T / SL61T-A** and **SL64TH / SL64TH-A** are not FDA approved.

The **SL62T** and **SL63T** are fully sealed and can be immersed in liquid without an additional protective enclosure. They are also *food-safe* with the construction materials certified by FDA.

All 'A' versions are supplied with an individual UKAS traceable calibration certificate and improved accuracy specification. A UKAS accredited calibration service is available upon request.

Readings are stored in non-volatile memory so they can even be extracted if the battery is exhausted.

Communication is provided by the latest NFC technology, allowing certain models to be sealed and, therefore, submersible without the need for protective enclosures.

The electronic circuit is encapsulated with epoxy resin and contained within an enclosure constructed from Zytel* FGFE5171 NC010C which is a 33% glass filled nylon 66 resin with the following approvals:

- FDA CFR21 177.1500
- EU 10/2011. Plastic material and articles intended to come into contact with food.
- (EC) No 2023/2006. GMP (Good Manufacturing Practice) for materials and articles intended to come into contact with food.

APPLICATION EXAMPLES

▶ FRIDGE & FREEZER MONITORING

▶ FACILITIES MANAGEMENT

▶ FOOD DISTRIBUTION & STORAGE

▶ PHARMACEUTICAL DISTRIBUTION

▶ PHARMACEUTICAL STORAGE

▶ MILK & DAIRY PRODUCTION

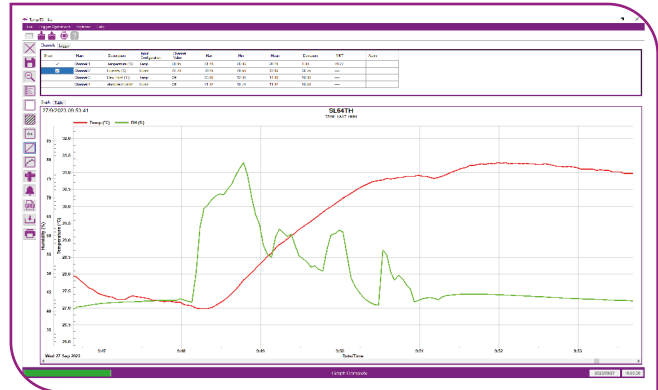
▶ COLD CHAIN

▶ CONTACT LENS MANUFACTURE

▶ CLINICAL TRIALS

▶ THERMOBRITE VALIDATION

The high-security TempIT5 software platform ensures that the data recorded are a true and faithful record of the actual conditions your sensitive items have been exposed to. These are essential requirements for achieving the various facets of an FDA21 CFR Part 11 validated system or, as part of a hazard analysis & critical control point (HACCP) based food safety programme. Compliant to BS EN 12830:201 8.



This compact 22mm diameter x 11.5mm high data logger has a battery life of up to 3 years, depending upon the device and the sample rate. This together with a data storage of 9,500 readings make the device suitable for a wide range of professional applications.

From measuring temperature and humidity in a warehouse to measuring the water temperature in an industrial washing machine or, from measuring the temperature cycle within an autoclave to measuring the cooking cycle temperature from within the centre of a steak pie, this compact data logger gives you an infinite number of options to measure your temperature or temperature and humidity requirements.

HOW TO GET STARTED

1. THE DATA LOGGER

You have 8 variants to choose from. Choose which temperature range you require and if you require relative humidity measurement. Choose which option you want, a high accuracy with an individual calibration certificate or, a lower accuracy unit without a calibration certificate.

2. SL60-READER – NFC INTERFACE.

You will require a USB communications interface to program and download data from your data logger.

3. DOWNLOAD OUR FREE SOFTWARE

Download our free high-security TempIT5-LITE software from our website. If you find later that you need to analyse your data in greater detail, you can upgrade to our low-cost TempIT5-PRO option. Once you have this, you are good to go.

