MERLIN NB-IOT

Clip-on LPWAN Communication Module

The Merlin NB-IoT clip-on module for Honeywell water meters is a modern, secure communication device that operates on cellular narrow band (NB) NB-IoT capable networks and enables digitization of the water network to meet operational and sustainability objectives.

Fully compatible with our volumetric, single-jet and turbine meter ranges, the Merlin NB-IoT module can be supplied paired with the meter or retrofitted to the existing meter base with simple configuration via the integrated NFC interface. The Merlin NB-IoT module enables daily collection of granular data to enhance consumption profile analysis, with near real time event notification such as leakage flow detection and suspected tampering.



Data configuration and non-metrological firmware can be upgraded over the air (OTA) using Honeywell's patented super-efficient download methodology. The module can operate for over 15 years in normal operating conditions (up to 30°C ambient temperature) within NB coverage modes 0 & 1. By leveraging the capabilities of such low power wide area network (LPWAN) technologies the meter asset life is optimised.

ENABLING DIGITIZATION OF THE WATER NETWORK

When integrated with Honeywell's market-leading, end-to-end software and analytics solutions, and with telecom network provider data bundles, our customers can easily implement state-of-the-art meter data collection and management analytics. Revenue protection notifications are available to help reduce non-revenue water, optimise payment and billing solutions and improve distribution grid efficiency and overall operational performance. This ultimately delivers financial efficiency and ensures sustainability and regulatory objectives are achieved.

FEATURES AND BENEFITS

SECURE DATA

- Advanced AES 128 encryption
- Patented resonant target mechanical to digital interface ensures parity between meter register and transmitted data
- Optimised antenna design for extended range capability

5-8% POSITIVE CASHFLOW IMPACT FROM

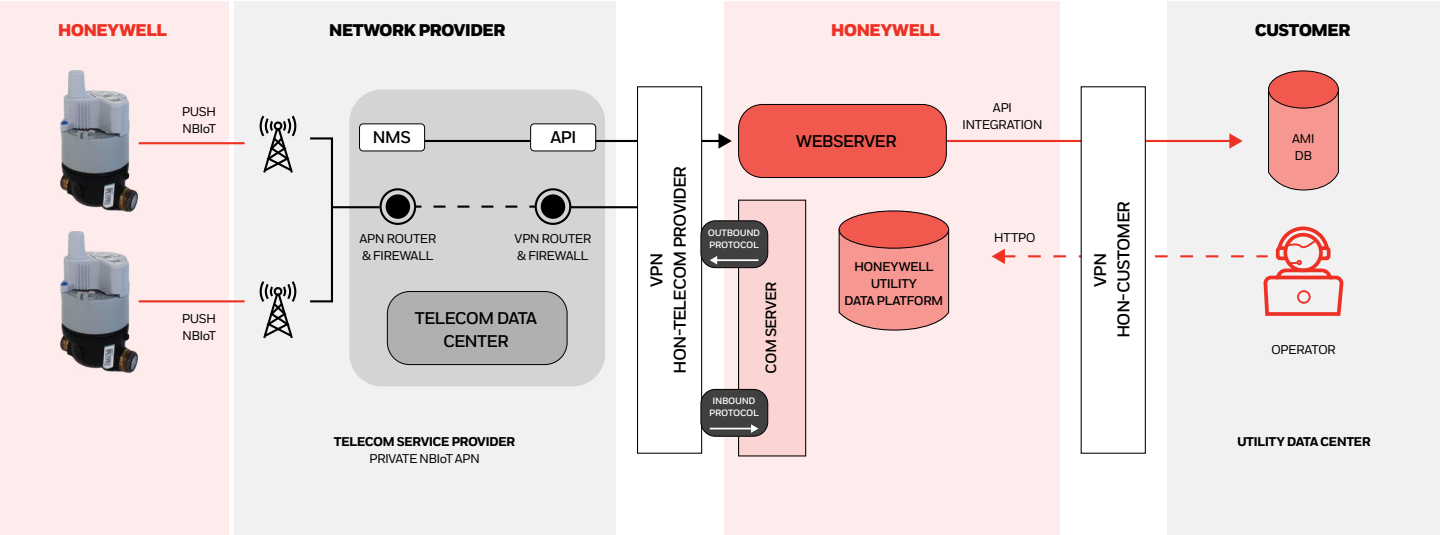
- Improved metrology
- Efficient revenue recovery
- Improved customer service
- Reduced non-revenue water usage
- Operational efficiency
- Regulatory controls compliance

EXTENDED COMMUNICATION FEATURES

- Patented super-efficient FOTA download methodology
- NFC interface for field configuration and upgrades
- 15-year battery life (up to 30°C ambient temp., operating in NB modes 0 & 1)

Honeywell

SOLUTION ARCHITECTURE



DIGITAL WATER BENEFITS

Implementing the full Honeywell digital water solution of NB-IoT enabled water meters, data bundle, 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 NB-IoT Technical Specifications

Water Meter Compatibility	V200, V210, S150, S220, H4000, C4000
Ingress Protection Class	IP68
Ambient Temperature	-10°C to +55°C
Dimensions	80mm x 95mm x 80mm
Weight	0.25kg
Casing Material	Polycarbonate - Flame-retardant, self-extinguishing plastic. Recyclable
Radio Module	Cellular NB-IoT
Radio Bands Supported	Band 3, Band 8 and Band 20
SIM	eSim MFF2 format with optional eUICC support
Battery Lifetime	15 Years (up to 30°C ambient temp.) in coverage modes 0 & 1 12 Years (up to 30°C ambient temp.) in coverage mode 2

Merlin NB-IoT Technical Specifications

Communication	• Daily Frame – Profile interval configurable to 15, 30, 60 Min • Weekly Frame – Previous 14 days meter readings at midnight. Check for OTA firmware or configuration update, time synchronisation • NRT Frame - Various alarms (as and when occurring) • NFC Port - Local port for reading and configuration or firmware update • Network Status - Signal strength & quality, cell tower ID and coverage mode • Firmware update (FOTA) & remote configuration
Data Security	• AES 128 encryption • Data encrypted at rest and during transmission • APN & VPN utilized in solution offerings • Honeywell Cyber Security approved
Alarms Supported	Leak, burst, back flow, no consumption, over temperature, magnet detection, device removal, battery low
Certifications	Radio Equipment Directive 2014/53/EU, 3GPP GCF

For more information
https://pmt.honeywell.com/us/en/businesses/smart-energy

Honeywell Smart Energy and Thermal Solutions
2101 CityWest Blvd
Houston, TX 77042
www.honeywell.com

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THE FUTURE IS WHAT WE MAKE IT

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