IoT Multi Channel Data Logger

LogBox LTE

- **Suitable for mobile applications in long distance locations**
- **Configuration and data download via USB or NOVUS Cloud**
- **SMS alarm notification**
- **Built-in rechargeable backup battery**
- **Easy integration with NOVUS Cloud**
- **Data communication via LTE network through NXperience and SCADA**

SMS ALARM
Alarm notification

BATTERY
Up to 80 hours* of operation, in energy saving mode

IOT DEVICE
MQTT Protocol (Publisher and Subscriber)

EASY COMISSIONING
NOVUS Cloud integrated

NXPERIENCE TRUST
GMP and FDA Regulation Title 21 CFR Part 11 compliance

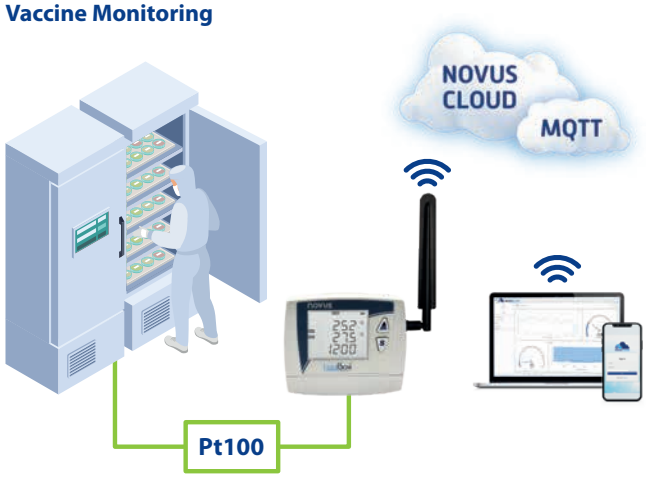
LogBox LTE is an IoT data logger with **NB-IoT**, **Cat.M1** or **GPRS** communication network. This device allows monitoring and data recording remotely, in installations with LTE infrastructure, perfectly suitable for mobile applications at long-distance locations or sites that do not need to use IT infrastructure.

The device has two analog inputs, plus a digital input and one digital output. **LogBox LTE** works with MQTT protocol both in publisher and subscriber mode, therefore it can publish data to IoT brokers and also read commands, enabling to remotely execute some commands. Remote connection with low-cost infrastructure and application versatility are the highlights of this product.

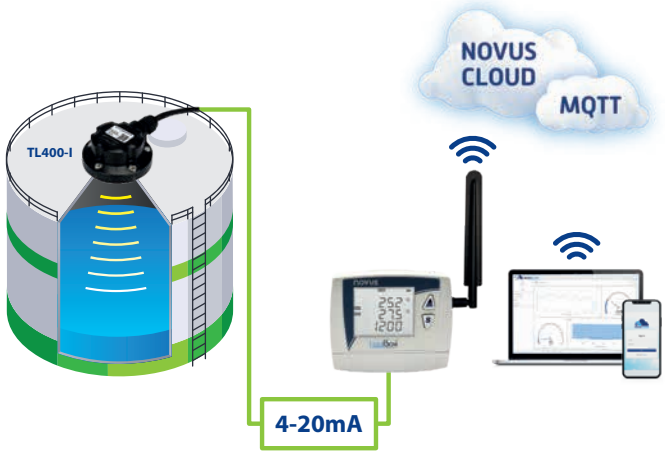
LogBox LTE has a built-in rechargeable **backup battery** to keep data safe during a power outage. SMS notification and easy integration with **NOVUS Cloud** will also help commissioning this device quickly. **LogBox LTE** uses **NXperience** software, wich has the **NXperience Trust**, a version that meets **GMP (Good Manufacturing Practice)** compliance, meeting with the technical requirements of **FDA Regulation Title 21 CFR Part 11** for validation of computer systems.

Topology

Vaccine Monitoring



Level Measurement



Technical Specifications

Input Channels	2 analog 2 interns 1 digital
Compatible Analog Signals	Thermocouples J, K, T, N, E, R, S and B, Pt100, 0-50 mV, 0-5 V, 0-10 V, 0-20 mA, 4-20 mA
Internal Measurements	Internal Temperature (NTC) Battery Voltage External Power Supply Voltage
Input Impedance of Analog Channels	Thermocouples / Pt100 / mV: > 2 MΩ mA: 15 Ω + 1.5 V V: 1 MΩ
Pt100	Maximum compensated cable resistance: 25 Ω Excitation current: 166 µA Curve used: α= 0.00385

Digital Input	
Logical Levels	Logic level "0": from 0 to 0.5 Vdc Logic level "1": from 3 to 30 Vdc
Maximum Voltage	30 Vdc
Input Impedance	270 kΩ
Input Current @ 30V DC (typical)	150 µA
Maximum Frequency (square wave)	Dry Contact: 10 Hz PNP: 2 kHz NPN: 2 kHz
Minimum Pulse Duration	Dry Contact: 50 ms PNP: 250 µs NPN: 250 µs

Digital Output	1 PNP type output Maximum current that can switch on the output: 700 mA
Display	3 lines, 4½ digits
Resolution	Analog Signals: 15 bits (32768 levels) Digital Signal: 16 bits (65536 levels)

Memory Capacity	140.000 records (total)
Record Interval	1 second to 12 hours (recommended: 300 seconds)
Record Type	Instant and Medium
Registry Trigger	Date/time, alarm, start button, digital input, software command or SMS
Alarms	10 alarms available (can activate digital output, send SMS and MQTT publication)
Communication Interfaces	USB interface Mobile communication module (NB-IoT (NB1 and NB2, compatible with 5G and 4G), Cat.M1 (compatible with 5G and 4G), fallback for GPRS/GSM/2G and SMS)
Communication Protocols	MQTT with TLS 1.2 NTP
MQTT Brokers	AWS, Azure**, Google Cloud**, NOVUS Cloud and generic
Software	NXperience (for desktops and notebooks – locally via USB or remotely via NOVUS Cloud)

Power Supply	
Power Supply Source	Voltage: 10Vdc to 30Vdc Maximum Consumption: 300 mA Typical Consumption: 20 mA"
Batteries	Built-in rechargeable battery***

Estimated Battery Life for Backup	Up to 80h*
Operating Temperature	Using the power supply: -20 to 60 °C**** Using backup power: 0 to 45°C*****
Accommodation	ABS+PC
Protection Index	IP40
Dimensions	120 x 100 x 40 mm
Certifications	CE, UKCA, FCC, ANATEL

* Power Safe Mode, logging and publishing interval 15 minutes.

** Connection with Azure MQTT Brokers and Google Cloud under development.

*** Risk of explosion: The internal batteries can only be replaced by the manufacturer or authorized technical assistance.

**** Risk of explosion: Be careful with the operating temperature of the device. Extremely high or low temperatures can cause backup batteries to rupture and leak and cause damage.

***** The batteries for backup will be charged while the device is operating in the temperature range of 0 to 45 °C.

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