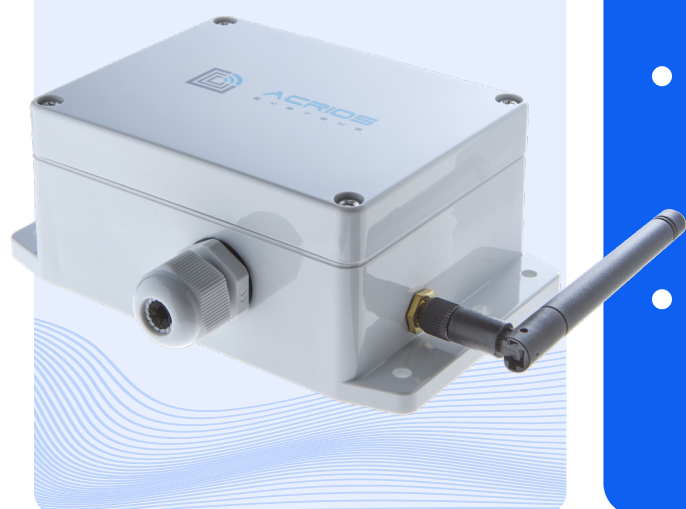# **Wired M-Bus** to the **LoRaWAN**

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

\\ **Wired M-Bus to the 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 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 the full version. Any M-Bus parser can be used for data interpretation, or we can provide a parser for the easiest onboarding.

- Read up to 5 connected devices with a single converter, maximizing the installation flexibility and avoiding 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 the primary or secondary addressing. Our solution is suitable for small businesses as well as large heating plants for the online device readings and the distribution network optimization.

We are experienced in building and operating the private LoRaWAN networks and we can minimize the M-Bus messages 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

Opearting conditions

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

Regulations and certifications

Standard	CE, RoHS

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*

* dependant 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 7.5 mA
Compatibility	Any meter with 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%
Rechargable	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

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