MERLIN
868 MHz
wMBUS

Clip-on Mobile and Fixed Network Communication Module

> The Merlin 868 MHz wMBus clip-on module for Honeywell water meters is a modern, secure communication device that operates at 868 MHz using a wMBus OMS protocol enabling digitization of the water network to meet operational and sustainability objectives.

The module is available in two variants. The first is fully compatible with our volumetric, single-jet and turbine meter ranges, and the second is for our multi-jet range. The Merlin 868 MHz wMBus module can be supplied paired with the meter or retrofitted to the existing meter base with a simple configuration possible via the RF interface. The Merlin 868 MHz wMBus conforms to the OMS standard, enabling easy, end-solution interoperability.

ENABLING DIGITIZATION OF THE WATER NETWORK

The module enables fixed networks (e.g., via compatible NB-IoT bridge/gateway) or drive-by and walk-by data collection. The module transmits meter index, historical values, alarms and operating information every 12 seconds, which is received by the mobile receivers or gateways. Compatible with Honeywell's market-leading, end-to-end software, the Merlin 868 MHz wMBus is a state-of-the-art meter data collection and management solution. This smart device offers revenue protection notifications, optimises payment and billing solutions, improves distribution grid efficiency and boosts overall operational performance. Ultimately, the Merlin 868 MHz wMBus delivers financial efficiency and ensures sustainability and regulatory objectives are achieved.

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FEATURES AND BENEFITS

SECURE DATA

- Advanced AES 128 CBC encryption

- wMBus encryption Modes 5 & 7 to EN13757-7

- Patented resonant target mechanical to digital interface ensures parity between meter register and transmitted data

- Honeywell Cyber Security approved

5-8% POSITIVE CASHFLOW IMPACT FROM

- Efficient revenue recovery

- Improved customer service

- Reduced non-revenue water usage

- Operational efficiency

- Regulatory controls compliance

EXTENDED COMMUNICATION FEATURES

- OMS EN13757-4 interoperable protocol

- Compact frame enriching data content

- Two-way RF interface supportingT1 & C1 with T2 & C2 for infield configuration

- 15-year battery life (up to 30°C ambient temp)

OPERATIONAL BENEFITS

- Read water meters without having to physically locate them.

- Safer for meter readers in dangerous areas as they do not need to leave the vehicle.

- Better customer engagement from proactive notification of potential leaks.

- Read 10,000s of meters in hours instead of weeks, enabling staff redeployment to higher-value tasks.

DIGITAL WATER BENEFITS

Implementing the full Honeywell digital water solution with 868 MHz wMBus enabled water meters with drive-by, walk-by or fixed network receivers, software and analytics, utilities can provide a significant annual saving from improved metrology, efficient revenue recovery, improved customer service, reduced non-revenue water usage and operational efficiency.

Water utilities can expect a positive cashflow impact of 5-8% from increased revenue and reduced costs by implementing a complete solution. On request, Honeywell will support utilities to validate business cases considering specific circumstances and the local challenges faced.

Merlin 868 MHz wMBus Technical Specifications

Water Meter Compatibility	V200, V210, S150, S220, H4000, C4000 (HW variant 1) or M100i, M120i (HW variant 2)
Ingress Protection Class	IP68
Frequency Band	868.95 MHz wireless M-Bus radio; mode T and C
Transmission Power	25 mW
Range	Up to 500 m
Transmission Mode	T1, T2, C1 and C2, bi-directional
Transmission Speed	T1 / 2 67 kbps, C1 / 2,100 kbps
Ambient Temperature	-15°C to +55°C
Storage Temperature	-20°C to +70°C
Dimensions (H x W x D)	35mm x 95mm x 80mm
Battery	3.6V lithium
Battery Lifetime	15 years (up to 30°C ambient temp)
Weight	0.12kg
Casing Material	Polycarbonate: recyclable, flame-retardant, self-extinguishing plastic
Sensing	Inductive with 3 coils, non-reactive
Protocol	wMBus OMS EN13757-4
Configurable wMBus Telegram	Current meter index, alarms status, month minimum flow, average night-time consumption, last 48 daily consumption values, remaining battery life
Advanced Read Out Via Local RF Interface	Previous 24 months -> meter index, backflow, min & max flow rates, number of days of potential leaks detected Previous 4 years, 24 weeks, 461 days -> meter index readings Ambient temperature -> hours in specified 10°C band
Data Security	• AES 128 CBC encryption modes 5 & 7, EN12757-7 • Data encrypted at rest and during transmission • GDPR compliance via individual device keys • Honeywell Cyber Security approved
Alarms Supported	Leak, no flow/stop, burst, back flow, frost risk, magnet detection, device removal, battery low, overflow/undersized
Certifications	**Europe** • Electro Magnetic Compatibility (EMC) Directive; 2014/30/EU • Radio Equipment Directive; 2014/53/EU • Low Voltage Directive (LVD); 2014/35/EU • Restriction of use of Hazardous Substances (RoHS) in Electrical and Electronic equipment; 2011/65/EU; 2015/863; 2017/2102 amendment **UK UKCA** • Electro Magnetic Compatibility (EMC) Regulations 2016 • Radio Equipment Regulations 2017 • Electrical Equipment (Safety) Regulations 2016 • Restriction of the Use of Certain Hazardous Substances (RoHS) in Electrical and Electronic Equipment Regulations 2012

For more information

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THE
FUTURE
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