



## Vigilante AQS™ V2

### Air Quality Station

#### Endless flexibility

- 8 - gases
  - Real-time gas, TWA, STEL levels
- 4 sets - airflow sensors
- 2 – climate sensors
  - Pressure compensated dry/wet bulb, relative humidity
  - Worker heat stress
- 4 – Pressure or Differential pressure transmitters
- 2 - Alarm lights
- Integral or remote mounted sensor options
- Modbus TCP/IP and EtherNet/IP communications
- Analog and relay options
- 120-240 VAC or PoE powered
- Onboard trending and advanced diagnostics

# Series = Vigilante AQS™ - V2 Air Quality Station (V2 – Next Generation)

**VAQS-V2** = Vigilante AQS™ Air Quality Station;  
Web Page configurable;  
Enclosure designed to IP65/NEMA 4X;  
Universal power supply (24VDC, 85-264 VAC, 47/63 Hz, PoE);  
Push buttons, LED display & status lights;  
Integral mounted climate sensor that measures barometric pressure; pressure compensated humidity; wet & dry bulb temperature; worker heat stress & thermal work limit;  
Gas TWA and STEL calculations;  
Onboard 3-day datalogger;  
CE Compliant;  
Native Ethernet Modbus TCP/IP and EtherNet/IP™ communication protocols;  
Dual RJ45 copper connection ports;  
All values, inputs and outputs and some diagnostics are available through the digital registers.

## 1 to 4 = Integral Gas Sensors

**NR** = Not Required.

**Gxxx** = Integral gas sensor; Real time gas, TWA and STEL calculations.

**Note 1:** Select xxx three-digit sensor code from Table 1.

## 5 to 12 = Remote Sensors

(Maximum of 4 Remote Sensor Modules with 2 of the same sensors per module)

**NR** = Not required.

**DR** = Universal drift, heater house or shaft mounted airflow installation.

**LR** = Long range drift or tunnel airflow installation.

**DM** = Duct mount airflow installation.

**PF** = Primary fan airflow installation.

**RGxxx** = Remote gas sensor, where xxx is three-digit code from Table 1. Maximum of eight (8) gas sensors per Vigilante AQS™ - V2 (4 Integral & 4 Remote).

**RRH** = Remote mounted climate sensor; barometric pressure, pressure compensated relative humidity, wet and dry bulb temperature, worker heat stress & thermal work limit.

**AL** = Integral tri-colour LED alarm light

**RAL** = Remote tri-colour LED alarm light (mounted on a remote plate).

**DPT-H-B-NR** = Digital differential pressure transmitter, 1-1/2" NPT flush mounted ceramic & SS transmitter; -0.1 to 0.1 Bar (-40 to +40" W.C); 3 metres of cable and J-Box for high condensing environments.

**Note 2:** See following pages for sensor option details.

**Note 3:** Select **NR** when sensors and modules are not required.

**Note 4:** 5 different remote sensor module types. 2 sensor inputs of the same type per module.

## 13+ = Options

(Extend matrix as required)

**NR** = Not required.

**BP** = Bumper protection (One required for each drift mounted airflow system).

**IM** = VAQS mounted on a single aluminum checker plate.

**RM** = VAQS remote gas or climate sensors mounted on separate aluminum checker plates, c/w stainless mounting hardware.

**DW1** = VAQS and remote gas sensors mounted on a single double wide aluminum checker plate.

**ESA** = ESA (Electrical Safety Authority) approval for general purpose applications.

**CSA** = CSA special approval for general purpose applications.

**ES** = Labels and documentation in Spanish.

**SST** = Stainless Steel Tag; 8-lines; 2.5" H x 5.5" W

**PT** = Polyester Tag; 8-lines; 2" H x 4" W

### Integral Gas Sensors

### Remote Sensors



# Vigilante AQS™-V2 Input Device Limitations

EtherNet/IP

Modbus  
TCP

PoE

## Device Limitations:

A. Maximum of 4 DIN rail plug-in remote sensor modules:

- 2 Sensor ports per remote sensor module
- Each port has a removable terminal strip
- 5 Types of remote sensor modules available
  - Airflow P/N HGC-MOD-017
  - Gas P/N HGC-MOD-018
  - Pressure/DP P/N HGC-MOD-019
  - Climate P/N HGC-MOD-020
  - LED alarm light P/N HGC-MOD-022