Starter kits are available providing you with everything you need to get started. Please see page 8. These can be purchased easily via our website, phone or email and can be dispatched the same day if orders are received by 12.00 noon.

dLog SERIES - TECHNICAL SPECIFICATIONS

* All 'A' versions come complete with UKAS 17025 traceable calibration certificates



SL61T

Low Cost
Temperature Only

TEMPERATURE RANGE -20 to +70°C
ACCURACY ±0.5°C
RESOLUTION 0.2°C
IP RATING IP30



SL61T-A*

Low Cost
Temperature Only
UKAS Traceable Cal Cert

TEMPERATURE RANGE -20 to +70°C
ACCURACY ±0.25°C ±0.1% Calibrated Span
RESOLUTION 0.2°C
IP RATING IP30



SL62T

High Accuracy
Temperature Only

TEMPERATURE RANGE -40 to +85°C
ACCURACY ±0.2°C between 0 to +50°C,
±0.3°C between -20 to +85°C
±0.4°C between -20 to -40°C
RESOLUTION 0.02°C
IP RATING IP68



SL62T-A*

High Accuracy
Temperature Only
UKAS Traceable Cal Cert

TEMPERATURE RANGE -40 to +85°C
ACCURACY ±0.1°C ±0.1% Calibrated Span
RESOLUTION 0.02°C
IP RATING IP68



SL63T

Wide Temperature
Temperature Only

TEMPERATURE RANGE -40 to +125°C
ACCURACY ±0.2°C between 0 to 50°C,
±0.3°C between -20 to 100°C
±0.4°C between -40 to +125°C
RESOLUTION 0.02°C
IP RATING IP68



SL63T-A*

Wide Temperature
Temperature Only
UKAS Traceable Cal Cert

TEMPERATURE RANGE -40 to +125°C
ACCURACY ±0.1°C ±0.1% Calibrated Span
RESOLUTION 0.02°C
IP RATING IP68



SL64TH

High Accuracy
Temperature & Relative Humidity

TEMPERATURE RANGE -20 to +70°C
TEMPERATURE ACCURACY ±0.2°C between 0 to 50°C,
±0.3°C between -20 to 70°C
TEMPERATURE RESOLUTION ±0.02°C
RELATIVE HUMIDITY RANGE 0 to 100%RH (Non-condensing)
RELATIVE HUMIDITY ACCURACY 3.5% RH (10 to 90% RH)
5.0% RH (0 to 100% RH)
RELATIVE HUMIDITY RESOLUTION 0.05% RH
IP RATING IP30



SL64TH-A*

High Accuracy
Temperature & Relative Humidity
UKAS Traceable Cal Cert

TEMPERATURE RANGE -20 to +70°C
TEMPERATURE ACCURACY ±0.1°C ±0.1% Calibrated Span
TEMPERATURE RESOLUTION ±0.02°C
RELATIVE HUMIDITY RANGE 0 to 100%RH (Non-condensing)
RELATIVE HUMIDITY ACCURACY ±2.0% RH (10 to 80% RH)
±3.5% RH (0 to 100% RH)
RELATIVE HUMIDITY RESOLUTION 0.05% RH
IP RATING IP30

dLog SERIES - TECHNICAL SPECIFICATIONS

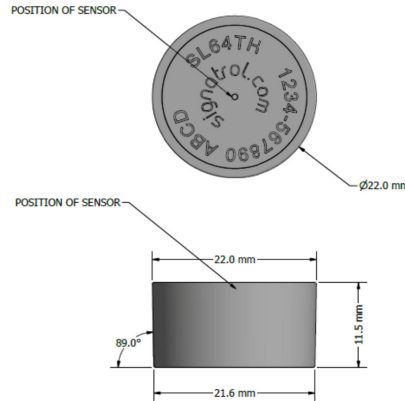
PRODUCT	SL61T	SL61T-A	SL62T	SL62T-A	SL63T	SL63T-A	SL64TH	SL64TH-A	Units / notes
TEMPERATURE RANGE	-20°C to +70		-40°C to +85°C		-40°C to +125°C (NFC Communications -20°C to +85°C)		-20°C to +70°C		Max
RELATIVE HUMIDITY RANGE	Not Applicable						0 to 100% (Non-condensing)		Max
TEMPERATURE RESOLUTION	0.2°C		0.02°C						
HUMIDITY RESOLUTION	Not Applicable						0.05% RH		
TEMPERATURE ACCURACY	±0.5°C	±0.25°C ±0.1% Cali- brated Span	±0.2°C between 0 & 50°C, ±0.3°C between -20 & 85°C ±0.4°C between -20 & -40°C	±0.1°C ±0.1% Calibrated Span	±0.2°C between 0 & 50°C, ±0.3°C between -20 & 100°C, ±0.4°C between -40 & +125°C	±0.1°C ±0.1% Calibrated Span	±0.2°C between 0 & 50°C, ±0.3°C between -20 & 70°C	±0.1°C ±0.1% Calibrated Span	Max
RELATIVE HUMIDITY ACCURACY @ 25°C	Not Applicable						3.5% RH (10 to 90% RH), 5.0% RH (0 to 100% RH)	±2.0% RH (10 to 80% RH), ±3.5% RH (0 to 100% RH)	Max
TEMPERATURE REPEATABILITY	±0.1°C		±0.04°C						Max
TEMPERATURE LONG-TERM DRIFT	±0.1°C		±0.03°C/Year						typical
RELATIVE HUMIDITY REPEATABILITY	Not Applicable						±0.02% RH		typical
RELATIVE HUMIDITY HYSTERESIS	Not Applicable						±0.02% RH		typical
RELATIVE HUMIDITY LONG-TERM DRIFT	Not Applicable						0.19% RH/Year		typical
RELATIVE HUMIDITY SENSOR MANUFACTURE	Not Applicable						Capacitive Polymer Dielectric		
VIRTUAL DEW POINT AND ABSOLUTION HUMIDITY CHANNELS	No						Yes		
LOGGING INTERVAL	1 Minute to 2 Hours		3 Seconds to 24 Hours		1 Second to 24 Hours		3 Seconds to 24 Hours		
MAX READINGS	2,100		9,500						Readings per Channel

