



# Vigilante AQS™ - Model Number Matrix

Series = Vigilante AQS™ Air Quality Station

1 to 7 = I/O Slots

8 = Communications

9+ = Options

(Extend matrix with the option codes)

**VAQS** = Vigilante AQS™ Air Quality Station;  
Web Page configurable;  
IP65/NEMA 4X enclosure;  
Universal power supply (24VDC, 120-240 VAC, 50/60 Hz, PoE);  
CE Compliant;  
Push buttons, LED display & status lights;  
Barometric pressure;  
Integral mounted pressure compensated humidity, wet & dry bulb temperature, worker heat stress, thermal work load;  
Gas TWA and STEL calculations;  
Discovery Tool software.

**VAQS-EXT** = Extended enclosure; used when adding integral mounted I/O AD4 applications.

### Total of Seven I/O slots available

- NR** = Not required.
- DR** = Drift type airflow installation; c/w sensor junction box.
- LR** = Long range tunnel or drift type airflow installation; c/w sensor J-Box.
- DM** = Duct mount airflow installation; c/w sensor J-Box.
- PF** = Primary fan airflow installation; c/w sensor J-Box.
- PFHP** = High powered primary fan airflow installation; c/w sensor J-Box.
- SM** = Shaft or wall mount airflow installation; c/w sensor J-Box.
- SMHP** = High powered shaft mounted airflow installation; c/w J-Box.
- Gxxx or RGxxx** = Integral or remote gas sensor, where xxx is three digit code from Table 2. Maximum of six (6) gas sensors per Vigilante AQS™.
- RRH** = Remote mounted pressure compensated humidity sensor; relative humidity, wet and dry bulb temperature, worker heat stress & thermal work limit.
- ADO** = 1 analog output, 3 discrete relay output card, integral to the Vigilante AQS™ enclosure.
- ADOLH** = ADO board complete with light and horn alarm (mounted on an integral or remote plate).
- AD4** = 4 isolated analog inputs & 4 outputs, two or three wire devices; 4 discrete inputs and 4 discrete outputs; includes an IP65/NEMA 4X enclosure & mounting plate.
- AD4PS** = Same as above - includes a 100-240 VAC /24 VDC power supply.
- RTD12** = Twelve (12) 2 or 3-wire, PT100 ohm RTD temperature input module; includes an IP65/NEMA 4X junction box and mounting plate.
- DTM** = DustMon™ drift dust monitor. Also requires DR option.
- DL** = Internal data-logger c/w 8 GB USB Key (takes up two slot positions).
- 485** = Modbus RS485 serial communications (takes up two slot positions).
- Note 1:** See airflow sensor types.
- Note 2:** Maximum of 4 airflow sets per VAQS.
- Note 3:** Maximum of 2 - AD4 and/or 2 - RTD12 modules per VAQS.
- Note 4:** Select NR if slot position is not used.

- MB** = Modbus Ethernet TCP/IP or Modbus RS485; Standard RJ45 copper connection; All values, inputs and outputs and diagnostics are available through the digital registers.
- AB** = Allen Bradley EtherNet/IP™.
- EZN-E** = Wireless Ethernet .
- EZN-LFV** = Leaky Feeder, VHF Radio modem.
- EZN-LFU** = Leaky Feeder, UHF Radio modem.
- Note 5:** See EZ Node™ wireless details.

- NR** = Options not required .
- CT** = Two single loop controllers for louver, fan or door controls (order with AD4 module).
- SMyy** = Single mode fiber optic, 10/100 Mbps connection c/w junction box.
- MMyy** = Multimode fiber optic, 10/100 Mbps connection c/w junction box.
- Note 6:** yy = fiber connection type. See fiber optic options.
- BP** = Bumper protection (One required for each drift mounted airflow system).
- IM** = VAQS and gas sensors mounted on a single aluminum checker plate, c/w S.S. mounting hardware
- RM** = VAQS mounted on an aluminum checker plate and gas sensors are mounted on a second checker plate for remote mounting, c/w S.S. mounting hardware



Series

I/O Slots

Comms

Options





## Airflow sensor arrangement types

**More time at the Face.**



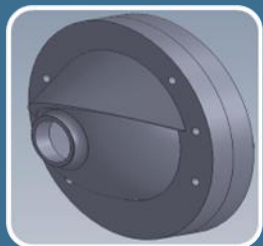
### DR – Drift Mounting

- Includes two ultrasonic airflow sensors; two corrosion resistant nylon tilt and swivel mounting brackets; two mounting brackets with SS hardware; two sensor cord sets both 25 metres (82') & one junction box on an aluminum mounting plate
- Used for drift applications with a maximum width of 10 m (33 ft.)



### LR – Long range Road Tunnel or Drift Mounting

- Includes two ultrasonic airflow sensors; two corrosion resistant nylon tilt and swivel mounting brackets; two mounting brackets with SS hardware; two sensor cord sets both 25 metres (82') & one junction box on an aluminum mounting plate
- Used for road or railway tunnels or large drift applications with a maximum width of 20 m (66 ft.)



