

## MONITORING MILK DELIVERIES WITH AN IN TRANSIT TEMPERATURE RECORDER

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### LASCAR LITE USB LOGGERS PROVIDE COST-EFFECTIVE TEMPERATURE MONITORING

CAS DataLoggers supplied an economical in transit temperature recorder solution for one of the largest milk supply companies in the US. During frequent deliveries to far-off receivers such as regional markets and supermarket chains, milk temperature needed to be maintained at a constant 2°-3°C (36°-37°F) throughout the trip--otherwise the product would be returned by receivers as unsafe for sale as a health risk. These transports were often sent out to remote destinations where proprietary software and interfaces were unavailable, and the average fresh milk delivery took 3-5 days to reach store shelves. Being an extremely temperature-sensitive product, the milk would spoil if its temperature was allowed to vary too much. Harmful bacteria started to form whenever the shipments suffered a slight heat increase and then a rapid decrease, causing spoiling and curdling at the bottom of the gallon jugs. At that point the milk had to be written off as a loss to the company. Therefore, the company began looking for accurate yet low-cost [temperature monitoring](#) devices featuring customizable alarm levels that would safeguard their product's freshness by alerting personnel when temperatures were about to go out of specification.



## INSTALLATION

The supplier installed 5 Lascar [EL-USB-Lite USB Temperature Data Loggers](#) in the back of each delivery truck to closely monitor milk temperature during shipments. Additionally, a [Lascar EL-DataPad Hand-Held Data Collector & Programmer](#) was given to drivers for quick data accessibility. These inexpensive USB temperature data loggers provided good coverage of the shipment to accurately monitor the crates of milk containers across a -10°C to +50°C (+14 to +122°F) temperature measurement range. Each EL-USB-LITE featured bi-color red and green LED flashing modes to indicate their logging status and alarm level, measuring and storing up to 4,080 temperature readings. To save power, the status indication only operated when the pushbutton was pressed for a short while.

## USAGE

Featuring improved  $\pm 2.5\text{C}$  ( $\pm 4.5\text{ F}$ ) accuracy, and a  $1^\circ\text{C}$  ( $2^\circ\text{F}$ ) internal resolution, the Lascar Lite data loggers also featured user-settable alarm thresholds to warn personnel if the milk temperature was about to go out of specification. The loggers' 30-minute sample rate recorded temperatures over the entire trip, and their lightweight and compact design made for an easy fit among all the gallon crates with their small width of 0.72 inches and 2.67 inch

length, each running on a lithium coin cell battery with a minimum 1-month life.

The Lascar loggers supported a USB interface for quick setup and data download, made even more convenient with the handheld data collector, which allowed workers to quickly configure the loggers, download the data, and view recorded results in the field on a 2.8" TFT display.



This saved time and increased productivity by removing the hassle of retrieving the loggers from their stack of crates and plugging them into the driver's laptop PC. The DataPad was itself powered by a rechargeable long-life lithium battery, allowing logging for up to 8 hours. The Lascar data loggers connected to the EL-DataPad via the standard USB port at the top of the viewer. Once connected, users navigated through the collector's simple touchscreen menu options to setup, stop logging, and download and view data. Data from up to 100 loggers could be viewed on the DataPad, with data from a further 400 units storable on the unit at any one time. Data could be transferred to a PC or Mac using a micro USB cable supplied with the unit. Once uploaded, data was saved in comma separated variable (csv) format, readying it for import into common spreadsheet packages such as Microsoft Excel or graphed on a PC using Lascar's free [EasyLog](#) Windows control software, supplied with every data logger. Using a convenient wizard format to guide users through setup of the data loggers and subsequent download of collected data, the software was easy to use even for untrained personnel.

## BENEFITS

The milk supplier realized several key benefits from installing the Lascar EL-USB-Lite USB Temperature Data Loggers among their milk shipments, most important of which was the accurate and dependable monitoring for their temperature-vulnerable product. The handheld data collector further simplified data collection and display, making for an effective monitoring system en route to receivers. The USB data loggers also proved to be very low-priced compared to other monitoring devices on the market, and the real appeal of the Lascar solution to the supplier was that they could now rely on untrained personnel to detect and correct health risks in their product that could otherwise have been ruined by rising temperatures.

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For further information on [Lascar EL-USB Lite Temperature Data Loggers](#), other low-cost data logging solutions, in transit temperature recorders or to find the ideal solution for your application-specific needs, contact a CAS DataLogger Application Specialist at (800) 956-4437 or [www.DataLoggerInc.com](http://www.DataLoggerInc.com).