Measured by WATERWARE

B METERS metering solutions

TECHNICAL SUBMISSION

Replacement of **WMBUS** (GSD8-RFM)**
Water Meters with B Meters **HYDRODIGIT** Series

October 2025

1. Purpose of Submission

This submission proposes replacing the currently specified **WMBUS**** (GSD8-RFM) **mechanical water meters** with the B Meters **HYDRODIGIT Series** **digital water meters** across the DN20–DN50 range. The change is driven by improvements in digital read accuracy, lifecycle performance, and compliance with the latest metering standards and communication technologies, as well as the transition to low-lead compliant brass meter bodies. An additional advantage is the ability to use the same meter model for both hot and cold-water applications, reducing specification complexity and inventory requirements.

GSD8-RFM

Transition to

HYDRODIGIT

2. Standards Compliance

The **HYDRODIGIT** Series fully complies with the following regulatory and performance standards applicable to revenue and sub-metering:

- **Low Lead (CW511L) Brass body** –complies with NZBC Clause G12 (2014)
- **ISO 4064 / OIML R49** – Water meter performance and accuracy
- **AS 3565.4** – Water meter requirements for Australasian networks
- **MID (Measuring Instruments Directive)** certification for electronic accuracy and data integrity

The meters meet or exceed R100/R160 performance classes, providing improved low-flow sensitivity over GSD8-RFM mechanical meters.

3. Performance & Reading Improvements

The **HYDRODIGIT** platform delivers measurable advancements in reading quality and protocol data capture when compared to mechanical **WMBUS** (GSD8-RFM)** units:

- **Electronic measurement** minimises mechanical wear and improves repeatability
- **High-resolution digital registers** enhance accuracy at low and reverse flows
- **Tamper and leak event detection** available as part of the integrated electronics
- **Data integrity** supported by encrypted output and non-volatile onboard storage

These improvements reduce read errors, support automated consumption monitoring, and improve long-term reliability.

4. Connectivity Options

The Hydrodigit Series supports open-standard communication platforms suitable for both new developments and retrofit applications. This removes the need for repeaters and GPRS Gateway transmission:

Option A – M-Bus (wired)

- EN 13757 compliant
- Suitable for multi-unit buildings and centralised collection points
- Compatible with existing wired AMR infrastructure

Option B – LoRaWAN (wireless)

- Long-range, low-power network capability
- Ideal for remote, campus, and multi-dwelling sites
- Supports integration with existing LoRaWAN gateways or private networks

This flexibility provides futureproofing and simpler integration with billing, BMS, and facility management platforms.

Waterware will introduce a dual-chip 921 M-Bus for walk-by short-range and LoRaWAN 923AS in the first quarter of 2026 (this will require individual meter configuration at commission).

5. Wireless Remote Reading Protocol Advancements

Transitioning to the **HYDRODIGIT** platform represents a major step forward in wireless data collection technology. Where previous systems relied on wireless M-Bus paired with onsite GPRS data concentrators and repeaters, BMeters now integrates a LoRaWAN chip directly into the **HYDRODIGIT** meters.

Several key limitations of wireless M-Bus become more pronounced as project scale increases. By comparison, LoRaWAN offers superior performance in the following areas:

A. Frequency crowding and interference

Wireless M-Bus operates in bands where other devices and cell towers can interfere, leading to delayed transmissions and lost telemetry packets. LoRaWAN features more advanced modulation and frequency-hopping capabilities, providing better range, penetration, scalability, and resilience to interference—particularly in wide-area deployments.

