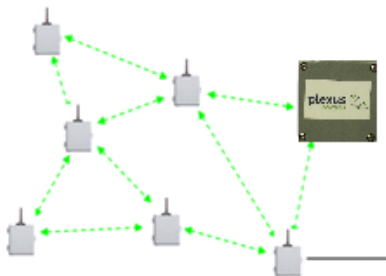




IWS-R-025L-M



IWS-R-025L-L



R-025 Series Ruggedized Industrial 4-20mA Loop Remote Wireless System

Features and Benefits

- Next generation distributed, intelligent wireless SCADA system
- 4-20mA Loop input measurement
- Integrated or external long range antenna
- Battery powered (2 x C) no plant wiring or external power required
- Auto calibration and battery optimizer
- Reliable & scalable auto mesh wireless
- Full monitoring, control and back office support
- Attach to any 4-20mA output sensor
- Provides power to the sensor loop
- MODBUS TCP supported at Hub

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, 0-5V, 0-10V, HART, temperature, pressure and many other interfaces. Either through a direct wireless connection or automatically hopping through a series of repeater 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.

The Remote Termination Unit R-025L is a fully integrated self contained radio and interface package supporting a 4-20mA loop connection or a 0-5V line connection. The R-025L is powered using 2 x Alkaline dry batteries that can be easily changed by the user. The R-025L has been designed to mount onto a flat surface or may be supported through the 1/2" NPT pipe fitting. The frequency of readings can be user changed and values logged and plotted on Plexus controls Network Management System (NMS) software. Plexus also provided an SQL database package that allows more sophisticated packages to access the data for detailed analysis.

The R-025L is powered by internal 2 x C Alkaline batteries (not supplied). Battery life is expected to be up to 3 years depending on the frequency of the reading cycles (programmable through the hub web pages).



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 EIRP with internal antenna
RX Sens	-102 @ 10-6 BER
RF Data Rate	2Mb/s
Indoor Range	up to 200ft (-M version), up to 500ft (-L version)
Outdoor Range	up to 1000ft (-M version), up to 2 miles (-L version)

Power (with current loop power)

IWS-R-025L

Supply Voltage	3V DC (internal 2 x C primary batteries, alkaline recommended)
Max. Power (Transmit Active)	400mW
Max. Power (Idle/Receive)	70mW
Sleep Mode	10uA @ 3V DC

I/O

IWS-R-025L

1 Input:
4-20mA Loop (Minimum sensor voltage available at terminals = 10.3V)

Security

Data Encryption	AES 128bit
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Management

Stand alone local or remote graphic display with SMS & email alarms. Supported on Windows 7/8
Modbus TCP support through Ethernet Hub

Physical, Electrical & Environmental

Mounting Bracket	Unit mounts on 1/2" NPT fitting. Alternate mounting holes at the edges of the enclosure
Operating Temperature	-20C to +55C
Relative Humidity	0-100% (non condensing)
Wireless Certifications	802.15.4 (2.4GHz) FCC & IC
Enclosure	Polycarbonate (grey) 3-1/4" (w) x 3-1/4" (h) x 2" (d) (85mm x 85mm x 50mm) NEMA 4X (UV protected) when 1/2" NPT fitting sealed with teflon tape
Weight	1.2lb (0.5kg) (approx) with batteries



Intelligent Wireless SCADA Distributed Control System

BATTERY LIFE

Battery life is dependent on a number of factors including sensor type, battery type and read frequency. This product requires 2 x lithium 3.6V batteries that are not included in the package. The batteries may be purchased separately from Plexus Controls or may be purchased from another vendor. Note that this product will not run from standard alkaline cells. Plexus has optimized battery life through fast read times and calibration routines that can be run in the field, and as a guide the expected battery life is provided below.

Battery Type	Sensor (example)	Read Frequency (secs)	Expected Battery Life (months)
Lithium 3.6V 'C' Cell 8500mAH (qty 2) (eg Tadiran TL-5920)	AST Pressure Probe	60 (default)	50
		300	120+
	Kellar Pressure Probe	60 (default)	20
		300	80

Note that not all sensors and applications are suited for battery operation. Some sensors either require to high a voltage to operate or take too long to initialize and provide a valid reading. Ideally the sensor needs to follow the guidelines below:

1. Operation down to a voltage of 10.3V (current output sensors) or 11.5V (voltage output sensors) at the sensor terminals
2. Any digital circuits including displays and/or LED's on the sensor must be disconnected
3. Any averaging capacitors must be disconnected

ORDERING INFORMATION

Part Number	Description
IWS-R-025L-M	Remote Terminal Unit, internal antenna, 4-20mA (Powered)
IWS-R-025L-L	Remote Terminal Unit, external antenna, 4-20mA (Powered)
IWS-TL5920-2	Tadiran TL-5920 Lithium Battery, C cell, 8500Ah pack of 2 (note 1)

Note 1: This item must be shipped using ground transportation



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