# 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.
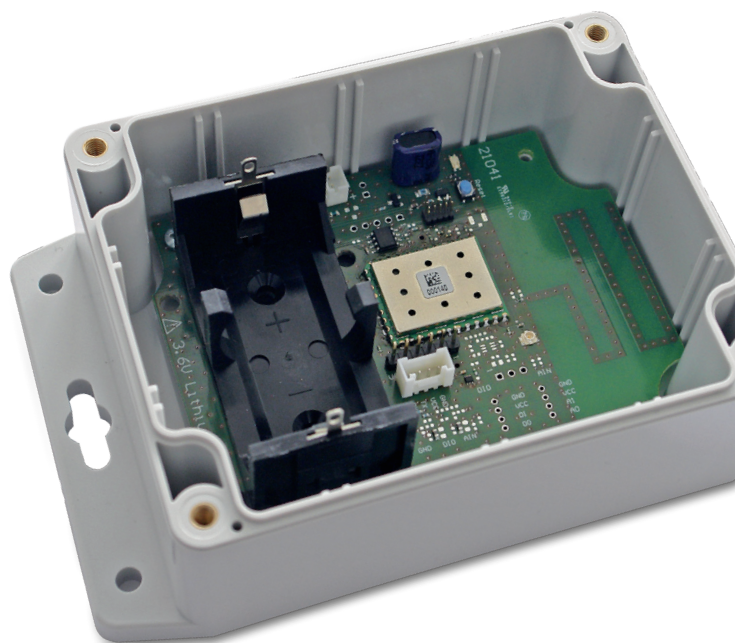
FEATURES:

- 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	Dimensions:	145 x 92 x 55 mm
Modulation:	LoRa® / FSK	Operating temperature:	-10 °C to +55 °C
Data Memory:	8 MBit Flash	Integrated Antenna or u.Fl (optional)	
Max.Output Power:	+14 dBm	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.

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