NB-IoT

Wireless temperature and humidity logger with external temperature probe

The Efento NB-IoT wireless data logger is designed for continuous temperature and humidity 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 simultaneous monitoring of ambient temperature and humidity, as well as temperature at an additional measurement point using an external probe. It is ideal for use in medical refrigerators and freezers, pharmaceutical warehouses, laboratories, archives, server rooms, and other environments with controlled conditions.

Sensors

	Temperature (probe)	Temperature	Humidity
Model	Dallas DS18B20, 1-meter probe	Sensirion SHT41	Sensirion SHT41
Range	-55° to 125°C	-25°C to 70°C	0 to 100% RH
Accuracy	+/- 0.5°C in the range from -10°C to +85° C, +/- 2°C in the range from -55 to -10°C and +85°C to +125°C	+/- 0.2°C	+/- 2% in the range from 0-90% RH +/- 3% in the range from 90-99% RH
Resolution	0.1°C	0.1°C	0.1%
Drift	<0.1°C /year	<0.1°C /year	<0.2% RH /year

Technical data

Data logging	
Memory size	100 000 measurements (evenly distributed across each channel)
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: -55°C to +125°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
5905309604377	8,500 mAh battery (replaceable). Battery life up to 8 years	IP30, white ABS plastic Dimensions: 32.5 × 60 × 125 mm	170g (including battery)
5905309605039	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	155g