



NB-IoT

Wireless 4-20 mA sensor interface

The Efento NB-IoT wireless data logger is designed for monitoring 4–20 mA analog signals 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.
- **Versatility** - enables connection to any device or probe with a 4–20 mA output, regardless of the measured parameter.

Applications

The device is designed for monitoring and recording analog signals from a wide range of industrial sensors. It enables precise measurement of parameters such as pressure, liquid level, flow, or distance transmitted in the 4–20 mA standard. It is well suited for industrial automation, SCADA systems, water and sewage installations, the energy and chemical sectors, and building management systems (BMS).

Sensors

Analog signal

Model	Supports up to 2 devices with 4–20 mA output
Measurement range	4-20 mA
Accuracy	0.1% with default calibration, 0.01% with user 4-point calibration
Resolution	0.001 mA
Drift	Not applicable

Technical data

Data logging

Memory size	100 000 measurements (evenly distributed across each channel)
Measurement interval	5 s - 7 days (user-configurable) *the minimum measurement interval applies when no probe is connected and may increase depending on the probe type

Bluetooth interface

Radio module frequency	2.4 GHz
Power	2.5 mW (4 dBm)
Range	Up to 100 m (LOS)
Transmission 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, 26, 28, 66, 70, 71, 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)
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
5905309603691	8,500 mAh battery (replaceable). Battery life up to 8 years	IP30, white ABS plastic Dimensions: 32.5 × 60 × 125 mm	150g (including battery)
5905309604285	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	135g
5905309605060	38,000 mAh battery (replaceable). Battery life up to 8 years	IP68, dark grey ABS plastic Dimensions: 160 x 80 x 55	425g (including battery)
5905309605381	9-26V, with a 1,300 mAh rechargeable backup battery to maintain operation in case of power loss	IP68, dark grey ABS plastic Dimensions: 160 x 80 x 55	-