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This datasheet is also available in other languages.

EL-SIE-2+

High Accuracy Temperature and Humidity USB Data Logger, EasyLog Cloud Compatible

- -18 to +55°C (-0.4 to +131°F) temperature measurement range
- 0 to 100%RH humidity measurement range
- Stores over 1,000,000 readings (As per spec table)
- No software to install - configure using your normal web browser
- Use with a PC or Mac
- Display shows current, maximum and minimum readings
- Status and alarm indicators
- On-board alarm sounder
- Data can be uploaded to the EasyLog Cloud



Monitor the environment you live and work in with the EasyLog EL-SIE-2+. Configuration is simple, with no software to install on your PC or Mac – just connect the logger with a USB cable, and use your standard web browser to configure the device for logging. You don't even need internet access to set up and use the EL-SIE-2+, it really couldn't be easier.

The logging interval can be set between 10 seconds and 24 hours, with immediate, delayed, triggered or push-to-start logging. Alarms are fully user configurable, with functionality including cumulative alarms, pre-alarms, a delay before alarm triggering, and an alarm hold option, which continues showing the alarm condition even if the reading returns to an acceptable level.

The display shows current, maximum and minimum readings, and three coloured LEDs indicate device status at a glance.

Once logging is complete, re-connect to your computer and use your browser to view, analyse and save your data. You can also choose to upload your data to an Easy Log Cloud account, making the data accessible online for powerful graphing, analysis and report generation.

Typical battery life is over 1 year using standard AAA alkaline batteries, and a wall mounting bracket is supplied with the device.

SPECIFICATIONS

Temperature	Measurement range	-18 to +55°C (-0.4 to +131°F)
	Resolution	0.01°
	Accuracy	±0.2°C (±0.36°F) typical
	Long term stability	<0.03°C (<0.054°F) / year
	Measurement units	°C, °F or K
Relative Humidity	Measurement range	0 to 100%RH
	Resolution	0.1%
	Accuracy	±1.5% typical (0 to 80%RH)
	Long term stability	<0.25%RH / year typical
Dew Point	Accuracy	1.5°C typical (40 to 100%RH)
Logging rate		10 seconds to 24 hours, user selectable
Start modes		Immediate, push to start, delayed start, parameter triggered
Memory capacity		Over 1,000,000 total readings >500,000 readings per channel
Sounder		Integrated alarm sounder
Power source		2 x AAA 1.5V battery
Battery life		>1 year (at 25°C with 10 minute logging rate)
Dimensions		93 x 42 x 17 mm (excluding bracket)
Operating temperature range		-18 to +55°C (-0.4 to +131°F)
Environmental rating		IP2X

INCLUDED IN THE BOX

BAT 1V5 AAA	2 x AAA 1.5V alkaline batteries
EL-SIE WALL BRACKET	Mounting bracket
CABLE USB C 0.5M	USB A to USB C Cable

ACCESSORIES

BAT 1V5 AAA	2 x AAA 1.5V alkaline batteries
CABLE USB C 0.5M	USB A to USB C Cable

CALIBRATION CERTIFICATES AVAILABLE

Lascar offers a Traceable Calibration Certificate Service on Temperature Data Loggers. Using reference equipment which has been calibrated by a UKAS/NIST/CNAS accredited laboratory and using apparatus traceable to national or international standards. For more information please see **www.lascarelectronics.com**.

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EL-SIE-2+

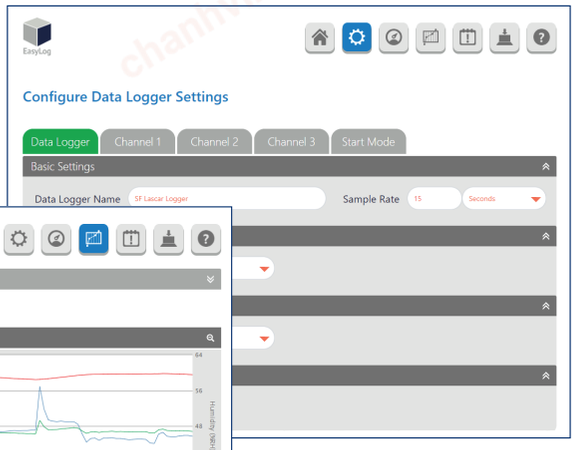
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NO SOFTWARE TO INSTALL

All the software needed to configure your EL-SIE-2+, and view and analyse the data it logs, is contained within the product itself. Just connect the logger to your PC or Mac with a USB cable, open any web browser and in the address bar type “http://EasyLog.local”. No internet connection is needed, and you can save this address in your bookmarks or favourites as normal.

