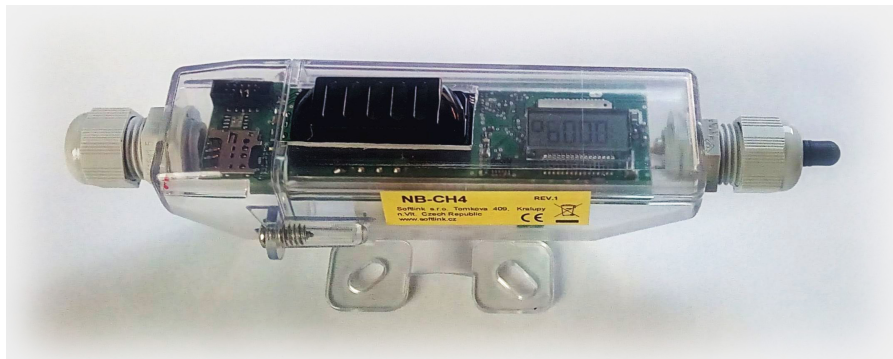


NB-CH4



USAGE

The wireless sensor is designed to measure the concentration of methane in the air and to transmit the measured values by radio.

UNIT DESCRIPTION

The sensor measures the concentration of methane in the air at intervals of 15 seconds, displays the current value of methane concentration on the LCD display, and sends information messages with the measured values in the form of NB-IoT radio messages from the mobile operator. A methane concentration threshold can be set in the sensor, above which the sensor switches to an alarm state. The alarm condition is indicated by the flashing of a red LED under the transparent sensor cover and the activation of an integrated electronic switch that can trigger the external alarm control circuit at the installation site. Immediately when the alarm limit is exceeded, the sensor sends an alarm message containing the actual measured concentration value at the time of the exceedance. This message can be repeated several times with an interval of one minute to obtain detailed information on the progress of the concentration change.

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

CH4 concentration measurement

- Sensor type: NDIR
- Measure CH4 concentration range: 0 - 5 %
- Measure CH4 concentration resolution: 0,1 %
- Measure CH4 concentration accuracy: 0,1 - 0,25 %
- Sensor calibration period: 30 months

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)