EL-21CFR-TC

EasyLog 21CFR Compatible K, J & T-Type Thermocouple Data Logger

EasyLog 21CFR

- Compatible with K, J and T type thermocouples with miniature thermocouple plug connection
- Stores over 32,000 readings
- EasyLog 21CFR software available as a free download
- Supplied with 1.5m K-type thermocouple probe with 0 to 200°C (32 to 392°F) measurement range
- Logging rates between 1 second and 12 hours
- Immediate and delayed logging start
- User-programmable alarm thresholds
- Status indication via red and green LEDs
- Use as part of a 21CFR Part 11 compliant system



This standalone data logger measures and stores more than 32,000 temperature readings from a J, K or T-type thermocouple at a resolution of 0.5°C (1°F). It comes supplied with a K-type thermocouple capable of measuring from 0 to +200°C (32 to +392°F).

Your application will determine which probe is most suitable based on temperature range, accuracy, form and price. A wide variety of alternative thermocouples are available. Please call Lascar for vendor recommendations.

The user can easily set up the logger and view downloaded data by plugging the data logger into a PC's USB port and using the free EasyLog 21CFR software. Data can then be graphed, printed and exported to other applications for detailed analysis. The encrypted data has full audit tracking to comply with the requirements of 21CFR Part 11.

The data logger is supplied with a lithium metal battery which typically gives 2 years' logging life.

SPECIFICATIONS

Probe measurement range	0 to 200°C (32 to 392°F) K type (supplied) -200 to +1350°C (-328 to +2462°F) K type -200 to +1190°C (-328 to +2174°F) J type -200 to +390°C (-328 to +734°F) T type
Internal resolution	0.5°C (1°F)
Accuracy (overall error)	±1°C (±2°F) (data logger only - thermocouple error not included)
Logging rate	User selectable between 1 second & 12 hours
Operating temperature range	-10 to +40°C (-14 to +104°F) (data logger only)
Battery Life	2 years (at 25°C and 1 minute logging rate)
Readings	32,510
Dimensions	118 x 27 x 27mm (4.64 x 1.06 x 1.06")

ACCESSORIES

BAT 3V6 1/2AA	Replacement battery
EL-P-TC-K	Replacement K-type thermocouple probe
EL-P-TC-T-SURFACE	T-type silicone rubber patch thermocouple
EL-P-TC-K-SPIKE	K-type hand-held thermocouple probe

INCLUDED IN THE BOX

BAT 3V6 1/2AA	Battery
EL-P-TC-K	K-type thermocouple probe
EL-USB WALL BRACKET	Mounting Bracket

CALIBRATION CERTIFICATES NOW AVAILABLE

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

Instrument Calibration CERTIFIED LASCAR electronics

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STORE DATA IN COMPLIANCE WITH THE REGULATIONS OF 21CFR PART 11

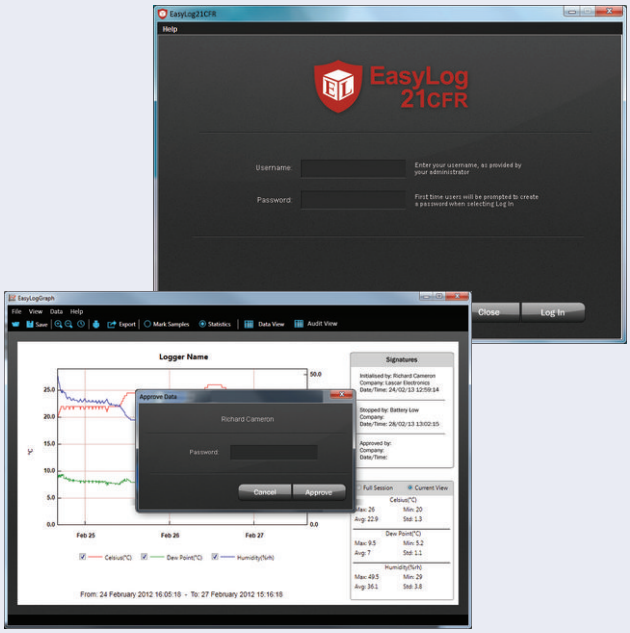
Easy to install and use, Lascar's **EasyLog 21CFR software** is compatible with all latest versions of Windows (7, 8 & 10 - both 32-bit & 64-bit) and is available as a free download from **www.lascarelectronics.com/software/easylog-21cfr**. All data collected from the logger and associated audit trails are stored in an encrypted format which cannot be edited.