B. Airflow (maximum of 4 sensor sets)

C. Gas (maximum of 8; 4 integral & 4 remote sensors)

D. Climate (1 integral and a maximum of 2 remote sensors)

E. Pressure or DP (maximum of 4 sensors)

F. LED alarm light (maximum of 2 alarm lights)

G. ModuDrive™ Linear Actuator (maximum of 2 actuators)

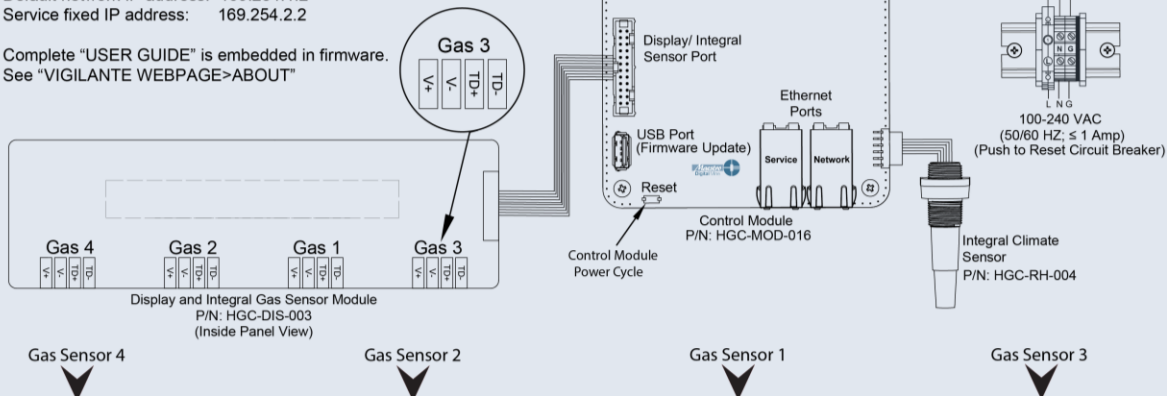
H. Ethernet and PoE connection maximum of 100m (328')

Default network IP address: 169.254.1.2

Service fixed IP address: 169.254.2.2

Complete "USER GUIDE" is embedded in firmware.

See "VIGILANTE WEBPAGE>ABOUT"





## DR – Airflow sensors



- Universal airflow sensor mounting for drift, tunnel, heater house and shaft mounting installations for applications with a maximum face to face distance of 12 m (39 feet).
- Easy airflow sensor alignment with built-in optical alignment lasers.
- Includes two ultrasonic airflow sensors; two mounting brackets; two sensor cord sets both 25 metres (82') & one junction box on an aluminum mounting plate
- Heavy duty 316L Stainless Steel tilt and swivel mounting bracket with 18-8 SS hardware. Built in 1/2" (13 mm) mounting holes.
- Total shipment weight and dimensions including dimensions including packaging
  - 20 lbs - 16" x 14" x 8"
  - 9 kg - 406 mm x 356 mm x 203 mm





