

## NB-THE-V



## USAGE

The wireless lid thermometer with hygrometer is designed to measure air temperature, relative humidity and radio transmission of measurement data.

## UNIT DESCRIPTION

The thermometer is equipped with an external sensor for measuring temperature and humidity. The thermometer senses temperature and humidity in minute intervals and in adjustable intervals, it transmits the current temperature and humidity, which is expressed as the average of the measured values, to the central data acquisition system via a communication gateway. The wireless data transmission is realized by NB-IoT technology. The thermometer uses the possibility of two-way communication via the communication gateway for remote setting of basic parameters. The configuration parameters can be set using a configuration cable or via Bluetooth from a computer, tablet or mobile phone. The thermometer is powered by an internal 17 Ah battery. Thanks to this, the thermometer can operate for more than 5 years with a reporting period of 15 min. The thermometer is primarily designed for outdoor use, but it can also be used outdoors where the influence of splashing water is excluded.

## 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

### Temperature measurement

- Measured temperature Range: -40 to 125 °C
- Temperature measure resolution: 0.1 °C
- Temperature measure accuracy: ±0.2 °C (-20 ÷ 85 °C)

### 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)