dLog SERIES - TECHNICAL SPECIFICATIONS continued...

PRODUCT	SL61T	SL61T-A	SL62T	SL62T-A	SL63T	SL63T-A	SL64TH	SL64TH-A	Units / notes
POWER SOURCE	The device is powered by a non-serviceable internal coin cell. When the device is present on an active NFC reader the device will take power from the reader in preference to the internal battery. The device can also be downloaded in the event of an exhausted battery.								
BATTERY LIFE	Typically 2 Years								
BATTERY INDICATOR	Yes. Battery life percentage remaining available through TempIT5.								
PHYSICAL SIZE	Diameter 22.0mm, Height 11.5mm								Max
ENCLOSURE MATERIAL	Nylon 66 + 33% Glass Fibre		Zytel® FGFE5171 Raw material meets the following standards FDA CFR21 177.1500 Nylon Resins EU 10/2011. Plastic material and articles intended to come into contact with food. (EC) No 2023/2006. GMP (Good manufacturing practice) for materials and articles intended to come into contact with food. US NSF 61 @ 23°C & 82°C. US Drinking Water System Components USP Class VI Chapter 88 ISO 10993-5 Cytotoxicity <i>Zytel® is a DuPont registered trademark.</i>				Nylon 66 + 33% Glass Fibre		
DEGREE OF PROTECTION	IP 30		IP68				IP30		
TEMPERATURE RESPONSE TIME	Stirred Air: T63 150 Seconds T10-90 246 Seconds		Stirred Air: T63 141 Seconds T10-90 255 Seconds Stirred Water: T63 72 Seconds T10-90 132 Seconds				Stirred Air: T63 150 Seconds T10-90 246 Seconds		
HUMIDITY RESPONSE TIME	Not Applicable		Not Applicable				Stirred Air: T63 200 Seconds		
COMMUNICATION	Via SL60-READER (USB Powered NFC 13.56MHz)								
DOWNLOAD SPEED	60 seconds for 5,000 readings								
PC SOFTWARE	TempIT5 (Compatible with Microsoft Windows 7, 8, 10 & 11)								
LOGGING MODE	Stop when full								
START MODES	Immediate Yes		Yes				Yes		
Delayed Start	Yes		Yes				Yes		
Start on Level	No		Yes (Level Start is checked every 3 seconds).				Yes		
Delayed Start, Then Level	No		Yes				Yes		
FOOD-SAFE APPROVALS	EN12830:2018 Class 0.5		EN 12830: 2018 Class 0.5	EN 12830: 2018 Class 0.2	EN 12830: 2018 Class 0.5	EN 12830: 2018 Class 0.2	EN 12830: 2018 Class 0.5	EN 12830: 2018 Class 0.2	

MECHANICAL OVERVIEW

ACTUAL SIZE



HUMIDITY SENSOR EXPOSURE TO CONTAMINANTS (SL64TH & SL64TH-A ONLY)

Humidity sensors must not be exposed to articles or volatile chemicals such as solvents or other inorganic compounds. Typical ambient conditions do not present a significant risk for chemical exposure but some applications may contain a known source of volatile Contamination so exposure to a range of chemicals should be avoided.

