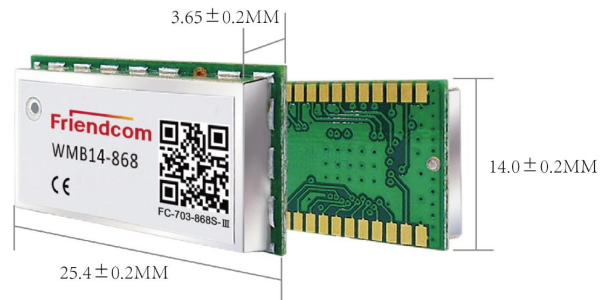


WMB14-868
 LICENSE-FREE SOLUTION
 For Sub-1G Frequency band
 868 MHz Wireless M-Bus EN13757

Embedded Module



Product Description

Friendcom WMB14-868 is an RF module compliant with EN13757 wireless M-Bus standard part 3, part 4 and part 5. It is ideally suited for use as an embedded RF module in one or two-way data links with gas, water, heat and electricity meters and concentrators.

WMB14-868 module operates in 868 MHz frequency band with output power of up to 14dBm and it runs S, T and C wireless M-Bus modes defined by EN13757-4.

With ultra-low-power for maximum battery life and a wide range of applications, this module has many unique features.

- Certified RF module, LCC package, TTL interface.
- Excellent RX sensitivity.
- Low-power management, automatic sleep and cyclic wake up function.
- Repeater mode (bridge function).

Key Features

- Cost effective 868 MHz wireless M-Bus radio module
- Embedded wireless M-Bus module compliant with EN13757-4 and EN13757-5 standard
- Conforms with EU R&TTE requirements (EN 300 220, EN301 489, EN 60950)

- Supporting wireless M-Bus S, T, C modes.
- Automatic answer (master role).
- Very low power consumption for battery powered applications.
- Compact dimensions: 14.0 x 25.4 x 3.65mm.
- Data encryption AES128.
- UART firmware upgrade or FOTA.

Family Concept

Wireless M-Bus is a European standard (EN 13757-4) specifying communication between water, gas, heat and electricity meters and data loggers, concentrators and smart meter gateways. Wireless M-Bus is widely adopted in Advanced Metering Infrastructure (AMI) applications.

Operating in license-free ISM frequency bands of 169, 433, and 868 MHz, Friendcom wireless M-Bus modules apply to a wide range of RF link solutions.

Friendcom offers several different models of certified wireless modules. WMB13-868 and WMB14-868 operate in 868 MHz, WMB13-433 and WMB14-433-II operate in 433MHz, and WMB27-169 operates in 169MHz. Except WMB27-169, other modules share a small dimension form factor and are pin2pin compatible with each other.

Performance

- Range: Up to 800 m(LoS.)
- 32.768 kHz real time clock (RTC)
- Configurable output power
- AT command for configuration
- Slave, Master, Repeater role

Networking

- Frequency: 868.0 – 870.0 MHz
- Wireless M-Bus S, T, C mode
- Modulation: GFSK
- AES 128 Data Encryption
- Firmware Over-the-Air

Interfaces

- Serial Interface: TTL (Rx, Tx, GND)

Data

- Serial Data Rate: Up to 230.4 Kbps
- Radio Data Rate: 4.8, 32.768 or 100 Kbps

Electrical

- Output Power: Up to 14 dBm
- Power Supply: 2.0 to 3.6 V
- Power consumption:
 - Tx: < 22 mA (25 mW output)
 - Rx: < 10 mA
 - Sleep: < 1 uA
- Sensitivity (CER < 10-3): -108 dBm (32.768 kbps)

General

- 34 pin LCC package
- Dimensions: 14.0 x 25.4 x 3.65 mm
- Operating temperature: -40 to +80°C
- Weight: Approx. 1.7 g
- Antenna: External antenna port (50 ohm)

Approvals

- Wireless M-Bus with EN13757-4 standard
- CE certified module
- OMS 4.x.x compliant
- EN 300, EN 301 489, EN 60950

Ordering information

Item No.	Description
WMB14-868	Wireless M-Bus module 868 MHz, up to 14 dBm
WMB14-433	Wireless M-Bus module 433 MHz, up to 14 dBm
WMB27-169	Wireless M-Bus module 169 MHz, up to 27 dBm