

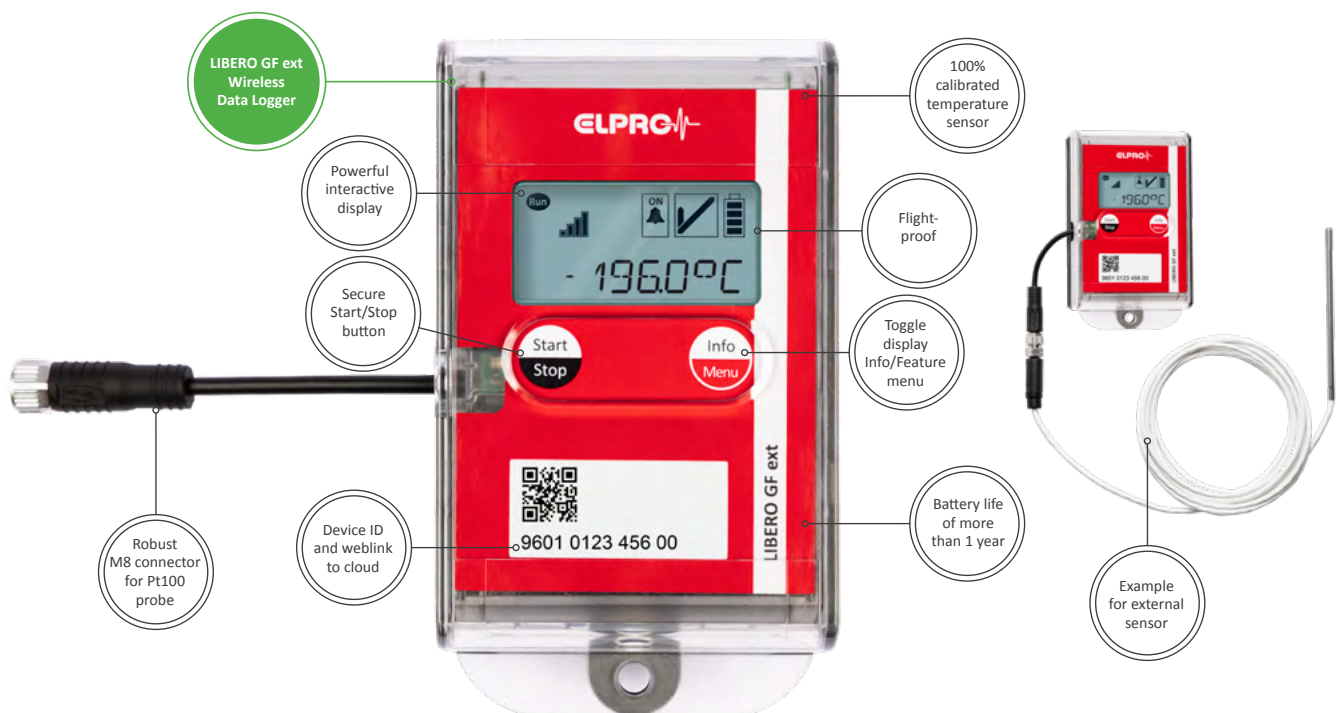


## TECHNICAL SPECIFICATIONS

# LIBERO GF ext

Wireless data logger with internal sensor and external Pt100 probe

LIBERO GF ext is the real-time logger that takes your cold chain monitoring to the next level. LIBERO GF ext covers all kind of applications for transport monitoring and simplifies the shipment process for products with known stability data. The internal temperature sensor is highly accurate and comes as world's first wireless data logger with a 100 % sensor calibration. Having an external probe (Pt100 probe with M8 connector for safe temperature data transfer), LIBERO GF ext covers a wide measurement range from -200 °C...+400 °C and allows monitoring of ultra-low freezers and cryo containers. LIBERO GF ext is re-configurable and re-usable with a battery life of more than a year. In addition to temperature, LIBERO GF ext monitors light, movement/tilt and location of the shipment. LIBERO GF ext uploads all measured data automatically to a safe cloud environment where all shipments are monitored. The automatic flight detection allows the usage for airfreight. Having a display, LIBERO GF ext provides full transparency to the user at any time. Up to 31.000 temperature values can be stored on the data logger to temporarily buffer measurement data. A robust, lockable bracket is available to hold LIBERO Gx in a defined position. 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 monitoring software (elproCLOUD / liberoMANAGER).



we prove it.

