NB-IoT

Wireless air quality, atmospheric pressure, temperature and humidity logger

The Efento NB-IoT wireless data logger is designed for continuous monitoring of air quality, temperature, humidity, and pressure in applications requiring 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 comprehensive monitoring of environmental parameters, including air quality, temperature, relative humidity, and atmospheric pressure. It is ideal for use in office buildings, public facilities, schools, hospitals, laboratories, server rooms, and smart building management systems.

Sensors

	Air Quality	Temperature
Model	Bosch BME680	Bosch BME680
Measurement range	0-500 IAQ	-40°C to 85°C
Accuracy	+/- 15% (sensor-to-sensor deviation)	+/- 0.5°C (typical, at 25°C), +/- 1°C in the range 0-65°C
Resolution	1	0.1°C
Drift	+/-1% to +/-4% (depending on conditions)	Not applicable

	Humidity	Atmospheric pressure
Model	Bosch BME680	Bosch BME680
Measurement range	0 to 100% RH	300-1100 hPa
Accuracy	+/- 3% RH (typical, 20-80% RH, 25°C)	+/- 0.6 hPa
Resolution	0.1%	0.1 hPa
Drift	<0.5% RH / year	+/- 1 hPa /year

Technical data

Data logging	
Memory size	100 000 measurements (evenly distributed across each channel)
Measurement interval	6 min - 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	6 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)
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
5905309604292	8,500 mAh battery (replaceable). Battery life up to 8 years	IP30, white ABS plastic Dimensions: 32.5 × 60 × 125 mm	140g (with battery)
5905309604308	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	125g