Intelligent Wireless SCADA Distributed Control System Air Analysis System

Features and Benefits

- Methane and Oxygen(optional) air content analysis sensor for perimeter ground air monitoring
- Integrated gas sensor technology
- Multiple probe inputs for different sample depths
- Low Power operation Solar powered
- Member of the Plexus intelligent wireless SCADA system
- Stand alone operation or multi site wireless mesh
- 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 and low power requirements, the IWS Air Analysis System (AAS) can be easily installed at a remote location and connected to multiple ground probe sampling tubes at different heights. The IWS AAS wakes up 4 times a day (programmable) and using an internal compressor draws a sample from each of the ground probes in sequence and takes the gas readings. The readings are sent over a mesh wireless system to an on-site hub unit where they are time stamped and logged. Data may be downloaded from the hub site on a regular basis (programmable) or continuously monitored in real time over a WAN connection such as a cell modem. Using the IWS Network Management System (NMS) users can have multi site real time logging, alarms and system management.
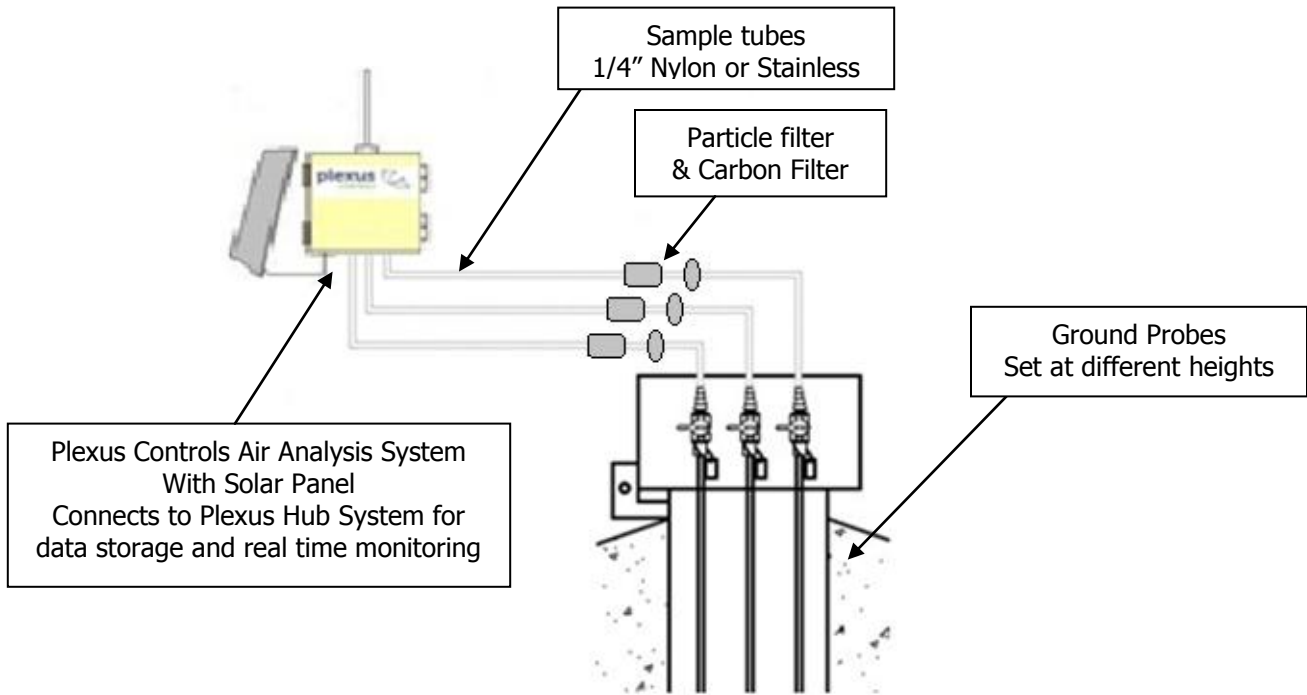
A network of IWS nodes can scale to over 1000 nodes and be supported by one or more IWS Hubs.

In addition to the IWS AAS system IWS product family support up to 4 universal SCADA inputs including powered 4-20mA loop, differential pressure, serial, DC analog and 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 the Plexus NMS or through standard protocol interfaces such as Modbus.

TYPICAL APPLICATION
3 Probe Ground Air Monitoring System

Sample tubes
1/4" Nylon or Stainless

Particle filter
& Carbon Filter

Ground Probes
Set at different heights

Plexus Controls Air Analysis System
With Solar Panel
Connects to Plexus Hub System for
data storage and real time monitoring

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-CH402
Supply Voltage	16-24V DC (power adapter with PoE combiner) or 24v AC
Max. Power (Read Active)	800mA @ 12V DC
Max. Power (Idle/Receive)	40mA @ 12V DC
	Solar Powered options – including Solar Panel, Battery and mounting brackets (sizing depends on deployment location)

I/O	
	IWS-R-CH4P
Gas Sensors	Methane: 0-10% (0.01% resolution, ±0.2% accuracy); 10-100% (0.1% resolution, ±2% accuracy)

Security	
	Data Encryption: AES 128bit available (optional)

Management	
	Stand alone local or remote graphic display with SMS & email alarms. Supported on Windows XP/7
	Modbus and DNP3 support (external slave)

Physical, Electrical & Environmental	
Mounting Bracket	Pole (1-1/2" or 2") or direct wall mount
Operating Temperature	-10C to +55C
Relative Humidity	0-95% (non condensing)
Wireless Certifications	802.15.4 (2.4GHz) FCC &, IC
Enclosure	10" (w) x 10" (h) x 2-1/4" (d) (180mm x 254mm x 57mm)
Weight	100oz (3kg approx)

Intelligent Wireless SCADA
Distributed Control System

To find out more, contact Plexus Controls:

Tel: 1-613-963-0751
Email: info@plexus-controls.com

www.plexus-controls.com