The interface is easy to use and allows the following parameters to be configured:

- Logger and channel names
- Measurement units
- Logging rate and start mode
- Up to 16 separate alarms (high/low/pre-alarm/cumulative) with thresholds, delay and hold
- Display and LED indicator modes

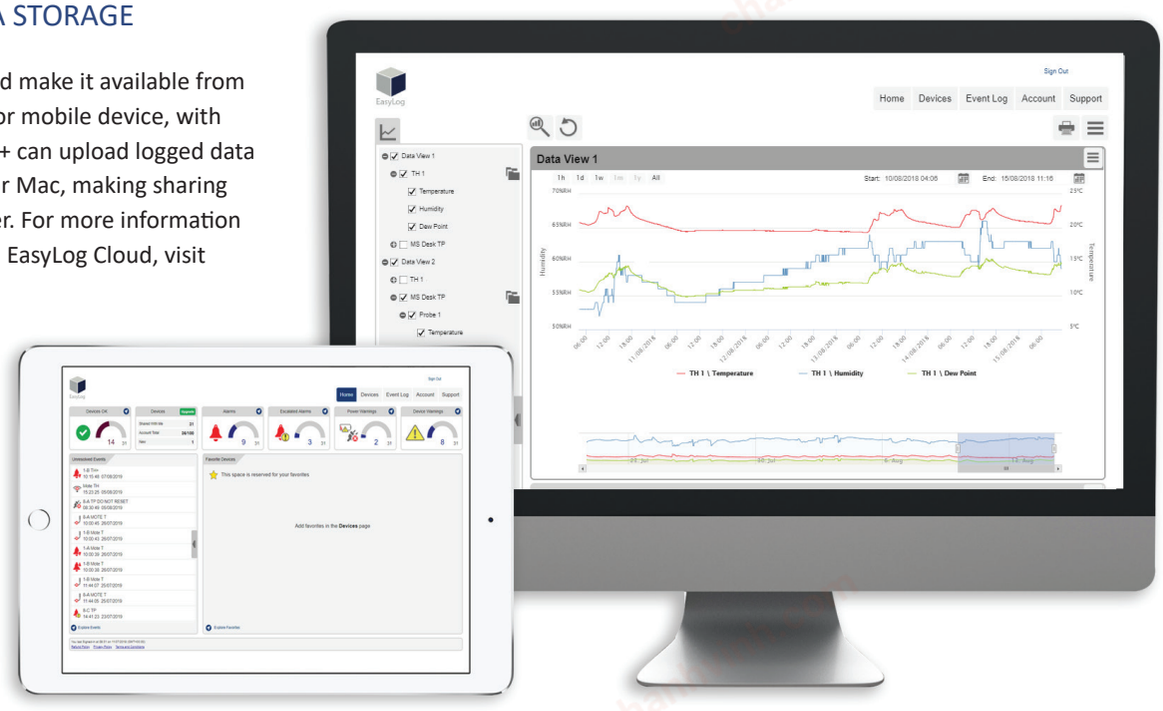




Once the logger is running, you can plug it back into your computer and see the latest data, device status and the event log. You can also choose to stop the logger and change the configuration, or just let it continue logging.

EASYLOG CLOUD DATA STORAGE

Store your data securely, and make it available from any internet-connected PC or mobile device, with EasyLog Cloud. The EL-SIE-2+ can upload logged data to the Cloud from your PC or Mac, making sharing and analysis easier than ever. For more information and to set up an account on EasyLog Cloud, visit www.easylogcloud.com.

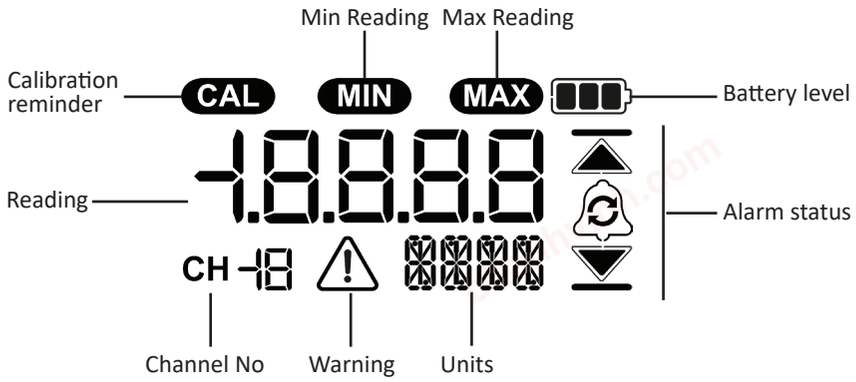


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DISPLAY STATUS INDICATION

The high-contrast LCD shows current, maximum and minimum readings, as well as alarm and logger status:



