



- LIBERO GF**
- > 100% calibrated & compliant
 - > Flight-proof
 - > Multi-level alarm criteria

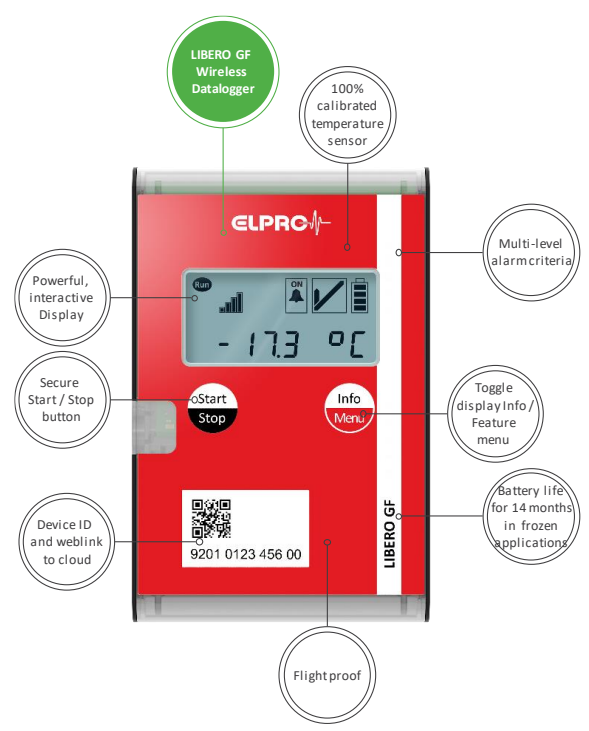


(PRELIMINARY) TECHNICAL SPECIFICATIONS

LIBERO GF

Multi Use Real-Time Temperature Data logger

LIBERO GF is the real-time logger for the temperature monitoring of frozen shipments. The internal temperature sensor is highly accurate and comes with a 100% sensor calibration. With an ensured runtime of 14 months days up to -30 °Celsius, LIBERO GF is ideal for the monitoring of your frozen temperature sensitive products. Allowing to set multi-level alarm criteria, but also does LIBERO GF monitor light and location as well as movement of the shipment. In addition to temperature, LIBERO GF monitors light and location as well as movement of the shipment. LIBERO GF features a powerful, interactive display to facilitate your shipment process. LIBERO GF uploads all measured data automatically to a save cloud environment where all shipments are monitored. LIBERO GF ideally complements the existing (USB) data logger portfolio and is fully compatible with the existing cold chain database solution. The automatic flight detection and the abandonment of lithium batteries allows the usage for airfreight without cumbersome dangerous goods declaration. Up to 16.000 temperature values can be stored on the logger to temporarily buffer measurement data. At the end of the shipment release products directly based on the OK or ALARM status on the display and download the PDF report from the cloud.



we prove it.

SWISS QUALITY



- > Real-time insights of your valuable shipments on road, air and sea
- > Highly accurate and 100% calibrated temperature sensor
- > Simple and safe in use and application
- > Fully compliant with industry guidelines
- > Compatible with liberoMANAGER cold chain database

Technical Specification LIBERO GF (preliminary)

Type	Wireless Data logger with internal temperature sensor
Application area	Transport Monitoring: Global distribution of temperature sensitive products, frozen applications
Recording options and mode	Multiple use: start / stop or loop mode
Sensors	Temperature sensor Geographical location Light sensor Acceleration sensor (movement/ tilt)
Measurement range	Measurement range of internal sensor: -40 °C..+70 °C
Application range	-40 °C..+55 °C (only short term use above application range allowed)
Measurement accuracy	Internal Sensor ±1.0 °C for -30.0 °C..-20.1 °C ±0.5 °C for -20.0 °C..-0.1 °C ±0.4 °C for 0.0 °C..+65.0 °C ±0.5 °C for +65.1 °C..+70 °C
Resolution	0.1 °
Measurement interval	10 to 60 minutes, user programmable
Cellular network	LTE-M and NB-IoT (Global Roaming)
Communication interval	1 to 24 hours, user programmable, event-driven immediate communication (e.g. excursion, last will)
Measurement capacity	16'000 measurement values
Battery life	14 months (+ 12 months shelf life) Use above +40 °C over a longer period of time and / or intensified communication behavior (e.g. bad connection) can shorten battery life
Battery type	Lithium-Metal batteries (non-replaceable), UN3091 (contained in equipment)
Configurable alarms / occurrences	8 temperature & alarm zones with single or cumulative delays Alarm on MKT / duration / runtime 2 temperature warning thresholds with alarm delay Occurrence for light, geo-position and movement / tilt
Start-up Delay	User configurable based on time, temperature or button
Display	Multifunction LCD, size: 42 × 20 mm
Certificate	Calibration certificate (3-points); additional calibration points or ISO 17025 certification available Validation Certificate
Traceability	Unique ID number (traceable to component level)
Reporting	Real-time visibility and notification about temperature excursions or occurrences via an ELPRO cloud solution Secure and compliant archiving of all data in ELPRO cloud (complies with FDA 21 CFR Part 11) Compatible with liberoMANAGER, ELPRO's cold chain database to store shipment reports and results, analyze shipments, conduct stability data assessments, manage release status and trigger customer specific workflows in cold chain processes.
Case dimension weight	ABS plastic material 100 × 65 × 19 mm (3.9 x 2.5 x 0.7 in) 134 g (4.7 oz)
Conformity	CE FCC ICES RoHS UN38.3 Safe Transport of Chemical Goods WEE EASA
Standards	EN 12830 RTCA DO-160 (EMC) GAMP5