NB-K868-V

USAGE

The wireless meter reader is designed for remote reading of the status of water meters of the iPERL series by Sensus, equipped with a radio transmitter in the 868 MHz band and for forwarding the acquired data to the central system via the NB-IoT mobile network.

UNIT DESCRIPTION

The wireless meter serves as a local communication gateway for remote reading of Sensus iPERL series inductive water meters or devices equipped with wM-Bus interface.
The reader receives radio messages from water meters within radio range at regular intervals and stores the obtained values in memory. At set time intervals, it transmits a summary of the received data to the central system in the form of UDP packets via the NB-IoT mobile network.
In this way, the meter can serve up to 20 iPERL water meters located at a distance of tens to hundreds of meters.
The water meters send their statuses with a fixed period of 15 seconds, the meter receives the data in configurable receiving "windows" and stores the received data in memory.
Alternatively, the meter can operate in "on-line" mode, sending data to a central server immediately after each receiving window.

TECHNICAL PARAMETERS

Wireless interface

- Frequency Band: 832 to 862 MHz (Uplink), 791 to 821 MHz (Downlink)
- Wireless Technology: NB-IoT NB1
- Protocols: UDP, NEP (proprietary)
- Modulation: QPSK, BPSK, OFDMA, SC-FDMA

- LTE Bands: B1, B3, B5, B8, B20, B28
- Channel Width: 180 kHz
- Transmission Power: 200 mW
- Receiver Sensitivity: -129 dBm
- Data Rate: 0.35 - 240 Mbps
- Output Impedance: 50 Ω
- Antenna: external, SMA-female connector

Wireless receiving interface

- Base frequency: 868 MHz
- Antenne connector: SMA-F
- Communication protocols: Sensus iPERL, wM-Bus
- Maximum number of wireless devices: 20

Bluetooth Specifications

- Bluetooth Version: BLE 5.2
- Bluetooth Frequency: 2.4 GHz
- Bluetooth Data Rate: 1 Mbps
- Bluetooth Maximum Power: 8 dBm

Power

- Battery: Li-SOCl2
- Battery Capacity: 17 Ah
- Battery Life: 5 years

Physical Properties

- Length: 145 mm
- Width: 45 mm
- Height: 100 mm
- Weight: 300 g

Operating Conditions

- Operating Temperatures: (-20 to +50) ^{0}C
- Storage Temperatures: (0 to +40) ^{0}C
- Relative Humidity: 90% (non-condensing)
- IP Rating: IP65 or IP68

UART configuration

- UART Data Rate: 9.6 kbps
- Transmission method: Asynchronous
- UART parameters: 8 data bits, 1 stop bit, no parity
- Voltage Level: 3.6 V (CMOS)