Display	Logger Status	Explanation
USb	USB Connected	The logger is connected via the USB cable
----- PUSH	Push to Start	The logger is set up for Push to Start logging, a long press of either button will start logging
----- dLY	Delayed Start	The logger is set up for Delayed Start logging and will automatically start logging at the specified time
----- TRIG	Triggered Start	The logger is set up for Triggered Start logging and will start logging as soon as the specified limit (either temperature, humidity or pressure) is reached
bAtt ⚠ LOW	Low Battery	The batteries are low and should be changed when possible
FULL ⚠ MEM	Memory Full	The memory is full and logging has stopped
90 ⚠ %MEM	Memory 90%	The memory is 90% full, and data should be downloaded when possible
CAL 17.10 2021	Calibration Pending	The calibration will expire in < 30 days on the date shown (can be DD/MM/YYYY or MM/DD/YYYY)
CAL 17.10 ⚠ 2021	Calibration Expired	The calibration has expired on the date shown (can be DD/MM/YYYY or MM/DD/YYYY)

Display	Logger Status	Explanation
StoP LOGG	Logger Running	The logger is still logging but can be stopped by a long press of the bottom button
	Alarm Triggered	An alarm is currently active on the logger
	Cumulative Alarm	A cumulative alarm is active on the channel currently being displayed
	High Alarm	A high alarm is active on the channel currently being displayed
	Low Alarm	A low alarm is active on the channel currently being displayed
	Held High Alarm	A high alarm is being held on the channel currently being displayed
	Held Low Alarm	A low alarm is being held on the channel currently being displayed
	High Pre-alarm	A high pre-alarm is active on the channel currently being displayed
	Low Pre-alarm	A low pre-alarm is active on the channel currently being displayed

On power up, the LCD runs through a test sequence in which all elements are activated, the LEDs light up and the sounder beeps.

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LED AND SOUNDER STATUS INDICATION

The EL-SIE-2+ has three LEDs and a sounder to clearly indicate the status:

LEDs	Sounder	Status
Flashing	Off	Logger in operation, no alarms or warnings
Flashing	Off	Logger primed but not yet logging / Pre-alarm / Memory 90% Full / Calibration Pending (check display for specific warning)

LEDs	Sounder	Status
Flashing	Active	Alarm / Memory Full / Calibration Expired
Slow Flash	Off	Battery Low

BUTTON FUNCTIONS

The two buttons are used to navigate between display screens and control other functions, some of which also create a record in an Event Log, which can be viewed using the web browser.

Screen	Button	Press	Function	Event Recorded
USB	n/a	n/a	n/a	n/a
Push to Start	Any	Long	Start logging	n/a
Triggered Start	n/a	n/a	n/a	n/a
Delayed Start	n/a	n/a	n/a	n/a
Channel – Current reading	Top	Short	Move to next channel or STOP LOG	n/a
		Long	Clear alarm hold for all channels	Clear Held Alarms
	Bottom	Short	Show Min reading for this channel	n/a
		Long	Mute alarm sounder	Mute Alarm
Channel – Min reading	Top	Short	Show Min reading for next channel or STOP LOG	n/a
		Long	Reset Max/Min reading for all channels	Clear Max/Min
	Bottom	Short	Show Max reading for this channel	n/a
		Long	Mute alarm sounder	Mute Alarm
Channel – Max reading	Top	Short	Show Max reading for next channel or STOP LOG	n/a
		Long	Reset Max/Min reading for all channels	Clear Max/Min
	Bottom	Short	Show current reading for this channel	n/a
		Long	Mute alarm sounder	Mute Alarm
STOP LOG?	Top	Short	Move to Channel 1 (or Warning Screen), also generates an Audit Mark when cycling back through to Channel 1	Audit Mark
	Bottom	Long	Stop logging, returns to Push to Start	n/a
Warning Screen	Any	Short	Move to next warning or Channel 1	n/a

If the display mode is set to Button Press, pressing any button wakes the display up, after which it operates as described above.

