LORABOX

Pulse module for diaphragm gas meters – LoRaWAN and wM-Bus in parallel, configured over Bluetooth

VERAUT

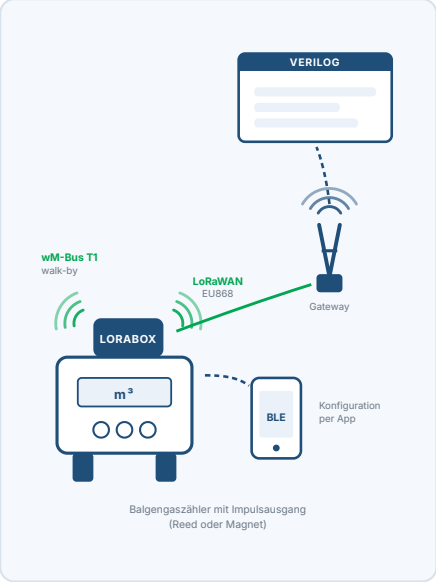
LORAWAN 1.0.4 · EU868 | WM-BUS T1 IN PARALLEL | BATTERY 15+ YEARS | EX II 3G EX IC IIB T4 GC | IP65 | BLUETOOTH CONFIGURATION | AES-128 | LAUNCH Q2/Q3 2026

Two radio paths from one module

LORABOX is a battery-powered pulse module for diaphragm gas meters. It reads the meter's reed or magnet pulse and transmits the readings over **LoRaWAN** and **Wireless M-Bus** at the same time – two independent paths for the same data.

Configuration runs over Bluetooth with the VERAUT app: transmission interval, LoRaWAN keys, pulse weighting, meter reading and diagnostics. The housing stays closed and the seal intact – no cable, no intervention in the gas path.

The module sits directly on the meter's pulse output. Adapters are available for Fiorentini G4 and Elster EK-G4, with others on request. No interruption of the supply is needed.



15+ years

Battery life at hourly transmission. Li-SOCl$_2$ cell, 3.6 V.

2 radio paths

LoRaWAN and wM-Bus T1 run in parallel – the same readings over separate paths.

Bluetooth

Set up over BLE 6.0 and the VERAUT app, without opening the housing.

Zone 2

Ex II 3G Ex ic IIB T4 Gc – approved for Zone 2 gas areas.

Product features

- LoRaWAN to specification 1.0.4 in the EU868 band, activation by OTAA or ABP
- Wireless M-Bus T1 to EN 13757-4, OMS 4.5.1 profile
- 1 digital input for a reed or magnet contact
- Pulse weighting, meter reading, meter number and meter size configurable
- Transmission interval freely adjustable, hourly by default
- Local data buffer with automatic retransmission after a gateway outage
- Alarms for tampering, removal from the meter and low battery
- AES-128 end-to-end encryption; wM-Bus payload encrypted to the OMS standard
- Mounted directly on the pulse output, without intervening in the gas path
- Connected to VERILOG as well as by MQTT, REST or webhook

Typical applications

- **Gas AMR** – diaphragm gas meters in homes and businesses, hourly values
- **Ex Zone 2** – transfer stations and metering points in the distribution network
- **Retrofit** – existing Elster and Fiorentini meters with an adapter
- **Private LoRaWAN** – utilities with their own gateways and network server
- **Hybrid operation** – LoRaWAN for the cloud, wM-Bus as a walk-by fallback
- **Tamper monitoring** – magnetic field, removal and battery status in the uplink
- **Rural networks** – widely spread measuring points with few gateways

WORKS WITH VERILOG web portal – analysis, alarms, export · NB IoT BOX LITE – logger for pulse and encoder meters · NB IoT BOX MINI – logger for volume converters · LoRaWAN network server – public or private · HES, MDM and ERP systems – data handover

VERAUT – VERFAHRENS- und AUTOMATIONSTECHNIK GmbH · Derfflingerstrasse 14/C/3 · 4020 Linz · Austria
+43 732 386361-0 · info@veraut.com · www.veraut.com

Subject to technical change. The product is being brought to market; the information describes the development status at the time of preparation and does not constitute warranted characteristics in a legal sense. For use in potentially explosive atmospheres, the certificate and the operating instructions are authoritative; binding delivery characteristics follow from the order confirmation.

01 Radio and protocols

LoRaWAN	Specification 1.0.4, EU868 band
Activation	OTAA and ABP
wM-Bus	Mode T1 to EN 13757-4, OMS 4.5.1 profile
Frequencies	868 MHz for LoRa and wM-Bus, shared antenna via an internal RF switch
Configuration	Bluetooth LE 6.0, 2.4 GHz
Duty cycle	The 1 % limit in the 868 MHz band is observed

02 Meter input

Input	1 × digital for a reed or magnet contact
Pulse weighting	Configurable, pulse to meter value
Meter data	Meter reading, meter number and meter size set through the app
Meter types	Diaphragm gas meters, for example Elster and Fiorentini
Adapters	For Fiorentini G4 and Elster EK-G4; others on request

03 Acquisition, alarms and buffer

Transmission interval	Freely adjustable, hourly by default
Data buffer	Local storage with automatic retransmission after a gateway outage
Alarms	Tampering by magnetic field, removal from the meter, battery status
Reporting	Alarms and status in the uplink

04 Power supply and environment

Battery	Li-$SOCl_2$, 3.6 V
Battery life	15+ years at hourly transmission
Operating temperature	−25 °C to +55 °C
Ingress protection	IP65
Ex marking	Ex II 3G Ex ic IIB T4 Gc (Zone 2)

05 Security

LoRaWAN	AES-128 end-to-end encryption
wM-Bus	Payload encrypted to the OMS standard
Bluetooth	Pairing and authentication during configuration
Data hosting	Data centres in the EU, GDPR-compliant

06 Integration, mounting and availability

Backend	VERILOG web portal
Interfaces	MQTT, REST and webhook
Data format	JSON or binary
Mounting	Directly on the pulse output; no intervention in the gas path and no interruption of supply
Commissioning	Over BLE with the VERAUT app: keys, interval and pulse value checked
Availability	Launch planned for Q2/Q3 2026; pilot projects possible beforehand

VERAUT – VERFAHRENS- und AUTOMATIONSTECHNIK GmbH · Derfflingerstrasse 14/C/3 · 4020 Linz · Austria
+43 732 386361-0 · info@veraut.com · www.veraut.com

Subject to technical change. The product is being brought to market; the information describes the development status at the time of preparation and does not constitute warranted characteristics in a legal sense. For use in potentially explosive atmospheres, the certificate and the operating instructions are authoritative; binding delivery characteristics follow from the order confirmation.