SWISS QUALITY



- > Real-time insights into your valuable shipments on road, air and sea
- > Highly accurate and 100% calibrated internal temperature sensor
- > Simple and safe in use and applications
- > Fully compliant with industry guidelines

## Technical Specifications LIBERO GF ext.

<b>Type</b>	Wireless Data logger with internal sensor and external Pt100 temperature probe (probe not included)	
<b>Application area</b>	Transport Monitoring, frozen applications, (Cryo / Dry-ice) Container Monitoring	
<b>Recording options and mode</b>	Multiple use: start / stop , Loop mode	
<b>Sensors</b>	High accuracy digital temperature sensor   External probe (Pt100, requires M8 connector)   Geographical location   Light   Tilt	
<b>Measurement range</b>	Measurement range (depending on probe): -200 °C..+400 °C Measurement range of internal sensor: -40 °C..+70 °C	
<b>Application range</b>	On probe: -200 °C..+400 °C / internal sensor: -35°C..+55 °C	
<b>Measurement accuracy</b>	<b>Internal Sensor</b> ±1.0 °C for -40.0 °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	<b>External Probe (System accuracy*)</b> ± 1.4 °C in the range of -200.0 °C..-100.1 °C (Class B) ± 1.0 °C in the range of -100.0 °C..-50.1 °C (Class B) ± 0.4 °C in the range of -50.0 °C..-10.1 °C (Class A) ± 0.3 °C in the range of -10.0 °C..+25.0 °C (Class A) ± 0.5 °C in the range of +25.1 °C..+100.0 °C (Class A) ± 0.7 °C in the range of +100.1 °C..+200.0 °C (Class A) ± 1.1 °C in the range of +200.1 °C..+400.0 °C (Class A) *Includes data logger and external Pt100 probe of stated class
<b>Measurement Resolution</b>	0.1 °	
<b>Measurement interval</b>	5 to 60 minutes, configurable via elproCLOUD / liberoMANAGER	
<b>Cellular network</b>	LTE-M and NB-IoT	
<b>Communication interval</b>	30 minutes to 2 hours according to communication mode (Longlife/Standard/Performance), configurable via elproCLOUD / liberoMANAGER, event-driven immediate communication (e.g. temperature excursion).	
<b>Measurement capacity</b>	31.000 measurement values (equals 322 days with 15 min measurement interval)	
<b>Expiry date and battery life</b>	Data logger can be started any time during shelf life. Started data logger runs up to 14 months. 12 months continuous operation with 15 min measurement interval and 120 min communication interval. Intensified communication behavior (e.g. bad connection or local provider settings) and application below -35 °C and above +55 °C will shorten battery life.	
<b>Battery type</b>	AA-Lithium-Metal batteries (non-replaceable), UN3091 (contained in equipment)	
<b>Configurable alarms</b>	7 temperature thresholds with alarm delay (4 upper limits, 3 lower limits)	
<b>Start-up delay</b>	Configurable based on time, temperature or button	
<b>Display</b>	Multifunction LCD, size: 42 × 20 mm	
<b>Certificate</b>	Manufacturer validation certificate per delivery, production validation and 3-point calibration certificate (ILAC/NIST/ISO 17025 traceable) pre ID number via compliance.elpro.com, additional customer-specific calibration points optionally available.	
<b>Traceability</b>	Unique ID number (traceable to component level)	
<b>Reporting</b>	Real-time visibility and notification about temperature excursions via elproCLOUD / liberoMANAGER	
<b>Case   dimension   weight   IP code</b>	ABS plastic material   100 × 65 × 19 mm (3.9 × 2.5 × 0.7 in) / Cable tail incl. M8 connector 85 mm   116 g (4.1 oz) IP54	
<b>Conformity</b>	CE   FCC   UKCA   ICES   RoHS   UN38.3   WEEE   NCC   RSM   TDRA   ENACOM   IMDA   MIC   ACMA/RCM	
<b>Standards</b>	EN 12830   RTCA DO-160 (EMC)   GAMP5	