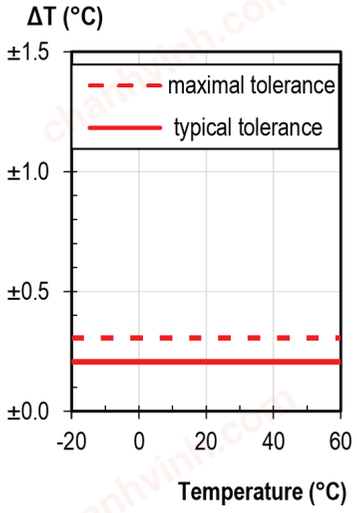
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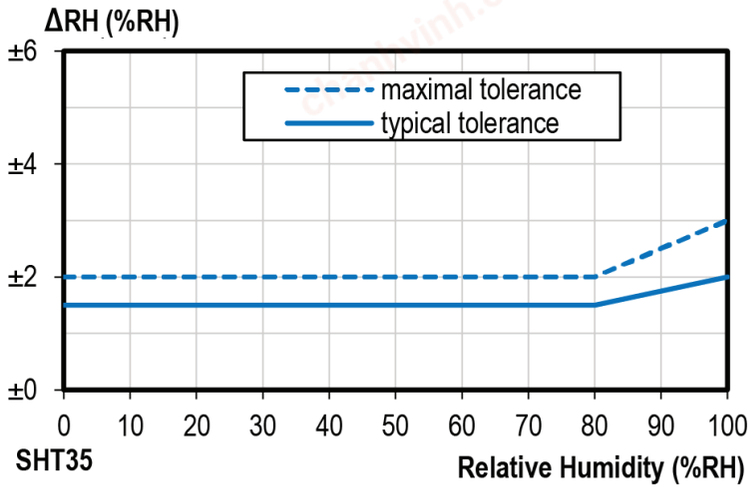
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SENSOR ACCURACY AND INFORMATION

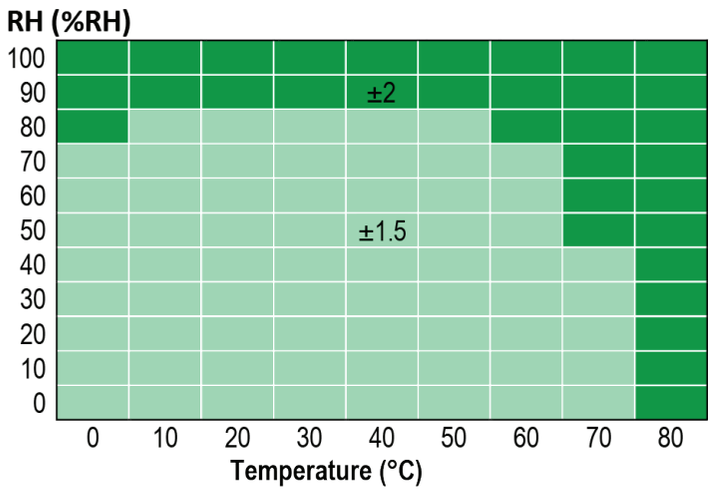
Typical and maximal tolerance for the temperature sensor in °C:



Typical and maximal tolerance for the relative humidity sensor at 25°C:



Typical tolerance of RH over Temperature:



Operating Conditions

The performance of the humidity sensor can be affected by long-term exposure to operating conditions at the extents of the logger's range. The sensor shows best performance when operated within the recommended normal temperature and humidity range of 5 to 55°C and 20 to 80%RH, respectively. Long-term exposure to conditions outside the normal range, especially at high humidity, may temporarily offset the RH signal (e.g. +3%RH after 60h kept at >80%RH). After returning into the normal temperature and humidity range the sensor will slowly come back within the calibration state by itself. Prolonged exposure to extreme conditions may also accelerate ageing.

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When tracking changes in ambient conditions, the response time of the humidity sensor in your data logger is approximately 20 minutes to reach 90% of the reading. However, if you are measuring step changes in humidity (for example if calibrating the product) it is advised that you leave the unit for up to four hours to ensure that it has enough time to settle at the new level.

It is worth remembering that the value of relative humidity is of course sensitive to temperature variation. As an example, at a relative humidity of ~90%RH at ambient temperature, a variation in temperature of 1°C will result in a change of up to -5%RH. Therefore when comparing multiple devices or calibrating them, any temperature variations must be considered.

The humidity measuring element in the humidity data loggers can be contaminated through exposure to a variety of compounds. These products should not be kept in proximity to volatile chemicals such as solvents and other organic compounds. Generally speaking, if a material or compound emits a strong odour you should not keep your humidity data logger in close proximity to it. If you would like more information, please contact your local Lascar Electronics office.

High levels of pollutants may cause permanent damage to the internal sensor.

BATTERY INFORMATION

We recommend that you replace the batteries annually, or prior to logging critical data. Use only AAA 1.5V alkaline batteries. Before replacing the batteries, disconnect the logger from your computer.

The logger does not lose its stored data readings when the batteries are discharged or replaced. However, the logging process will stop and will not resume until the batteries are replaced and the logger is connected to your computer and the logger is started.

Note that while the logger is plugged into a computer it draws power from the USB port instead of the batteries, which can raise the temperature of the logger slightly. It will return to normal shortly after disconnection.