EFENTO®
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**NB-IoT**

# Wireless low temperature logger

The Efento NB-IoT wireless data logger is designed for continuous low temperature monitoring, ensuring reliable data transmission and high measurement accuracy. Using Narrowband IoT connectivity, it communicates directly over the cellular network. No gateways or additional infrastructure required.



## Key Features

- **Effortless installation** - thanks to built-in NB-IoT connectivity, installation is as simple as mounting the device on a wall or placing it on a shelf - no gateways, cabling, or Wi-Fi configuration required.
- **Fast and intuitive setup** - with an integrated Bluetooth Low Energy (BLE) module and a dedicated mobile app, the sensor can be configured and activated in under 15 minutes.
- **Up to 8 years of battery life** - engineered for long-term, maintenance-free operation, the device uses intelligent data handling and optimized transmissions to achieve up to 8 years of operation on a single battery.
- **Cloud and system integration** - seamlessly connects with the Efento Cloud platform for data visualization, analysis, and alerting. Standard communication protocols also enable easy integration with custom server-based systems.
- **Remote management** - supports over-the-air firmware updates and secure remote configuration, reducing the need for on-site maintenance.
- **Calibration certificate (optional)** - the device can be supplied with a certificate issued by an accredited laboratory in accordance with ISO/IEC 17025, confirming measurement accuracy for high-precision applications.

## Applications

The device is designed for use in distributed and hard-to-access locations where precise low-temperature measurement is required. It is ideal for applications such as laboratory and medical freezers, ultra-low temperature freezers, cold storage rooms, freezer chambers, pharmaceutical warehouses, and logistics centers handling temperature-sensitive products.

## Sensors

| Temperature | |
|---|---|
| Model | PT1000 1-meter probe |
| Measurement range | -200°C to 200°C |
| Accuracy | +/- 0.3°C in 0°C, +/- 1.3°C in -200°C, +/- 1.3°C in +200°C |
| Resolution | 0.1°C |
| Drift | < 0.04% after 1000 hours of continuous operation |

## Technical data

| Data logging | |
|---|---|
| Memory size | 100 000 measurements |
| Measurement interval | 5 s - 30 days (user-configurable) |
| **Bluetooth interface** | |
| Radio module frequency | 2.4 GHz |
| Power | 2.5 mW (4 dBm) |
| Range | Up to 100 m (LOS) |
| Transmision period | 1 s |
| Bluetooth version | Bluetooth Low Energy (4.0) |
| **NB-IoT interface** | |
| NB-IoT bands | 1, 2, 3, 4, 5, 8, 12, 13, 17, 18, 19, 20, 25, 28, 66, 70, 85 |
| 3GPP | 13 i 14 (LTE Cat NB2) |
| Power | 23 dBm ±2 dB |
| **Communication** | |
| Protocol | CoAP |
| Transmission interval | 1 min - 7 days (user-configurable) |
| **Operating and Storage Conditions** | |
| Main unit operating conditions | Temperature: -25°C to +70°C, humidity: 0-99% RH (non-condensing) |
| Probe operating conditions | Temperature: -200°C to +200°C |
| Storage conditions | Temperature: -25°C to +70°C |
| Charging conditions (variants with external power supply) | Temperature: 0°C to +45°C |
| **Certifications** | |
| Regulatory | CE (RED), FCC |
| Environmental | RoHS |

## Variants

| EAN | Power Supply | Enclosure | Weight |
|---|---|---|---|
| 5905309603882 | 8,500 mAh battery (replaceable). Battery life up to 8 years | IP30, white ABS plastic Dimensions: 32.5 × 60 × 125 mm | 165g (including battery) |
| 5905309604193 | USB-C, with a 1,300 mAh rechargeable backup battery to maintain operation in case of power loss | IP30, white ABS plastic Dimensions: 32.5 × 60 × 125 mm | 150g |
| 5905309605046 | 8,500 mAh battery (replaceable). Battery life up to 8 years | IP65, white ABS plastic Dimensions: 39.5 × 63.5 × 128.5 mm | 220g (including battery) |
| 5905309605237 | 9-26V, with a 1,300 mAh rechargeable backup battery to maintain operation in case of power loss | IP65, white ABS plastic Dimensions: 39.5 × 63.5 × 128.5 mm | 205g |