

IWS-PAMR Remote Water Meter Reader System

FEATURES & BENEFITS



- Supports **AMR and pulse-input water meters**
- **Flexible power options** — lithium primary battery or external DC power
- **User-programmable reading interval** from 10 seconds to 24 hours
- **LoRa wireless communications** for remote meter connectivity
- **External antenna** for flexible installation
- **Wide operating temperature range:** -10°C to $+70^{\circ}\text{C}$
- **Water-resistant, dustproof enclosure** for demanding environments
- Centralized **data logging, monitoring and web-based access**
- **MODBUS TCP integration** through the IWS gateway
- Optional **cloud backup and secure multi-user access**



DESCRIPTION

The Plexus Intelligent Wireless System (IWS) is a distributed wireless SCADA platform designed for monitoring and data acquisition across commercial and industrial applications.

The IWS-PAMR Remote Termination Unit provides a compact, self-contained solution for remote water-meter reading, supporting either AMR or pulse inputs with integrated LoRa wireless communications.

Multiple IWS-PAMR units can communicate with a single IWS gateway, where meter readings are collected, logged and made available through a web-based interface. Reading intervals are user programmable, while flexible battery or external DC power options support a wide range of installation requirements.

SYSTEM OVERVIEW



TECHNICAL SPECIFICATIONS

METER INTERFACES	
Input type	Selectable AMR or pulse input
AMR input	3-wire interface
Dry pulse input	2-wire contact input; internal 3.3 V wetting; non-isolated
Wet pulse input	5–24 V pulse input; 2-wire; electrically isolated
Pulse output	Open collector; 10 ms pulse; 24 V / 500 mA maximum; external pull-up required
Pulse output scaling	Selectable: Input ÷ 10, ÷ 100 or ÷ 1000

POWER & OPERATION	
Battery power	2 × 3.6 V primary lithium D cells (non-rechargeable)
Battery life	Approx. 5 years at one reading every 5 minutes*
External Power	12 VDC External Power
Reading interval	User programmable from 10 seconds to 24 hours
Reporting	Change-based reporting; after 10 consecutive unchanged readings, a reading is transmitted to the gateway by default

WIRELESS & COMMUNICATIONS	
Wireless technology	LoRa
Frequency / band	915 MHz
RF transmit power	Up to +20 dBm (100 mW) with supplier antenna
Receiver sensitivity	Up to -120 dBm
Wireless range(**)	Typically- 2 km LoS and 500m NLoS with tuned uni-directional antennas.
Antenna	External omni antenna via N type connector
Network architecture	Multiple IWS-PAMR units supported by a single IWS gateway
Gateway interface	MODBUS TCP
Data management	Gateway-based logging and web interface
Cloud service	Optional cloud backup and secure multi-user access

PHYSICAL & ENVIRONMENTAL	
Operating temperature	–10°C to +70°C
Relative humidity	0-95% (system, non-condensing)
Enclosure	Water-resistant and dustproof, UV protected - polypropylene IP65
Dimensions	100mm/3.92" (W) x 150 mm/5.9" (L) x 70.6mm /2.78" (D)
Weight	0.8kg including batteries
Mounting	Wall/surface mount; optional pole mount

REGULATORY & COMPLIANCE	
Radio approvals	915 MHz licence-exempt operation; FCC-certified radio module.
Product compliance	EMC, electrical and environmental compliance to applicable regional requirements.

* Battery life depends on reading interval, radio activity, operating temperature, battery characteristics and installation conditions.

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ORDERING INFORMATION

Part Number	Description
IWS-RL-025PAMR	IWS-PAMR Remote Water Meter Reader
IWS-PWR-12V	12V 2A Power Adapter
IWS-HL-100SRG	Gateway Hub including 12V PSU