

NB-IR-V



USAGE

The optical interface converter is designed to read data from consumption meters with optical IR communication interface according to IEC 62056-21 (electricity meters, calorimeters, calculators) and to transmit the readings by radio.

UNIT DESCRIPTION

The converter is equipped with an IR optical interface for reading consumption data from the connected meter. The data from the connected meter is stored by the transmitter and sent to the central data acquisition system via a communication gateway at set regular intervals.

An integral part of the unit is an IR optical communication head, which is connected via terminals inside the housing. Wireless data transmission is realized by NB-IoT technology. The transmitter uses the possibility of two-way communication via the communication gateway for remote setting of basic parameters. Configuration parameters can be set using a configuration cable or via Bluetooth from a computer, tablet or mobile phone using the communication head. The converter is powered by an internal 17 Ah battery. As a result, the transmitter can operate for more than 7 years with a message sending period of 12 hours. The transmitter is available as an outdoor version (IP65) or as a wet version (IP68).

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

Data interface

- Physical interface: IEC 62056-21
- Transmission speed: 300 - 57 600 Bd
- Maximum number of devices: 4

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-SOCI2
- 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) °C
- Storage Temperatures: (0 to +40) °C
- Relative Humidity: 90% (non-condensing)
- IP Rating: IP65

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)