Exposure to the following chemicals is known to cause drift of the humidity output readings are often irreversible.

SOLVENTS	ACIDS SUCH AS:	OTHER CHEMICALS, INCLUDING:
Toluene: C_7H_8 Isopropyl Alcohol: C_3H_8O Ethyl Acetate: $C_4H_8O_2$ Acetone: $(CH_3)_2CO$ Ethylene Glycol: $(CH_2OH)_2$ Butyl Acetate: $C_6H_{12}O_2$ Ethanol: C_2H_6O Di-isopropyl Ether: $C_6H_{14}O$ Methanol: CH_3OH Methyl Ethyl Ketone: $CH_3C(O)CH_2CH_3$	Hydrochloric Acid: HCl Sulphuric Acid: H_2SO_4 Nitric Acid: HNO_3	Ketenes Ammonia: NH_3 Hydrogen Peroxide: H_2O_2 Ozone: O_3 Formaldehyde: CH_2O

Such chemicals are integral to epoxies, glues, adhesives, or reaction by-products that outgas during baking and curing processes.

If it is necessary to expose the relative humidity sensor to contaminants, concentration and exposure time should be reduced as feasible. Good ventilation (fresh air supply) aids in lowering the concentration of volatile chemicals, particularly solvents.

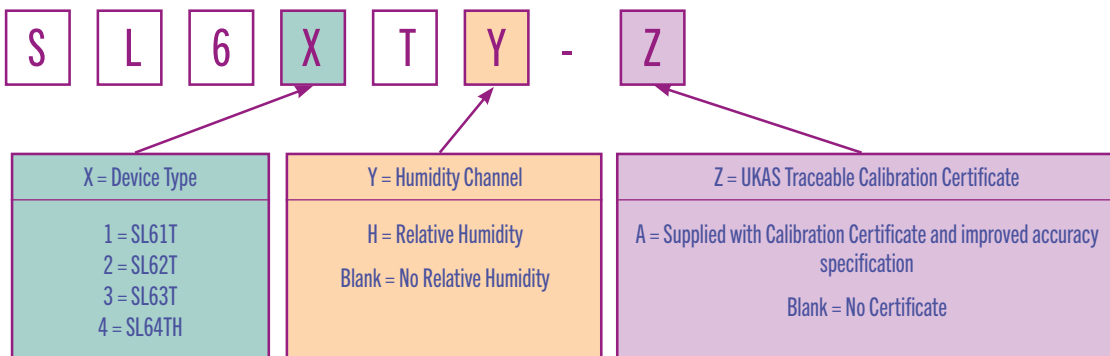
CALIBRATION & RE-CALLIBRATION SERVICE

Signatrol can provide you with an individual **UKAS ISO 17025 traceable calibration certificate** with each new data logger as an option *standard on all 'A' versions). In addition, we can also provide you with a 3-day turnaround UKAS ISO 17025 traceable re-calibration service for your existing data loggers (on a return-to-factory basis).

We recommend that all our loggers are re-calibrated on at least an annual basis to ensure that they continue to perform to specification. We provide our standard 3-point default re-calibration or your own custom 3-point calibration range at no additional cost. Extra points can be added at an additional cost if required. Please contact sales@signatrol.com for your calibration requirements.

ORDER CODES

INDIVIDUAL DATA LOGGERS



STARTER KITS

Starter kits are available providing you with everything you need to get going.

THE KIT INCLUDES:

- For the "A" versions, each data logger comes with an individual 3-point UKAS traceable calibration certificate at default points, but you may specify different calibration points more suitable to your application.
- Either 2 or 5 data loggers of your choice
- TempIT5-Pro Microsoft Windows Application Software.
- SL60-READER NFC reader (inc USB cable).

HOW TO ORDER KITS:

[Logger Code]-KIT-2 Kit containing 2 loggers, SL60 reader and TempIT5-PRO software

[Logger Code]-KIT-5 Kit containing 5 loggers, SL60 reader and TempIT5-PRO software

Every effort has been taken to ensure the accuracy of this specification and we reserve the right of amendment without prior notice.

info@signatrol.com • 01684 299 399 • signatrol.com