

Long-life battery powered, cellular IoT data logger for water and gas metering

Robust, ultra low-power cellular IoT pulse counter and data logger, which comes with a built-in LTE Cat.M, NB-IoT cellular module ensuring reliable data transfer in any environment. The device can be connected to any water meter with a pulse or Mbus output.

Easily upgrade existing meters to smart meters with cellular connectivity, safeguarding your investments without the need for costly replacements!

Offering a standalone operation, it performs reliable automated meter readings. It counts the pulses, saves the data and transfers it to the central server periodically via the NB-IoT/Cat.M network.

The device allows connection of up to 3 meters or sensors through its pulse and MBus inputs. It automatically transmits the collected data to the server or HES at predetermined intervals using MQTT-enabled communication to the Microsoft® Azure IoT platform.

Designed for long-term, maintenance-free operation, the WM-i boasts a high-capacity battery lasting up to 10 years and an IP68 waterproof casing, making it ideal for challenging environments. Easy installation thanks to the special “*deployment mode*”.



MAIN FEATURES

- IP68-protected casing with fastening points
- LTE Cat.M / Cat.NB / 450MHz cellular module with Nano SIM slot
- Replaceable, high-capacity battery options with up to 10 years lifetime (8'500 mAh or 19'000 mAh)
- Automatic / configurable mobile operator, bands, access technology
- 2 independent Pulse inputs
- 1 MBus input
- USB-C port (for local configuration and installation)
- Microsoft® Azure platform support (MQTT), TLS (optional)
- Automatic data transmission at preconfigured intervals
- Configurable alarm thresholds (min/max consumption)
- Storage and transfer of meter data (identifier, GPS location)
- Tamper protection (security alarm if cover is tampered) - optional
- Special “deployment mode” supports local installation (status checking)
- WM-E Term® software for local configuration, FW updates
- External SMA antenna connector (50 Ohm)
- Secure remote firmware updates (via Azure)
- Watchdog

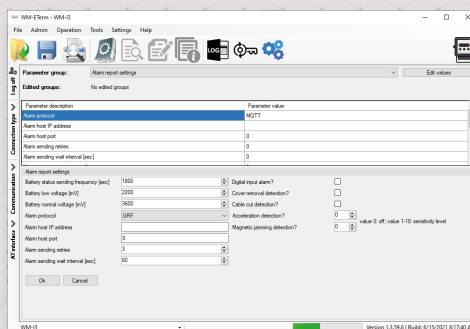
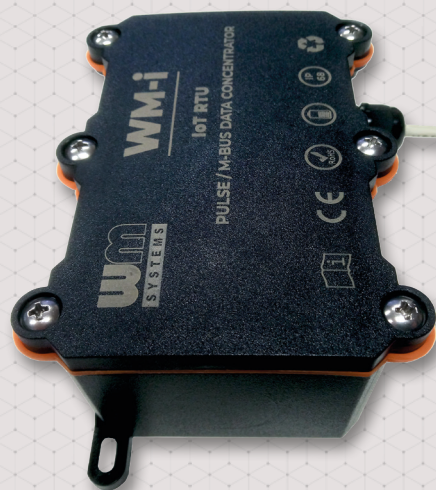
APPLICATION

- UTILITY COMPANIES
- SMART WATER METERING
- SMART CITIES
- INDUSTRIALAUTOMATION



ACCESSORIES

- Different battery options (by order)
- Universal input cables (for Pulse and / or MBus connection) for tests, POCs, pilots
- USB-C cable for configuration (order option)
- Antenna (IP68-protected, SMA 50 Ohm - order option)
- WM-E Term[®] configuration software



WM-i [®]		LTE Cat.M / Cat.NB	
Power	Nominal	• 3.6V DC voltage (powered from an internal battery)	
Performance	System	• Cortex-M33 ultra-low powered processor	
Communication Module	Cellular module	• Quectel BC95-M2	• Quectel BC95-M4
	Mobile technology	• LTE Cat.M / Cat.NB	• LTE Cat.M / Cat.NB / 450MHz
	Band / Frequency (MHz)	• LTE Cat.M1: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26/B27/B28/B66/B85 • LTE Cat.NB2: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B28/B66/B71/B85	• LTE Cat.M1: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26/B27/B28/B31/B66/B72/B73/B85 • LTE Cat.NB2: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B28/B31/B66/B72/B73/B85
	Speed (DL/UL)	• LTE Cat.M1: 588Kbps (DL) / 1118Kbps (UL) • LTE Cat.NB2: 127Kbps (DL) / 158 Kbps (UL) • LTE Cat.NB1: 32Kbps (DL) / 70Kbps (UL)	• LTE Cat.M1: 588Kbps (DL) / 1118Kbps (UL) • LTE Cat.NB2: 127Kbps (DL) / 158 Kbps (UL) • LTE Cat.NB1: 32Kbps (DL) / 70Kbps (UL)
SIM card	SIM slot	• Nano SIM card slot (optional eSIM)	
Antenna	Connection	• SMA (50 Ohm) external antenna connector	
Connectivity	Interfaces	• 2 independent Pulse inputs (for energy meters / sensors, accepting: open collector, open drain, reed contact) • 1 MBus input (for energy meter / sensor - reading counter status, registers, identifiers) • USB-C port (for local configuration and installation)	
	Specification of inputs	• 2 Pulse inputs (Average 1...2Hz, max. 100Hz / input, Low Level: 0...0.5V, High Level: 1.3...1.8V, I _{max} : 8μA) • MBus input (MBus standard)	
	Cabling	• Multicore cable outfit for all available connections (Pulse, MBus, USB connection, wire end sleeves, internal terminal block connector to the device PCB)	
Operation	Operation behaviour	• Automatic data transmission at preconfigured intervals to the server / HES • Special "deployment mode" that supports local installation (status checking, etc.)	
	Communication	• Microsoft [®] Azure platform support (MQTT) • Protocols: NTP, TLS (optional)	
	Battery (order options)	• High-capacity battery options with up to 10 years battery lifetime (depending on settings): • C-size (type ER26500, Lithium Thionyl Chloride, 8500mAh capacity, 3.6V voltage) • D-size (type ER34615, Lithium Thionyl Chloride, 19000mAh capacity, 3.6V voltage)	
Security	Security features	• Alarm thresholds (min/max consumption) • Tamper protection (security alarm if cover is tampered) - optional • Secure firmware updates (via Azure) • TLS protocol option	
Configuration	Setup	• Automatic / configurable mobile operator, bands, access technology • WM-E-Term [®] configuration software (password protected local configuration and firmware updates) • Remote configuration and firmware updates from Microsoft [®] Azure • Configurable meter compatibility settings (units of measure, multipliers, initial meter counter position) • Storage of meter data (identifier, GPS location) • Configurable alarm thresholds (min/max consumption)	
		• from -25°C to +70°C at 0 to 95 rel. humidity • -40°C to +80°C at 0 to 95 rel. humidity	
Design	Casing	• IP68-protected design (ABS case, cable outfit) • Mounting with fastening points	
	Dimensions / Weight	• Size (top): 120 x 88 x 50mm • Size (bottom, required place for installation): 150 x 105 x 50mm (with pedestal mount and cable outfit) • Weight: 270-315 gr (up to battery type)	

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