

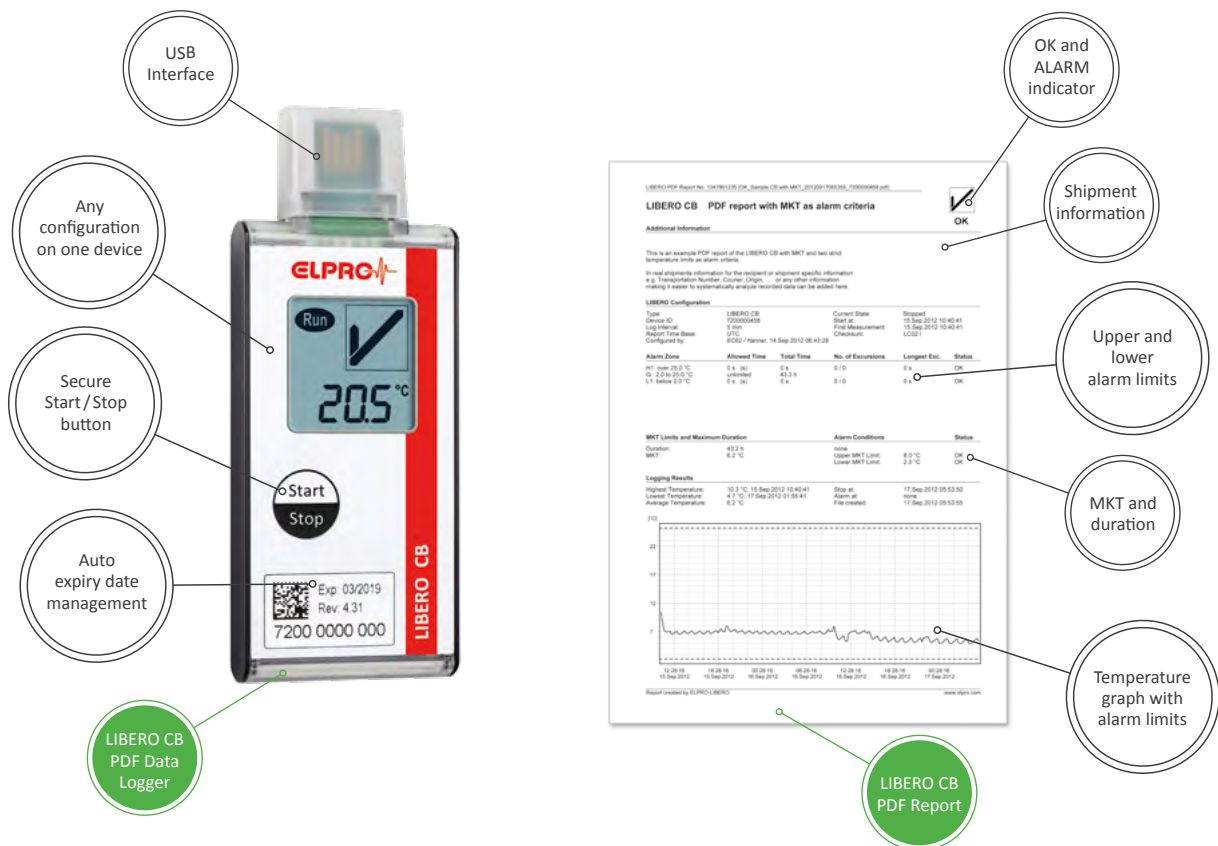


## TECHNICAL SPECIFICATIONS

# LIBERO CB

The Most Cost-Effective Cold Chain Monitoring Solution and Database

LIBERO CB is the universal PDF data logger for almost any cold chain monitoring challenge. Whether you require strict upper and lower alarm limits, alarm on MKT or duration, LIBERO CB offers it all and allows you to individually set these limits. No need to keep different loggers in stock. Simply apply the correct configuration profile, add shipment information at the time of use, and send off the data logger. No equipment is required, and no software needs to be installed. Read the PDF report and forward it to the sender or to liberoMANAGER, ELPRO's cold chain database, for further analysis.



we prove it.

