

NB-IoT

Wireless pulse counter

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Efento pulse counter is used to remotely monitor number of events which may be represented by pulses e.g. the number of elements coming off the production line, the number of doors opening/closing or number of people passing through the gate in a store. The sensor can simultaneously work with up to three water meters. Each counted pulse represents one unit, e.g. 1 door opening/closing, one impulse from a gas meter, one change of state of a connected device. Data is presented as the total number of pulse counted in the set time intervals.

Efento NB-IoT pulse counters transmit the data over cellular network (Narrowband IoT) and do not require any additional devices (router, gateway, etc.). Pulse counters are also equipped with Bluetooth Low Energy interface, which allows quick and easy configuration with a smartphone. Efento NB-IoT pulse counters can be integrated with any cloud platform.

Key features

- **Works with Efento Cloud**
Together with Efento Cloud, the sensors enable constant monitoring, alerting about exceeding safe limits, generating reports and analyzes.
- **Long battery life**
Loggers have been designed to work for up to 10 years on batteries. You do not have to remember about changing the batteries frequently or troublesome batteries charging.
- **Lower costs**
Choosing wireless sensors and a cloud platform reduces the installation and maintenance costs.
- **Wide range of sensors**
Efento sensors can measure various physical and chemical values. If you decide on one sensor today, you can expand your sensors fleet to another types anytime you want.
- **Integration**
Standard communication protocols allow integration with any cloud platform or mobile application.
- **Easy set up**
All you need to set up a logger is a smartphone with a free mobile application. The whole configuration takes no more than 15 minutes.

Technical data

Versatility

- The counter can cooperate with any device equipped with a pulse output

Up to 3 channels

- Simultaneous operation with up to 3 devices
- Supported counters: NO (Pull-up 3.6V)

NB-IoT

- NB-IoT band: 8, 20
- 3GPP: Release 13
- Power: 20 dBm

Bluetooth Low Energy interface

- Radio module frequency: 2,4 GHz
- Power: 2,5 mW (4 dBm)
- Range: up to 100 m (LOS)
- Transmission period: 1 s

Communication

- Protocol: CoAP;
- Transmission interval: 5 minutes – 10 days, configurable

Minimum pulse duration

- 5 millisecond

Maximum pulse duration

- 500 millisecond

Battery

- Battery: 4,2 V, size AA, capacity 4 200 mAh (replaceable)
- Battery operating time: at least 10 years

Mechanical

- Dimensions: 27 x 71 x 71 mm
- Weight: 100 g (including batteries)
- Enclosure: plastic ABS, color white
- Enclosure IP rating: IP30

Environmental

- Operating
 - ◆ Temperature: -35° to 70°C
 - ◆ Humidity: 0 to 99% non-condensing
- Storage and transportation
 - ◆ Temperature: -40° to 70°C

Additional information

Universal pulse counter

Efento wireless pulse counter can work with any device equipped with standard output (SO). Moreover, pulse counters can work with different types of sensors (e.g. open close sensor) and count the number of events in the selected measurement period. Efento wireless pulse counter has three channels and can count pulses from up to three devices simultaneously.

Edge analytics

Devices analyse the data and send it to cloud platform when needed. This allows to decrease the number of cellular transmissions and increase the battery lifetime. There are several types of analyses that can be performed by the sensor: from a simple comparison of the measured value to the threshold to more complex mathematical operations.

Software over the air update (SOTA)

The sensors are equipped with over the air software update mechanism, thanks to which, your fleet of sensors will always have the latest version of software. Moreover, SOTA is based on delta mechanism and only the difference between the current and the new version of the software is sent to the device. This saves both the battery and data transfer.

Full remote configuration

All the settings of the NB-IoT sensors can be changed remotely in a secure way. This allows you to easily reconfigure thousands of the deployed devices, no matter how far they are located.

Integration

We believe that the Internet of Things is about integrating data sources, analysing the data and drawing conclusions based on it. If you want to integrate Efento loggers with your software, cloud platform or mobile application, we will provide you with the necessary documentation, libraries, SDKs and we will gladly assist you.

Sensor's passport

Sensor's passport documents the entire lifecycle of a device. By accessing the data on Efento Cloud platform, the user can check all information about the sensor: date of sale, warranty status, date of calibration, information on all service activities. In addition, the user can download all documents regarding the device – a duplicate of calibration certificate or service protocols.