



Wired M-Bus to LoRaWAN

The ACRIOS M-Bus to LoRaWAN converter is designed for efficient readings of any wired M-Bus meters—typically electricity meters, water meters and heat meters, especially in a heating industry. The device enables integration of the traditional M-Bus meters into the LoRaWAN wireless network.

Wired M-Bus to LoRaWAN



- With our hardware, you can read any wired M-Bus device on the market, making it a perfect tool for retrofitting.
- Configure primary or secondary addressing of the meters over the LoRaWAN network, determine which and how many meters are connected or change the reading interval directly from your system without the need for local configuration.
- We forward the data as a standard M-Bus frame, whether shortened with the desired VIF DIF values or in its entirety. Any M-Bus parser can be used for the data interpretation, but we can provide a parser for the easiest onboarding possible.
- Read up to five connected devices with a single converter, maximizing the installation flexibility and without the need to add a converter to each meter, thereby reducing the project costs.

Installation, Operation and Longevity without Worries

ACRIOS Systems converters can read any meter with the wired M-Bus standard using primary or secondary addressing. Our solution is suitable for small businesses as well as large heating plants for an online device readings and a distribution network optimization. We are experienced in building and

operating private LoRaWAN networks and we can reduce the message size while maintaining the M-Bus standard. This ensures that our clients do not exceed the duty cycle limits while still receiving data in a format that can be processed using any M-Bus parser.



Technical Specifications

General Specification

Dimension	145 x 90 x 55 mm
Weight	336 g with single battery / 475g with double battery
IP rating	IP67
Mounting	6 fixation points for mounting to the wall, tube or collar
Mounting holes	4x M4 pan screw and 2x oval hole for zip-tie fixation
HS code	85269200

Operating Conditions

Operational temperature	-30 to +60 °C
Humidity	0 to 85% RH (non-condensing)

Regulations and Certifications

Standard	CE, RoHS
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Device Configuration

Local device configuration	Over the cable via ACR-CONFIG and the configuration app
Remote device configuration	Optional via downlink
FUOTA support	Yes, proprietary
Configuration options	Configuration via Lua scripting interface

LoRaWAN

LoRaWAN specification	1.0.3
Registration method	OTAA by default, ABP configurable
Class	A by default, B and C configurable
Frequency	EU868
TX Power	12.7 dBm
Maximum payload length	512 B uplink, 1024B downlink*

* dependent on the network and spreading factor

M-Bus Interface

Communication protocol	M-Bus EN 13757-3
Physical layer	M-Bus EN 13757-2
Device type	Master
Communication speed	300 - 9600 Bd
Maximum connected devices	5 UL or 24 mA
Compatibility	With the M-Bus interface
Functionality	Transparent mode, VIF/DIF filtering, secondary addressing, primary addressing, wildcards, broadcast polling
Connector	WAGO 2604 CAGE CLAMP®

Battery Specifications

Battery size	D-Cell / double D-Cell
Capacity	19 000 mAh / 38 000 mAh
Self-discharge	<1%
Rechargeable	No
Replacable	Yes
Battery connector	JST-XH 2pin

Packaging

1x M-Bus to LoRaWAN converter	1x installation manual
1x Battery	1x LoRaWAN 2JW0315-868-C675 antenna

Optional Accessories

ACR-CONFIG	Configuration cable
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Ordering Codes

ACR-CV-101L-M-D	M-Bus to LoRaWAN single battery pack
ACR-CV-101L-M-D2*	M-Bus to LoRaWAN double battery pack

* Under MOQ