

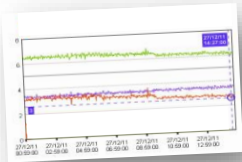


# CiTop-IoT

Delivers green light into your IoT automation projects!

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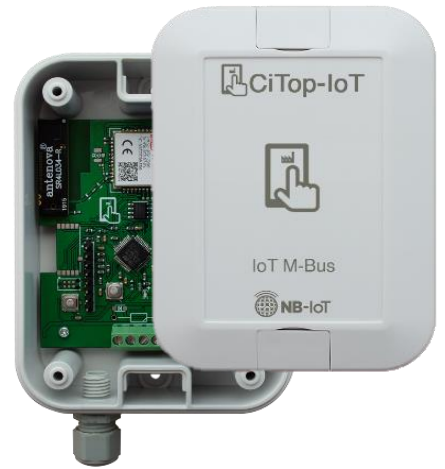
## NB-IoT wM-Bus Reader



is used in various fields of industry, utilities and automation for remote data collection from gas, water, electricity and heat meters with the help of the Wireless M-Bus protocol and data transmission via Narrow Band networks.

Additionally, the device has an input for wired connection to the digital interface of Kamstrup meters as a standard. This input can also be used to count pulses.

Data can be monitored using CiTop-IoT's Cloud based IoT-SCADA system.



### SPECIFICATION:

Compliance with LTE	Cat NB1	Amount of connected wireless meters	Up to 4
Frequency Bands	B1, B3, B5, B8, B20, B28	Digital inputs	4 DI
Data encryption	AES-128 CTR	Magnetic sensor Accelerometer	Build-in Build-in
WM-Bus specification	EN13757-4		
Archive of events and messages	8 000	Mounting	Using special adapters, to pipe or flat surface without opening the enclosure
Connection for external antenna	Available	IP rating	IP67
Build-in battery	Li-SOCI2 C, 6500mAh	Dimensions	W 75 x H 100 x D 35 mm
SCADA	CiTop-IoT's Cloud based IoT-SCADA system	Weight	185g
User interface	Standard Web browser based IoT-SCADA interface using PC or smartphone.	Ambient temperature	-30...+75°C

## KEY FEATURES:

- Protection from external interference and the transmission of an alarm message to the server.
- Monitoring and transmission of the following parameters:
  - the presence of an external magnetic field;
  - battery discharge;
  - monitoring the performance of internal sensors;
  - control of impacts and changes in position;
  - control of meters presence.
- The presence of built-in non-volatile memory, archiving, built in real-time clock.
- Network search and detection of metering devices.
- Working with several metering devices at the same time.
- Flexible configuration of a set of transmitted parameters from
- metering devices.
- High-level protocols support by customer's request: COAP, LWM2M, DTLS, MQTT.
- Data transmission in mobile networks using NB-IoT technology (Cat NB1, Bands: B1, B3, B5, B8, B20, B28).
- Exclusion of the human factor when taking data measurements from metering devices.
- Available with an external antenna.
- Small dimensions, easy installation.
- Battery life is up to 5 years.

## FIELDS OF APPLICATION:

- Remote reading from metering devices (water, electricity, gas, heat)
- Control of the work process of technological equipment
- Building smart home and smart city systems
- Energy Management Solution
- Consumption metering in apartment buildings;
- Support of metering devices of well-known brands (Sensus, Kamstrup).

## ADVANTAGES OF THE SYSTEM BASED ON NB-IoT:

- No need to deploy a network, using the resources of mobile operators
- Strong network connectivity in dense building areas
- Huge network capacity (tens to hundreds of thousands of connected devices to one base station)
- Autonomy of the end devices (more than 5 years from the built-in batteries)
- Low cost of the end devices
- Transmission of data arrays with confirmation, data integrity control
- Using TCP / IP stacks for data transfer, including a secure DTLS connection
- Ability to expand and change the functionality of devices due to update by air (OTA);
- Work in cloud technology in building client-server solutions;
  - Flexible custom reporting functionality and software analytics;
  - Export data to any analytical and billing systems.

NB-IoT (NarrowBand Internet of Things) - a cellular standard for telemetry devices with small amounts of data exchange. Data is transmitted using technology known as the Low-Power Wide-Area Network (LPWAN) using the operator's existing infrastructure. Using NB-IoT network technology allows you to reduce the time it takes to deploy the system, focusing on solving technological tasks. At the same time, the mobile communications operator provides the network infrastructure.

The technology works on the basis of LTE, therefore it is stable, has a high level of information security and a long range. In this case, a rather high data exchange rate is used in comparison with the LoRaWAN network. Service in the NB-IoT network is much cheaper than in GSM and LTE networks, which makes the transition to this technology profitable and quickly paid back. Cellular operators can provide their Big Data cloud-based data collection platforms to quickly deploy Services.

Contact us for more information!



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