CONTROL YOUR LOGGER

Users can configure their loggers with the following parameters:

- Logger name
- Temperature measurement parameter (°C or °F)
- Logging rate (user selectable between 1 second and 12 hours)
- High and low alarms for temperature
- Immediate and delayed logging mode

Once users have recorded data, the built-in graphing software allows them to graph and annotate their data, or export it to Excel, PDF or jpeg formats.



CONTROL YOUR DATA

EasyLog 21CFR software ensures digital security and compliance:

- Assign individual users with specific permissions
- Full software & session data audit trails
- Receive email alerts for failed log in attempts
- Digital signatures added to all reports
- Add comments to specific readings

For more information, and to download the latest version of the software free of charge, visit:
www.lascarelectronics.com/software/easylog-21cfr

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LED STATUS INDICATION

EL-21CFR-TC features two LEDs:

- The first LED flashes **red** to indicate that the EL-21CFR-TC is in an alarm condition. It will flash when the logged temperature has exceeded a Low or High alarm level.
- The second LED flashes **green** to indicate that the EL-21CFR-TC is not in an alarm condition.

Using EasyLog 21CFR Software it is possible to set the alarm to remain active even if the reading has returned to normal, in which case the alarm LED will continue to flash red. This 'Hold' feature in the software ensures the user is notified that at some point an alarm level has been exceeded, without needing to download the data.

Hold is enabled by default, and can be turned off via the control software. The red LED will then only flash whilst the logger is in an alarm condition. When the temperature returns to normal, the green LED will flash.

	**Green single flash (every 10 seconds)** The data logger is currently logging. No alarm
	**Green single flash (every 20 seconds)** The data logger is currently logging, however the battery is running low. No alarm
	**Green single flash (every 30 seconds)** The data logger is not currently logging, but is primed to start at a later date and time (delayed start)
	**Green double flash (every 20 seconds)** The data logger is full and has stopped logging. No alarm
	**Red single flash (every 10 seconds)** The data logger is currently logging. Low alarm
	**Red single flash (every 20 seconds)** The data logger is currently logging, however the battery is running low. Low alarm
	**Red double flash (every 10 seconds)** The data logger is currently logging High alarm
	**Red double flash (every 20 seconds)** The data logger is currently logging, however the battery is running low. High alarm
	**Red & Green single flash alternately (every 20 seconds)** The data logger is full and has stopped logging. High or low alarm
	**No LEDs flash** The data logger is stopped, the battery is empty or there is no battery

BATTERY INFORMATION

Replacement
We recommend that you replace the battery annually, or prior to logging critical data. Only use 3.6V ½AA lithium metal batteries. The data logger does not lose its stored readings when the battery is discharged or replaced; however, the data logging process will stop and will not resume until the battery is replaced and the logger restarted by the EasyLog 21CFR Software.

Before replacing the battery, remove the data logger from the PC. Please note that leaving the data logger plugged into the USB port for extended periods will cause some of the battery capacity to be lost.

Passivation
If left unused for extended periods of time lithium metal batteries, including those used in the EasyLog range of data loggers, naturally form a non-conductive internal layer preventing them from self-discharge and effectively increasing their shelf life. When first installed in the data logger, this may cause a momentary drop in the battery voltage (the Transient Minimum Voltage) as the internal layer is broken down, resulting in the data logger resetting. Inserting the batteries in the data logger and leaving it connected to a PC for about 30 seconds will remove this layer. After this, remove and re-install the batteries to reset the data logger. Overall battery life will not be affected.

WARNING
Handle lithium metal batteries carefully, observe warnings on battery casing. Dispose of in accordance with local regulations.