



Features and Benefits

- Next generation distributed, intelligent wireless SCADA system
- Accepts standard SCADA voltage and current loop sensors
- Integrated sensor technology
- Reliable & scalable auto mesh
- No wiring needed
- Ultra low power
- Full monitoring, control and back office support
- Low cost & fast install
- Rugged construction (NEMA6) for all weather conditions
- MODBUS support

DESCRIPTION

The Intelligent Wireless System (IWS) nodes comprise of a range of distributed wireless products from Plexus Controls providing advanced supervisory, control and data acquisition (SCADA) functionality for commercial and industrial applications.

With 'out the box' auto mesh wireless functionality, IWS nodes can be easily installed at a remote location and connected to standard sensors, supporting 4-20mA or 0-5V. Either through a direct wireless connection or automatically hopping through a series of other IWS nodes, the sensor data is relayed back to the IWS Hub for termination over Ethernet to the IWS Management Server application for display, logging and alarm management.

A network of IWS nodes can scale to over 1000 nodes and be supported by one or more IWS Hubs.

In addition to the basic IWS node supporting up to 4 standard SCADA inputs, several variants are available, offering output controls through dry relay contacts and/or 12V DC output to facilitate motor, solenoid valve, contactor operation or other peripheral controls

All IWS nodes can be configured to include local powering options. These include battery (primary or backup), solar and micro generator options such as from induction and vibration sources.

The IWS Management System (MS) application provides a single point for managing all IWS sensors. An IWS network can be managed using a user friendly GUI stand-alone solution or through standard interfaces such as Modbus and DNP3.



Intelligent Wireless SCADA Distributed Control System

SPECIFICATIONS

Radio Specifications

Wireless Topology	Auto Mesh with dynamic configuration
Frequency	2.4 GHz ISM Band
Channels	16
Hops	30 max.
Power Output	+18dBm (antenna port), +23dBm max. EIRP with antenna supplied
RX Sens	-102 @ 10-6 BER
RF Data Rate	250 kbps
Indoor Range	up to 100m
Outdoor Range	2km+

Power (with current loop power)

	IWS-R-200/220	IWS-R-222	IWS-H-000 (Hub)
Supply Voltage	16V-24V DC or 24V AC	16V-24V DC or 24V AC	16-24V DC (power adapter with PoE combiner) or 24v AC
Max. Power (Transmit Active)	700mW		1100mW
Max. Power (Idle/Receive)	400mW		1000mW

Power Supply (without current loop power)

	IWS-R-200/220	IWS-R-222	IWS-H-000 (Hub)
Supply Voltage	16V-24V DC or 24V AC	16V-24V DC or 24V AC	16-24V DC (power adapter with PoE combiner) or 24v AC AC/DC
Tx Power (Typ)*	360mW		
Idle/Rx Power (Typ)*	165mW		
Avg. Power	5mW (@ 30 sec. wakeup cycle)		

I/O

	IWS-R-200/220	IWS-R-222	IWS-H-000 (Hub)	Water/Gas Upgrade
	2 x 4-20mA loop 1 x 0-5V DC input 1 x 0-5V or 0-3V analog input or pulse input	2 x 4-20mA loop 1 x 0-5V DC input 1 x 0-5V or 0-3V analog input or DC pulse input 2 x dry relay SPDT contacts	10/100BT Ethernet (RJ45)	Water Depth Test System 0-16ft, 0-25ft, 0-50ft Internal pump & differential pressure sensor. Accuracy ±2% over fs Gas flow using differential pressure (±0.3psi fs)
	Internal power monitor	Internal power monitor	Internal power monitor	

Security

Data Encryption	AES 128bit available (optional)
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Management

Stand alone local or remote graphic display with SMS & email alarms. Supported on Windows XP
Modbus and DNP3 support (external slave)

Physical, Electrical & Environmental

Mounting Bracket	Pole (1-1/2" or 2") or direct wall mount
Operating Temperature	-40C to +55C
Relative Humidity	0-100% (non condensing)
Wireless Certifications	802.15.4 (2.4GHz) FCC &, IC
Enclosure	7-1/8' (w) x 10" (h) x 2-1/4" (d) (180mm x 254mm x 57mm)
Weight	50oz (1.5kg) (approx)



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RTU	IWS-R-220	Intelligent wireless Sensor Node (Remote) 12-24V AC/DC, Interfaces: 1: 4-20mA/0-5V loop input, 2: 4-20mA/0-5V loop input 3: 0-5V input, 4: 0-5V input Includes antenna and brackets. Add SU-01 unless indoors Add battery kit BA03 and SO-20 for solar power
RTU	IWS-R-211D	Intelligent wireless Sensor Node (Remote) 12-24V AC/DC, Interfaces: 1: 4-20mA/0-5V loop input, 2: 4-20mA/0-5V loop input 3. Pressure Depth System (30ft) with pump & differential pressure sensor Includes antenna and brackets. Add SU-01 unless indoors Add battery kit BA-03 for AD/DC operation, Add battery kit BA03 and SO-20 for solar



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