

WM-BUS TO LoRaWAN[®] BRIDGE

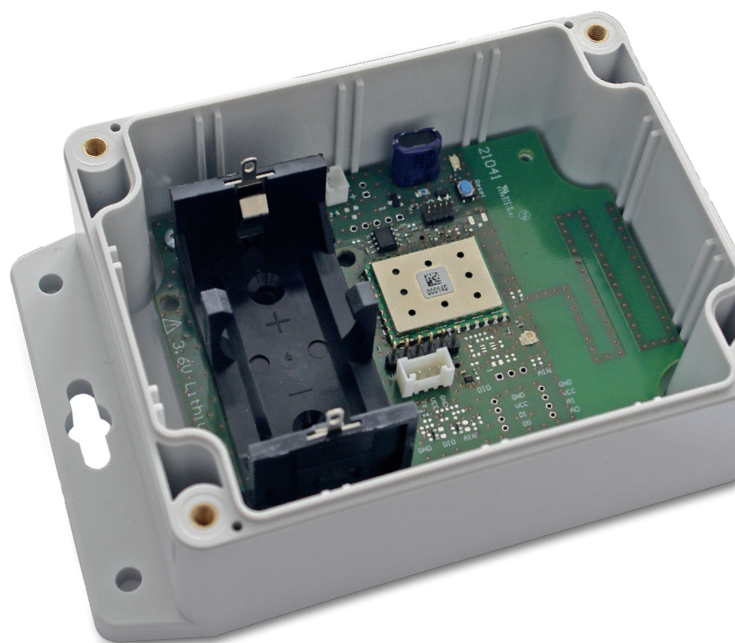
OVERVIEW

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

This product extends significantly the range of systems and allows filtering those messages by Manufacturer ID (M-field) and Sender Address (A-field) to select specific groups of measuring instruments.

The bridge 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.

Beside the Wireless M-Bus functionality the firmware supports a LoRaWAN[®] compliant protocol stack as well as a proprietary LoRa[®] stack for wireless Point-to-Point and Point-to-Multipoint communication.



FEATURES:

- WM-Bus S and combined C/T Mode supported
- WM-Bus telegram format: A and B
- LoRaWAN[®] Activation: ABP and OTA
- EU868 LoRaWAN[®] Compliant (v.1.0.2)
- Flexible configuration of calendar events and device whitelist
- Confirmed Upload of WM-Bus messages
- Ultra low power for long battery life

APPLICATIONS:

- Automated Meter Reading
- Home and Building Automation
- Industrial Monitoring and Control
- IoT (Internet of Things)
- Smart Cities

GENERAL TECHNICAL DATA:

Frequency Range: 863 MHz to 870 MHz
Modulation: LoRa[®] / FSK
Data Memory: 8 MBit Flash
Max. Output Power: +14 dBm

Dimensions: 145 x 92 x 55 mm
Operating temperature: -10 °C to +55 °C
Integrated Antenna or u.FI (optional)
IP65 Housing for wall mounting

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 to LoRaWAN® Bridge combines the two existing modulation technics and required communication protocol stacks in one single device.

A typical usecase for this bridge is the forwarding of Wireless M-Bus messages of a configurable group of

sensor / meter devices. The bridge offers a flexible 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 small LoRaWAN® radio packets by means of an integrated segmentation and reassembly protocol.

Besides LoRaWAN® a proprietary Point-to-Point and Point-to-Multipoint protocol (LR Base) can be selected for local configuration and message forwarding.



Energy meter



Gas meter



Water meter

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