



WIRELESS M-BUS RANGE EXTENDER

OVERVIEW

The Wireless M-Bus Range Extender is a compact and cost-effective device that collects wireless M-Bus messages from utility meters and forwards them to a LoRaWAN® network.

Due to its leading RF performance it significantly extends the range of wireless M-Bus meters and allows filtering those messages by Manufacturer ID (M-field) and Sender Address (A-field) to select specific groups of measuring instruments.

This device acts as a bridge between WM-Bus and LoRa® and allows a flexible configuration of calendar events for WM-Bus reception intervals and status messages as well as device filtering by Manufacturer ID and Device ID (whitelist). The configuration can be managed Over-The-Air via LoRa® messages or via wired serial interface.



FEATURES:

- WM-Bus S and combined C/T Mode supported
- WM-Bus telegram format: A and B
- LoRaWAN® Activation: ABP and OTAA
- EU868 LoRaWAN® compliant
- 32 Calender events and 32 WM-Bus device filters freely configurable
- OMS compatible
- Configurable confirmed or unconfirmed LoRaWAN® upload
- Ultra low power for long battery life
- External antenna on request
- Flexible conf. via PC-Tool or OTA via LoRa®
- IP67
- Accept-, Reject- and Duplicate packet filtering

GENERAL TECHNICAL DATA:

Automatic power saver: $I \leq 3\mu A$ (idle)
 Frequency range: 863 MHz to 870 MHz
 Modulation: LoRa® / FSK
 Data memory: 8 MBit Flash
 Antenna: Integrated (External on request)

Current consumption: $\leq 35mA$ (@ max. output power)
 Dimensions: 157 x 92 x 58 mm
 Operating temperature: -10 °C to +55 °C
 Power supply: 19 Ah Battery
 (External supply on request)





FUNCTIONAL DESCRIPTION:

The Wireless M-Bus standard (EN 13757-4) is used in many wireless sensor and smart meter applications. These meters and sensors are communicating according to defined radio operation modes based on a standard FSK modulation with more or less range to the corresponding receiving unit.

The LoRa® modulation is a perfect mean to increase the range of wireless communication systems. The new WM-Bus Range Extender combines the two existing modulation technics and required communication protocol stacks in one single device.

A typical usecase for this device is the forwarding of Wireless M-Bus messages of a configurable group of sensor / meter devices. The Range Extender offers a flexible and easy way to define hourly, daily, weekly or monthly reception windows for sampling of WM-Bus messages and a large data memory for temporary buffering.

Even large WM-Bus messages with maximum payload size can be forwarded with LoRaWAN® radio packets by means of an integrated segmentation and reassembly protocol.



Energy meter



Gas meter



Water meter



LoRaWAN®
NETWORK



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