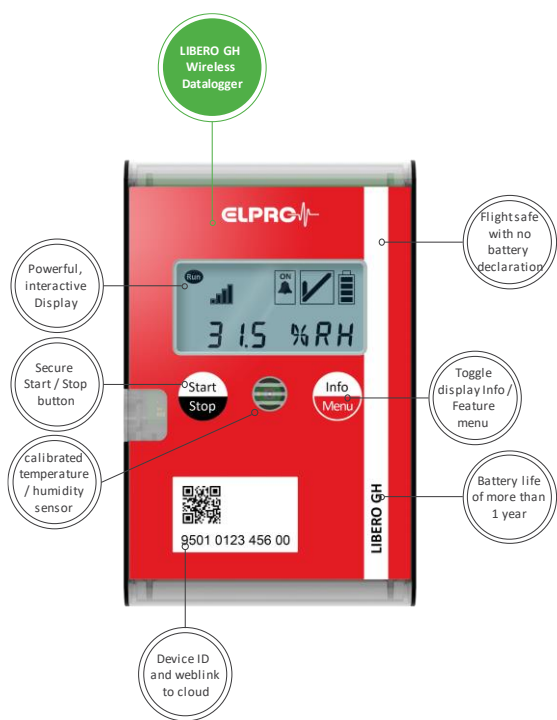# ELPRO

LIBERO GH

Multi Use Real-Time Data Logger for Temperature and Humidity

LIBERO GH is the ideal real-time data logger for climate monitoring of shipments as well as for test and verification systems. LIBERO GH features a highly accurate and 100% calibrated temperature / humidity sensor, allowing to set multi-level alarm criteria, but also does LIBERO GH monitor light and location as well as movement of the shipment. LIBERO GH features a powerful, interactive display to facilitate your shipment process. LIBERO GH offers a runtime of more than one year. The automatic flight detection and the abandonment of lithium batteries allows the usage for airfreight without cumbersome dangerous goods declaration. LIBERO GH uploads all measured data automatically to a save cloud environment where all shipments are monitored. 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. Optionally, a robust, lockable bracket is available.

we prove it.

✚ SWISS QUALITY

Technical Specification LIBERO GH (preliminary)

Type	Wireless Data logger with internal temperature / humidity sensor
Application area	Transport Monitoring, Test & Verification Systems
Recording options and mode	Multiple use: start / stop or loop mode
Sensors	Combined Temperature/Relative Humidity sensor Geographical location Light sensor Acceleration sensor (movement/ tilt)
Measurement range	Measurement range of internal sensor: -30 °C..+70 °C
Measurement accuracy	**Temperature** ±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 **Humidity (RH @ 23 °C)** ±2.5 %RH for 0 %RH..90% RH ±3.5 %RH for 90.1 %RH..100% RH
Resolution	0.1 °
Measurement interval	1 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 below 0 °C and above +40 °C over a longer period of time and / or intensified communication behavior (e.g. bad connection) can shorten battery life
Battery type	Alkaline batteries (non-replaceable), exempt from DGR declaration
Configurable alarms / occurences	8 temperature & alarm zones with single or cumulative delays Alarm on MKT / duration / runtime Upper and lower alarm limits (with delay) for humidity Upper and lower warning thresholds (with delay) for temperature and /or humidity 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