



TECHNICAL SPECIFICATIONS LIBERO Ti1-S

LIBERO Ti1-S

Multi-Level PDF Logger

LIBERO Ti1-S is the most versatile PDF Logger for cold chain monitoring applications. Data logger inventory is easy to maintain, as the end user can configure the Ti1-S with up to six alarm levels and shipment- or project-specific information. Immediately release products based on the OK or ALARM status on the display and detailed alarm statistics in the PDF report. The point-by-point raw data can be extracted directly from the PDF report, which streamlines data management. Forward the PDF report to the sender or liberomanager, ELPRO's cold chain database, for further analysis.

LIBERO Ti1-S PDF report with multi level alarm criteria

Additional Information

This is an example PDF report of the LIBERO Ti1-S with multiple temperature zones as alarm criteria representing stability data of the shipped product. In help shipments information for the recipient or shipment specific information e.g. Transportation Number, Country, Origin, ... or any other information making it easier to systematically analyse recorded data can be added here.

Device Configuration		Libero Ti1-S V1.25	Inspection Range	Last Transit to Arrived
Type	Logger ID	1245291	Current State	Logging Arrived
Log Interval / Duration	Log Mode	2 hr 15.2.2 g	Remaining Battery	12.9 g
Report Time Base	Start/Stop	GMT +01:00	Logger Start	18.01.2013 17:01:34
Configured by	Checksum	C203, ECT2downlink, 16.01.2013 16:38:33		1115, 14.025.709.188

Alarm Zones	Allowed Time	Total Time	No. of violations	Status
Z1: over 40.0 °C	0 s (0min)	0 s	0 / 0min	OK
Z2: over 20.0 °C	4.0 h (40min)	0 s	0 / 0min	OK
Z3: over 0.0 °C	48.0 h (1080min)	0 s	0 / 0min	OK
Z4: 2.0 to 8.0 °C	unlimited	39.5 h	0 / 0min	OK
Z5: below 2.0 °C	4.0 h (40min)	0 s	0 / 0min	OK
Z6: below 0.0 °C	0 s (0min)	0 s	0 / 0min	OK

Logging Results

Parameter	Value	Transit Start at	Arrived at
Highest Temperature	12.3 °C	18.01.2013 19:47:34	18.01.2013 17:01:34
Lowest Temperature	2.4 °C	17.01.2013 17:19:34	18.01.2013 09:29:35
Average Temperature	4.9 °C		none
MACT	5.1 °C		18.01.2013 09:48:56

Temperature graph with alarm limits

LIBERO Ti1-S PDF Report

LIBERO Ti1-S PDF Logger

Callouts for device features: USB interface, Alarm status indicator, Display with battery status, Internal temperature sensor.

Callouts for report features: OK and ALARM indicator, Shipment information, Multi-level alarm statistics, Logging results and statistics.

we prove it.


HIGHLIGHTS

- Simple and safe, no equipment, no software
- Used by major pharma companies and CROs worldwide
- Widest temperature measurement range of -35 °C..+70 °C
- Compatible with liberoMANAGER cold chain database
- Fully compliant with industry guidelines

 Swiss Engineering

Technical Specifications LIBERO Ti1-S

Type	PDF Logger with multiple alarm levels
Application area	Cold Chain Monitoring – applications with stability data or other allowed time / temperature excursions
Recording options and mode	Single use: start / stop mode
Type of probe	Internal NTC probe
Measurement range	-35 °C..+70 °C
Measurement accuracy	± 0.2 °C in the range of -10 °C..+25 °C ± 0.5 °C in the range of -35 °C..-10.1 °C as well as +25.1 °C..+70 °C
Resolution	0.1 °
Measurement interval	1 to 60 minutes, user programmable
Memory capacity	16'000 measurement values
Expiry date and battery life	- 14 months shelf life - 100 days logging time
Certificate	14 month validation certificate
Programmable alarms	- 6 temperature alarm levels with single or cumulative delays - 2 temperature thresholds with alarm delay
Start-up delay	0 minutes to 24 h
Display	Multifunction LCD, size: 23.5 x 23.5 mm, with OK and ALARM indicator
Display functionality	- Status: Conf, Start, Logging, Stop - Current temperature measurement - Configuration profile identification - Remaining battery life in days - Statistical data (min, max, average)
Report	Built-in PDF file generator automatically establishes an evaluation report with embedded raw 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. - Customizable report title and filename - Text area for additional information (e.g. shipment information, instructions for recipient, etc.) - Immediate release or quarantine based on alarm status - Statistics (min/max, average, alarm) and detailed logger information (ID, configuration, etc.) - Chart visualizing the temperature curve and alarm limits
Traceability	ID number
Case dimension weight	ABS plastic material 95 x 40 x 12 mm (3.8 x 1.6 x 0.5 inch) 38 g (1.34 oz)
Data logger configuration and additional analysis software	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 to PDF Logger. elproVIEWER software to access and export embedded data of PDF report, for data analysis and comprehensive report features. Both software products are downloadable at www.elpro.com/downloads .

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