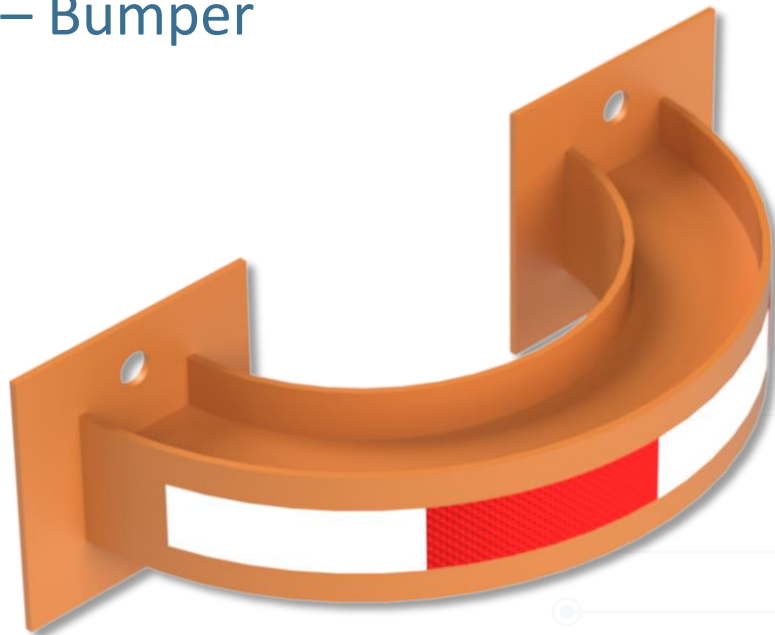
## LR – Airflow sensors



- Long range airflow sensor mounting for wide drift or tunnel installations normally found in potash, salt mines, road or railway tunnels with a maximum face to face distance of 26 m (85 ft.)
- Easy airflow sensor alignment with built-in optical alignment lasers.
- Includes two ultrasonic airflow sensors; two mounting brackets; two sensor cord sets both 25 metres (82') & one junction box on an aluminum mounting plate
- Heavy duty 316L Stainless Steel tilt and swivel mounting bracket with 18-8 SS hardware. Built in 1/2" (13 mm) mounting holes.
- Total shipment weight and dimensions including dimensions including packaging  
22 lbs - 16" x 14" x 8"  
10 kg - 406 mm x 356 mm x 203 mm



## BP – Bumper



- Heavy duty steel, painted alkyd safety orange with reflective tape. Bumper is to be installed slightly lower than sensor. The bumper will help protect the sensor from mobile equipment.
  - 35 lbs/16kg weight
- Total shipment weight and dimensions including dimensions including packaging
  - 45 lbs - 16" x 30" x 10"
  - 20.5 kg - 406 mm x 762 mm x 254 mm



## DM – Airflow sensors



- Includes two ultrasonic airflow sensors; two flexible, gasket-less, corrosion resistant polyurethane mounting brackets for rigid duct installations from 36" to 60" (900 to 1500 mm) diameters; two sensor cord sets both 25 metres (82') & one junction box on an aluminum mounting plate
- Total shipment weight and dimensions including dimensions including packaging  
16 lbs - 16" x 14" x 8"  
7.3 kg - 406 mm x 356 mm x 203 mm





## PF – Airflow sensors



- Includes two ultrasonic airflow sensors; two corrosion resistant polyurethane adjustable, ball & socket mounting brackets & two gaskets for the mounting to the **inlet duct work** of a primary fan; two sensor cord sets both 25 metres (82') & one junction box on an aluminum mounting plate
- NOTE: If the sensors are to be installed on the discharge side of the fan, the flow profile will need to be fully developed for all variable speed or variable pitch applications
- Total shipment weight and dimensions including dimensions including packaging  
22 lbs - 16" x 14" x 8"  
10 kg - 406 mm x 356 mm x 203 mm



## Table 1 – Gas sensor codes

EC = Electrochemical sensor  
(approximate 1-year sensor life)

IR = Infrared sensor  
(approximate 5-year sensor life)