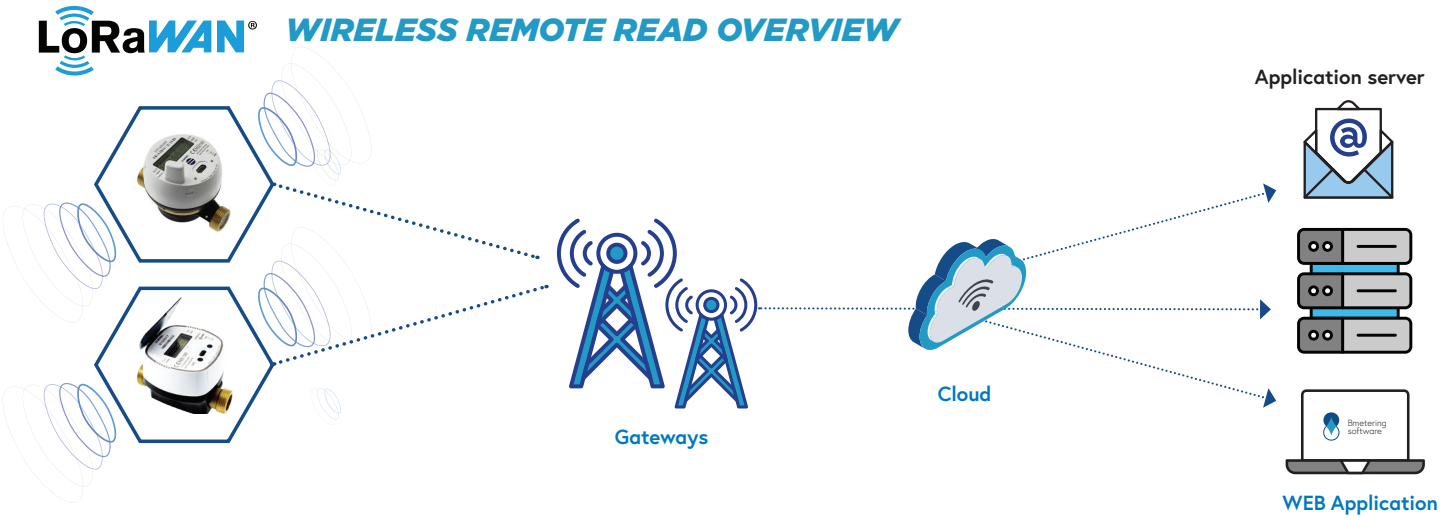
B. Power output and spectrum limitations

Radio Spectrum NZ restricts transmission power by band, limiting wireless M-Bus range and data throughput. Operating in the 921/923 MHz band, LoRaWAN allows higher compliant power output, which improves coverage and building penetration.

C. Protocol purpose and network architecture

Wireless M-Bus was designed primarily for short-range collection using handheld readers. When adapted for remote collection, it relies on multiple repeater nodes to relay data back to a central concentrator. As site scale increases, so does the number of repeaters required—raising complexity, interference risk, and the chance of data loss through repeater chains.

In contrast, LoRaWAN is purpose-built for long-range, low-power telemetry. Integrated frequency-hopping, increased power output, and two-way communication eliminate the need for repeaters or onsite concentrators. This delivers a robust, scalable, and reliable means of collecting data from every meter across a development.



6. Commercial & Operational Justification

Replacing **WMBUS** (GSD8-RFM)** meters with **HYDRODIGIT** models provides the following benefits:

- **Reduced maintenance overhead –** no mechanical dials or moving parts
- **Improved availability and supply continuity** from B Meters' current product line
- **Enhanced prototype trials and data accuracy** ensuring reliable performance monitoring
- **Direct compatibility with existing pipework and installation standards**
- **Lifecycle optimisation** with lower failure rates and improved data services

The proposed change is commercially neutral or favourable when factoring in read automation, lifecycle cost, and reduced site access requirements.

Read Protocols options available: **1) M-Bus Wireless Walk-by, 2) LoRaWAN Wireless Remove Long Range and, 3) Direct Wired Configuration.**

7. Conclusion

With low-lead compliance as a key consideration, we request approval to formalise the **HYDRODIGIT** Series as the preferred alternative to the **WMBUS** (GSD8-RFM)** range for DN20, DN25, DN32, DN40 and DN50 installations.

This supersession preserves full industry compliance while providing enhanced digital performance, suitability for both hot and cold water applications, flexible connectivity options (M-Bus or LoRaWAN), and long-term operational value to meet with the G12 Building Code.

Specification Summary

Meter Body: Brass construction (CW511 L or equivalent) compliant with G12 Building Code potable water standards and pending Low Lead Standard 2026; supplied with unions. **Manufacturing Standard:** Minimum certification – KIWA or WRAS, ISO 9001:2008, 2014/32/EU module D (MID). **Display & Accuracy:** Digital inductive with rotating display, R250 flow rate, mechanical magnetic turbine, R100 flow rate. EU/MID/OIML literature states a mandatory min. R-Value of 40 for billing meters across the board. **Data Transmission:** Integrated wireless connectivity, with option for wired (local) transmission. **Data Acquisition:** Supports Wireless M-Bus, M-Bus, LoRa WAN, BMS-IP3, Modbus, BACnet.

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