



TECHNICAL SPECIFICATIONS LIBERO CI

# LIBERO CI

## User Configurable PDF Indicator with Cold Chain Database in the Cloud

LIBERO CI accepts any temperature profile at the time of use with up to eight alarm levels, MKT or duration as alarm criteria. No need to keep different indicators in stock, simply apply the correct temperature profile, add shipment information and send the indicator together with your product. Decide how much information should be visible for the recipient or if a simple OK or ALARM is all the recipient should see. Follow all your shipments in the same database, both LIBERO CI Indicator and LIBERO CS and CB PDF Loggers are compatible with liberoMANAGER, ELPRO's cold chain database.

**LIBERO PDF Indicator CI**

- USB Interface
- Any configuration on one device
- Secure Start/Stop button
- Auto expiry date management

**LIBERO CI PDF Report**

- OK and ALARM indicator
- Shipment information
- Multi-level alarm statistics
- MKT and duration

we prove it.



- 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 CI

Version 2019

<b>Type</b>	PDF Indicator with multiple alarm levels
<b>Application area</b>	Cold Chain Monitoring – applications without need for temperature graph or tabular data
<b>Recording option</b>	Single use
<b>Operating range</b>	-30 °C..+70 °C
<b>Measurement accuracy</b>	<p>The LIBERO CI is the most accurate indicator amongst its peers and features a guaranteed accuracy of <math>\pm 0.4</math> °C in the core range of 0.0 °C to 25.0 °C. The typical accuracy (95 % of all LIBEROs) is even better with <math>\pm 0.3</math> °C in the core range.</p> <p>Accuracy over full temperature range: <math>\pm 0.4</math> °C from 0.0 °C to +25.0 °C <math>\pm 0.5</math> °C from -10.0 °C to -0.1 °C as well as +25.1 °C to +50.0 °C <math>\pm 1.0</math> °C from -30.0 °C to -10.1 °C as well as +50.1 °C to +70.0 °C</p>
<b>Resolution</b>	0.1 °
<b>Measurement interval</b>	1 to 60 minutes, user programmable
<b>Expiry date and battery life</b>	<ul style="list-style-type: none"><li>- Indicator can be started any time during shelf life</li><li>- Started data logger runs until logger is stopped (max. expiry date +30 days)</li><li>- Auto expiry date management: After expiry, display changes status and indicator 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>	<ul style="list-style-type: none"><li>- 8 temperature alarm levels with single or cumulative delays</li><li>- 2 temperature thresholds with alarm delay</li><li>- Alarm on MKT</li><li>- Alarm on duration/run time</li></ul>
<b>Start-up delay</b>	0 minutes to 24 h
<b>Display</b>	Multifunction LCD, size: 23.5 × 23.5 mm, with large OK and ALARM indicator
<b>Display functionality</b>	<ul style="list-style-type: none"><li>- Status: Conf, Start, Run, Stop</li><li>- OK, ALARM or blank</li><li>- Current temperature measurement</li><li>- Configuration profile identification</li></ul>
<b>Report</b>	<p>Built-in PDF file generator automatically establishes an evaluation report with embedded data upon connection to an 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.</p> <ul style="list-style-type: none"><li>- Customizable report title and filename</li><li>- Text area for additional information (e.g. shipment information, instructions for recipient, etc.)</li><li>- Statistics (min/max, average, alarm) and detailed indicator information (ID, configuration, etc.)</li></ul>
<b>Traceability</b>	ID number (traceable to component level)
<b>Case   dimension   weight</b>	ABS plastic material   96 × 37 × 11 mm (3.8 × 1.5 × 0.5 inch)   38 g (1.34 oz)
<b>Certifications</b>	CE   EN12830   EMC   RTCA DO-160   RoHS   WHO-PQS   Safe Transport of Chemical Goods
<b>Indicator 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.