

## WM868-IR-B



## USAGE

The converter is designed for reading data from consumption meters with optical communication interface IR according to IEC 62056-21 standard (electricity meters, calorimeters, calculators) and for radio transmission of readings.

## UNIT DESCRIPTION

The transmitter is equipped with an IR optical interface for reading data from a connected meter. The transmitter stores the data from the connected meter and sends it to the central data acquisition system via a communication gateway at set regular intervals.

An integral part of the transmitter is the IR communication optical head, which is connected via terminals inside the housing. The wireless data transmission is realized in the 868 MHz radio band with a choice of one of three transmission technologies: WACO, wM-BUS or LoRa. The transmitter uses the option of two-way communication via a 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. The converter is powered by an internal 17 Ah battery. Thanks to this, the transmitter can operate for more than 10 years with a message sending period of 12 hours. The transmitter is available in an outdoor version (IP65) or a wet version (IP68).

## TECHNICAL PARAMETERS

### Wireless interface

- |                        |  |
|------------------------|--|
| • Frequency Band:      | 868.0 - 868.6 MHz                                  |
| • Wireless Technology: | WACO, wM-BUS, LoRa                                 |
| • Protocols:           | WACO, wM-BUS                                       |
| • Modulation:          | WACO GFSK, wM-BUS FSK, LoRa spread spectrum        |
| • Channel Width:       | WACO 100 kHz, 15 kHz, wM-BUS 200 kHz, LoRa 125 kHz |

- Transmission Power: 10-25 mW
- Receiver Sensitivity: WACO -114 dBm, wM-BUS -105 dBm, LoRa -148 dBm
- Data Rate: WACO 2400, 3800 bps, wM-BUS 100 kbps, LoRa 250-11000 bps
- Output Impedance: 50  $\Omega$
- 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: 10 years

### Physical Properties

- Length: 121 mm (box alone), 153 mm (including mounting flanges), 190 mm (including small antenna)
- Width: 57 mm
- Height: 51 mm
- Weight: 220 g

### Operating Conditions

- Operating Temperatures: (-20 to +50) °C
- Storage Temperatures: (0 to +40) °C
- Relative Humidity: 95% (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)