Gas Type and measuring principal	Measuring range	Integral sensor code	Remote sensor code
Carbon Monoxide (CO), EC	25 PPM	G000	RG000
Carbon Monoxide (CO), EC	100 PPM	G001	RG001
Carbon Monoxide (CO), EC	500 PPM	G002	RG002
Carbon Monoxide (CO), EC	1000 PPM	G003	RG003
Carbon Monoxide (CO), EC	5000 PPM	GUCB	RGUCB
Nitrogen Dioxide (NO <sub>2</sub> ), EC	5 PPM	G027	RG027
Nitrogen Dioxide (NO <sub>2</sub> ), EC	10 PPM	G004	RG004
Nitrogen Dioxide (NO <sub>2</sub> ), EC	300 PPM	G024	RG024
Nitric Oxide (NO), EC	100 PPM	G005	RG005
Nitric Oxide (NO), EC	500 PPM	G006	RG006
Nitric Oxide (NO), EC	1000 PPM	G007	RG007
Oxygen (O <sub>2</sub> ), EC	0-25%	G008	RG008
Hydrogen Sulfide (H <sub>2</sub> S), EC	50 PPM	G009	RG009
Hydrogen Sulfide (H <sub>2</sub> S), EC	100 PPM	G010	RG010
Sulphur Dioxide (SO <sub>2</sub> ), EC	10 PPM	G011	RG011
Sulphur Dioxide (SO <sub>2</sub> ), EC	300 PPM	G026	RG026
Sulphur Dioxide (SO <sub>2</sub> ), EC	1000 PPM	G012	RG012
Chlorine (Cl <sub>2</sub> ), EC	5 PPM	G014	RG014
Ammonia (NH <sub>3</sub> ), EC	100 PPM	G015	RG015
Carbon Dioxide (CO <sub>2</sub> ), IR	0.5%	G016	RG016
Carbon Dioxide (CO <sub>2</sub> ), IR	2%	G017	RG017
Carbon Dioxide (CO <sub>2</sub> ), IR	5%	G018	RG018
Methane LEL, IR	0-100%	G019	RG019
Propane LEL, IR	0-100%	G020	RG020
Hydrogen Cyanide (HCN), EC	10 PPM	G021	RG021

## Vigilante AQS™ V2 - gas sensors mounted on a single plate



1 to 4  
gas sensors  
IM option



5 to 6  
gas sensors  
DW1 option



7 to 8  
gas sensors  
DW1 option

## Vigilante AQS™ V2 & Zephyr AQS™ - remote sensors mounted on a separate plate



- 1 gas sensor
- RGxxx
  - RM option



- 2 gas sensors
- RGxxx
  - RGyyy
  - RM option



- 1 climate sensor
- RRH
  - RM option



- 1 gas sensor &  
1 climate sensor
- RGxxx
  - RRH
  - RM option



- 3 to 4 gas sensors &  
1 climate sensor
- RGxxx for either 3 or 4 sensors
  - RRH if required
  - RM option
- (Vigilante AQS™ V2)



## Digital differential pressure sensors



DPT-H-B-NR

- -0.1 to 0.1 Bar (-40 to +40" W.C);  $\leq 0.5\%$  of full-scale accuracy;  $\pm 0.25\%$  F.S. accuracy; 3 Bar (43 psig) maximum over-load pressure
- Modbus RS-485 communication to any AQS™, 4 wire connection
- Flush mounted 1-½" NPT (male) 316L SS process connection with Ceramic sensor; FKM (Viton) seal
- 3 metres of PUR connection cable and J-Box with two Gortex filters for high condensing environments
- -25 to +85°C (-13 to +185°F) temperature range
- Designed for extreme humidity and condensing conditions normally on return raises across bulkheads
- Total shipment weight and dimensions including dimensions including packaging  
8 lbs - 16" x 14" x 8"  
3.6 kg - 406 mm x 356 mm x 203 mm





## EZ Node™ Wireless Adapter

Connect one of Maestro's Ethernet devices directly to any wireless Wi-Fi network.

## Series = EZ Node™ Wireless Adapter



**EZN** = EZ Node™ Wireless Adapter

The EZ Node™ Wireless Adapter allows any Maestro product to connect directly to a wireless network.

Enclosure Specifications:  
NEMA 4X enclosure;  
ABS construction;  
Heavy duty aluminum back plate with stainless steel hardware.

### 1+ = Options (Extend matrix as required)

**E** = Ethernet, IEEE 802.11b/g/n/ac Wave 2 (WiFi 5) compliant, Passive PoE (Power over Ethernet), 4 X 10/100/1000 Ethernet Interface (RJ-45). Includes 3 dBi Omni-directional antenna, waterproof RJ45 connector, and one 24 VDC power injector for Ethernet based Maestro products. The EZ Node™ is easily configured via web browser, no additional software required. Regulatory approvals: CE/RED, UKCA, CB, EAC, UCRF, RoHS, REACH, CITC, ICASA, ANRT, RCM, NBTC, GITEKI, NTC, FCC, IC, NOM.

**SST** = Stainless Steel Tag; 8-lines; 2.5" H x 5.5" W

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Options

EZN



1+