SWISS QUALITY



- > Simple and safe, no equipment, no software
- > Quick implementation, also by 3<sup>rd</sup> parties
- > Compatible with liberoMANAGER cold chain database
- > 100% calibrated sensors and electronics
- > Fully compliant with industry guidelines

## Technical Specifications LIBERO CB

<b>Type</b>	PDF data logger with two alarm thresholds and alarm delay	
<b>Application area</b>	Cold Chain Monitoring – applications monitored with strict alarm limits, MKT or time	
<b>Recording options and mode</b>	Single use: start / stop mode	
<b>Operating range</b>	-30 °C..+70 °C	
<b>Measurement accuracy</b>	The LIBERO CB is the most accurate data logger among its peers and features a guaranteed accuracy of $\pm 0.4$ °C in the core range of 0.0 °C to 25.0 °C. The typical accuracy (95 % of all LIBEROs) is even better with $\pm 0.3$ °C in the core range.	
	Accuracy over full temperature range: $\pm 0.4$ °C from 0.0 °C to +25.0 °C $\pm 0.5$ °C from -10.0 °C to -0.1 °C as well as +25.1 °C to +50.0 °C $\pm 1.0$ °C from -30.0 °C to -10.1 °C as well as +35.1 °C to +70.0 °C	
<b>Resolution</b>	0.1 °	
<b>Measurement interval</b>	1 to 60 minutes, user programmable	
<b>Memory capacity</b>	24.200 measurement values (equals 168 days run time with 10 min interval)	
<b>Expiry date and battery life</b>	<ul style="list-style-type: none"> <li>- Data logger can be started any time during shelf life.</li> <li>- Started data logger runs until memory is full or logger is stopped (max. expiry date +30 days).</li> <li>- Auto expiry date management: After expiry, display changes status and logger cannot be started anymore.</li> <li>- Use below 0 °C and above +40 °C for prolonged times can limit battery life.</li> </ul>	
<b>Battery type</b>	Button cell contained in equipment, UN3091, exempt from DGR declaration	
<b>Certificate</b>	ILAC / NIST / ISO 17025 traceable production calibration certificate	
<b>Programmable alarms</b>	2 temperature thresholds with alarm delay   Alarm on MKT   Alarm on duration / run time	
<b>Start-up delay</b>	0 minutes to 24 h	
<b>Display</b>	Multifunction LCD, size: 23.5 x 23.5 mm, with large OK and ALARM indicator	
<b>Display functionality</b>	- Status: Conf, Start, Run, Stop	- Current temperature measurement
	- OK, ALARM, or blank	- Configuration profile identification
<b>Report</b>	Built-in PDF file generator automatically establishes an evaluation report with embedded data upon connection to a USB port. Complies with the ISO standard 19005-1 Document Management for the long-term preservation of electronic documents (PDF/A) and FDA 21 CFR Part 11. <ul style="list-style-type: none"> <li>- Customizable report title and filename.</li> <li>- Text area for additional information (shipment information, instructions for recipient, etc.).</li> <li>- Statistics (min/max, average, alarm) and detailed logger information (ID, configuration, etc.).</li> <li>- Chart visualizing the temperature curve and alarm limits.</li> </ul>	
<b>Traceability</b>	ID number (traceable to component level)	
<b>Case   dimension   weight   IP code</b>	ABS plastic material   96 × 37 × 11 mm (3.8 × 1.5 × 0.5 inch)   38 g (1.34 oz)   IP54	
<b>Certifications</b>	CE   EN12830   EMC   RTCA DO-160   RoHS   WHO-PQS   Safe Transport of Chemical Goods	
<b>Data logger configuration and analysis software</b>	liberoCONFIG and SmartStart software to create, store, and manage individual settings in a settings profile. liberoMANAGER database as cloud service to store shipment reports and results, analyze shipments, manage release status, and trigger customer specific workflows in cold chain processes. elproVIEWER software to access and export embedded data of PDF report for data analysis and comprehensive report features (for users not using liberoMANAGER).	