

NB-TES-V



USAGE

The thermometer is designed for precise temperature measurement in environments for the storage of medicines and other pharmaceutical supplies, and for wireless data and measurement transmission.

UNIT DESCRIPTION

The thermometer is equipped with a highly accurate external sensor for temperature measurement. The thermometer meets the requirements for certified calibration from -40°C to 125°C . The thermometer measures temperature in minute intervals and transmits the current temperature data at adjustable intervals. Wireless data transmission is realized using NB-IoT technology. The thermometer utilizes bidirectional communication via a communication gateway for remote configuration of basic parameters. Configuration settings can be made using a configuration cable, or via the Bluetooth interface from a computer, tablet, or mobile phone. The thermometer is powered by an internal battery with a capacity of 17 Ah. Thanks to this, the thermometer can operate for more than 5 years with a message transmission interval of 15 minutes.

TECHNICAL PARAMETERS

Wireless interface

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|------------------------|--|
| • 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 až 125 °C
- Temperature measure resolution: 0.1 °C
- Temperature measure accuracy: ±0.2 °C (-10 ÷ 85 °C)
- Sensor cable: flat 1x5mm, length 2m

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)