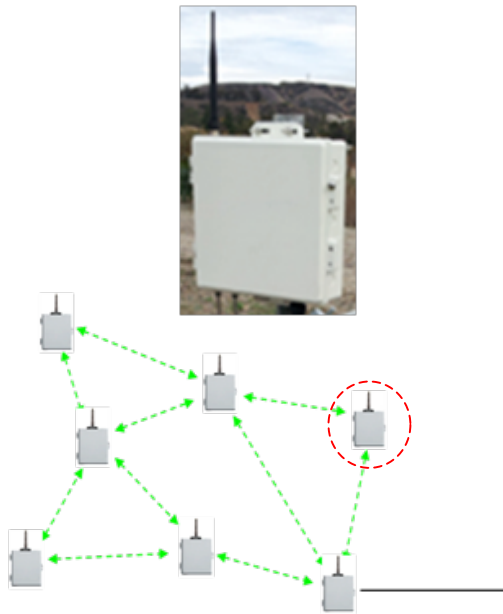




# Intelligent Wireless SCADA Distributed Control Systems Methane & Oxygen Measurement



## Features and Benefits

- Methane & Oxygen content analysis for biogas monitoring
- Methane: Integrated digital IR gas sensor technology with 1 year sensor calibration (certified)
- Oxygen: Integrated digital fluorescence quenching technology with 1 year sensor calibration
- Additional Voltage/Current inputs
- Ethernet WAN connection with PoE (H version)
- MODBUS TCP support (at gateway site)
- Full wireless gateway functionality for adding Plexus remote systems (H version)
- Rugged cast aluminum enclosure for all weather operation

## DESCRIPTION

Plexus Controls 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 Methane and Oxygen Gas Analysis System (GAS) can be easily installed at a flare or well site and connected into the biogas pipe using 1/4" sampling and return tubes providing a flow through using a pitot tube or orifice plate. The IWS-CH4O2 takes a reading 24 times a day (programmable). Methane content (% volume) and oxygen content (% volume), is taken and reported via MODBUS TCP or Plexus database portal. The system has full gateway functionality providing alarm email/sms notification and GUI map display via a webpage. The system stores all readings with date/time stamp. All data may be downloaded a regular basis (programmable) or continuously monitored in real time over a WAN connection such as a cell modem.

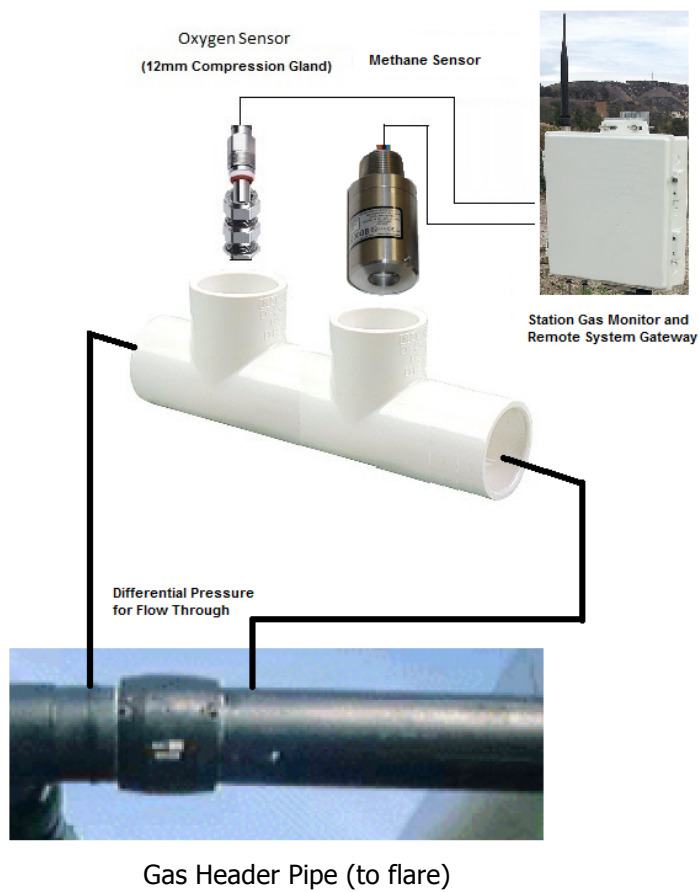
Plexus IWS GAS system uses the latest digital IR (methane sensor), and digital fluorescence quenching (oxygen sensor) technology with 1 year calibration validity. Either sensor can be swapped out in the field in a few minutes and recalibrated for another year.

IWS-H-CH4O2 systems are powered through the Ethernet cable from a 24V 1.5A power source. IWS-R-CH4O2 systems have an internal 24V DC power connection. A power adapter and injector cable is provided with the system.



# Intelligent Wireless SCADA Distributed Control Systems

## TYPICAL APPLICATION GAS System





# Intelligent Wireless SCADA Distributed Control Systems

## 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), +21dBm max. EIRP with external antenna (supplied)
RX Sens	-102 @ 10-6 BER
RF Data Rate	250 kbps
Indoor Range	up to 200m
Outdoor Range	1km+

### Power (with current loop power)

	IWS-H-CH4O2	IWS-R-CH4O2
Supply Voltage	12-24V DC (power adapter with PoE combiner) .	12-24V DC.
Max. Power (Read Active)	800mA @ 12V DC	800mA @ 12V DC
Max. Power (Idle/Receive)	500mA @ 12V DC	40mA @ 12V DC
	Solar Powered options – Solar Panel, Battery and mounting brackets	Solar Powered options – Solar Panel, Battery and mounting brackets

### I/O

	IWS-H-CH4O2 / IWS-R-CH4O2
Gas Sensors	Methane: 10-100% (0.1% resolution, ±2% accuracy)  Oxygen: 0-100% (Compatible to PSt3, 0-50% O2, resolution: 0.05%)

### Security

Data Encryption: AES 128bit available (optional)

### Management

Stand alone local or remote graphic display with SMS & email alarms. Supported on Windows 7/10  
And/or MODBUS TCP support

### Physical, Electrical & Environmental

Mounting Bracket	Direct wall mount
Operating Temperature	-40C to +55C (system), 0C to +55C (sensor pod)
Relative Humidity	0-95% (system, non-condensing)
Wireless Certifications	802.15.4 (2.4GHz) FCC &, IC
Enclosure	Weatherproof. 12" (w) x 10" (h) x 5" (d) (300mm x 250mm x 125mm)
Weight	8kg approx



# Intelligent Wireless SCADA Distributed Control Systems

## ORDERING

Type	Part Number	Description
STN	IWS-H-CH4O2	Wireless Sensor System (remote) 12-24V AC/DC. Interfaces: <ol style="list-style-type: none"> <li>1. Methane 0-100%</li> <li>2. Oxygen 0-100%</li> </ol> Includes integrated gateway IWS-H-100SRG. Complete with PoE feed, 24V 1.5A power adapter, external antenna, lightning surge suppressor and mounting brackets
RTU	IWS-R-CH4O2	Wireless Sensor System (remote) 12-24V AC/DC. Interfaces: <ol style="list-style-type: none"> <li>1. Methane 0-100%</li> <li>2. Oxygen 0-100%</li> </ol> Complete with PoE feed, 24V 1.5A power adapter, external antenna, lightning surge suppressor and mounting brackets

Type	Part Number	Description
Solar	SP-02	Solar Panel 30W with pole mounting bracket
Solar	SP-UPG	Upgrade kit for IWS-R (pre-installed): 3.8AH SLA Battery 10A Solar Controller



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