



- LIBERO CS**
- Multi-Level PDF Logger
  - No equipment
  - No software



TECHNICAL SPECIFICATIONS LIBERO CS

## LIBERO CS

### Multi-Level PDF Logger with Cold Chain Database

LIBERO CS is the PDF Logger that simplifies the shipment process for products with known stability data. Supporting up to eight alarm levels, MKT and duration as alarm criteria, the LIBERO CS allows the user to create temperature profiles for individual products. No need to keep different loggers in stock, simply apply the correct configuration profile and add shipment information at the time of use and send off the logger. No equipment and no software is required. Release products based on the OK or ALARM status on the display, download the PDF report and forward it to the sender or to liberomanager, ELPRO's cold chain database, for further analysis.

**LIBERO CS PDF Logger**

**LIBERO CS PDF Report**

**LIBERO CS PDF report with multi level alarm criteria**

**Additional Information**

This is an example PDF report of the LIBERO CS with multiple temperature zones as alarm criteria monitoring stability data of the shipped product.

In real shipments information for the recipient or shipment specific information e.g. Temperature Number, Counter, Single ... or any other information making it easier to systematically analyze recorded data can be added here.

LIBERO Configuration		Current State	Shipped
Type	LIBERO CS	Start of Prod Measurement	14.Sep.2012 16:33:51
Center ID	710000211	End of Prod Measurement	14.Sep.2012 17:28:51
Log Interval	LTC	Checksum	LOG17321564887
Report Time Base	RTD	Report	14.Sep.2012 08:17:54
Configured by			

Alarm Zone	Allowed Time	Total Time	No. of Excursions	Longest Exc.	Status
H4: over 45.0 °C	0 s (0)	0 s	0 / unlimited	0 s	OK
H2: over 40.0 °C	20 s (0)	0 s	0 / unlimited	0 s	OK
H0: over 20.0 °C	0 s (0)	10 min	1 / unlimited	0 s	OK
L0: below 0.0 °C	0 s (0)	20 min	1 / unlimited	0 s	OK
L1: below 5.0 °C	unlimited	0 s	0 / unlimited	0 s	OK
L2: below 10.0 °C	0 s (0)	11.5 h	1 / unlimited	11.5 h	OK
L3: below 15.0 °C	0 s (0)	0 s	0 / unlimited	0 s	OK
L5: below 0.0 °C	0 s (0)	0 s	0 / unlimited	0 s	OK

**MKT Limits and Maximum Duration**

MKT	Duration	Alarm Conditions
MKT:	0.0 s / 20.0 h	none

**Logging Results**

Highst Temperature	Lowest Temperature	Average Temperature	Start at	Alarm at	File created
38.0 °C	11.8 °C	19.3 °C	17.Sep.2012 07:08:08	17.Sep.2012 07:08:08	17.Sep.2012 09:06:41

**Temperature graph with alarm limits**

we prove it.



## HIGHLIGHTS

- 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 CS

<b>Type</b>	PDF Logger with multiple alarm levels	
<b>Application area</b>	Cold Chain Monitoring – applications with stability data or other allowed time / temperature excursions	
<b>Recording options and mode</b>	<b>Single use:</b> start / stop mode	
<b>Type of probe</b>	Internal NTC probe	
<b>Operating range</b>	-20 °C..+70 °C	
<b>Measurement accuracy</b>	± 0.3 °C typ. in the range of -10 °C..+25 °C	
<b>Resolution</b>	0.1 °	
<b>Measurement interval</b>	1 to 60 minutes, user programmable	
<b>Memory capacity</b>	8'800 measurements values (equals 60 days run time with 10 min interval)	
<b>Expiry date &amp; battery life</b>	<ul style="list-style-type: none"> <li>- Data logger can be started any time during shelf life of 12 months</li> <li>- Started data logger runs until memory is full or logger is stopped</li> <li>- Auto expiry date management: After expiry, display changes status and logger cannot be started anymore</li> <li>- Long time operating range: -10.0 °C..+50.0 °C for entire shelf life</li> <li>- Extended operating range: 10 days at -20.0 °C and 10 days at +70.0 °C</li> <li>- Use beyond the extended operating range can limit the battery</li> </ul>	
<b>Certificate</b>	12 month certificate with reference to sensor calibration and data logger test results	
<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 x 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> </ul>	<ul style="list-style-type: none"> <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>- Immediate release or quarantine based on alarm status</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</b>	ABS plastic material   96 x 37 x 11 mm (3.8 x 1.5 x 0.5 inch)   38 g (1.34 oz)	
<b>Data logger configuration and additional analysis software</b>	<p>liberoCONFIG software to create, store and manage individual settings in a logger profile as well as SmartStart, a liberoCONFIG component allowing a safe and quick application of profiles and shipment information to PDF Logger. elproVIEWER software to access and export embedded data of PDF report, for data analysis and comprehensive report features.</p> <p>Both software products downloadable free of charge.</p>	