### SD – Small Duct Mounting

- Includes two ultrasonic airflow sensors; two corrosion resistant polyurethane adjustable, ball and socket mounting brackets & two gaskets for rigid duct installations from 10" to 36" (250 to 900 mm) diameters; two sensor cord sets both 25 metres (82')



## Airflow sensor arrangement types

**More time at the Face.**



### DM – Universal Duct Mounting

- 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



### PF – Primary or Booster Fan (inlet cone) Mounting

- 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



## Airflow sensor arrangement types

**More time at the Face.**



### PFHP – High Powered Sensors for Primary Fans Mounting

- Includes two high powered 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



### SM – Shaft or Wall Mounted

- Includes two ultrasonic airflow sensors; two corrosion resistant polyurethane adjustable, ball & socket mounting brackets & two heavy duty stainless steel enclosed frames; two sensor cord sets both 25 metres (82') & one junction box on an aluminum mounting plate



### SMHP – High Powered Shaft or Wall Mounted Sensors

- Includes two high powered ultrasonic airflow sensors; two corrosion resistant polyurethane adjustable, ball & socket mounting brackets & two heavy duty stainless steel enclosed frames; two sensor cord sets both 25 metres (82') & one junction box on an aluminum mounting plate



## Gas Sensor option codes

**More time at the Face.**

**Table 2 - Gas sensor option codes**



Integral mounted gas sensor  
(mounted on Vigilante AQS™)



Remote gas sensors and/or  
remote mounted humidity sensor  
(mounted remotely to  
Vigilante AQS™)

INTEGRAL GAS SENSOR CODE	REMOTE GAS SENSOR CODE	GAS, TYPE & RANGE
•G001	•RG001	•CO; EC; 100 PPM
•G002	•RG002	•CO; EC; 500 PPM
•G003	•RG003	•CO; EC; 1000 PPM
•G004	•RG004	•NO2; EC; 10 PPM
•G005	•RG005	•NO; EC; 100 PPM
•G006	•RG006	•NO; EC; 500 PPM
•G007	•RG007	•NO; EC; 1000 PPM
•G008	•RG008	•O2; EC; 25%
•G009	•RG009	•H2S; EC; 50 PPM
•G010	•RG010	•H2S; EC; 100 PPM
•G011	•RG011	•SO2; EC; 10 PPM
•G012	•RG012	•SO2; EC; 1000 PPM
•G013	•RG013	•CLO2; EC; 0.5 PPM
•G014	•RG014	•CL2; EC; 4 PPM
•G015	•RG015	•NH3; EC; 100 PPM
•G016	•RG016	•CO2; IR; 0.5%
•G017	•RG017	•CO2; IR; 2%
•G018	•RG018	•CO2; IR; 5%
•G019	•RG019	•LEL Methane; IR; 0-100%
•G020	•RG020	•LEL Propane; IR; 0-100%
•G021	•RG021	•HCN; EC; 10 PPM

EC = Electrochemical sensor (approximate 2 year sensor life)  
IR = Infrared sensor (approximate 10+ year sensor life)



## Remote I/O Modules & Integral Output Card

**More time at the Face.**



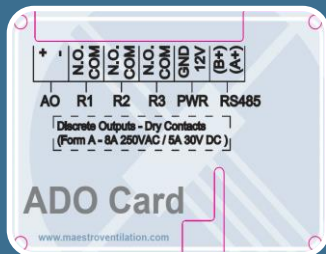
### AD4 – Analog/Digital remote I/O module

- Four (4) analog inputs, 4-20 mA or 0-10 VDC, jumper selectable, loop powered or four wire devices
- Four (4) analog outputs, 4-20 mA, isolated
- Four (4) discrete inputs, two and three wire (24 VDC and 120 VAC)
- Four (4) discrete outputs, 120-240 VAC or 24 VDC, Form C, SPDT relay, 8 AMP@ 250 VAC, 5 AMP@ 30 VDC
- Modbus RS-485 communication to Vigilante AQS, 4 wire connection
- IP65, IP66, NEMA 1,2,4,4X,12,13 enclosure rating; ABS/PBT Blend, UL94 5VA flammability rating
- Complete with aluminum mounting plate and four (4) ½" mounting holes
- Total envelope size, 10" wide x 12" high x 7" deep, 5 lbs. (2.2 kg) weight



### RTD12 – RTD remote I/O module

- 12 RTD input signals, two or three wire, jumper selectable
- PT 100 ohm,  $\alpha = 0.00385$  ohms/ohm/°C or PT 1000 ohm
- Modbus RS-485 communication to Vigilante AQS, 4 wire connection
- IP65, IP66, NEMA 1,2,4,4X,12,13 enclosure rating; ABS/PBT Blend, UL94 5VA flammability rating
- Complete with aluminum mounting plate and four (4) ½" mounting holes;
- Total envelope size, 10" wide x 12" high x 7" deep, 5 lbs. (2.2 kg) weight



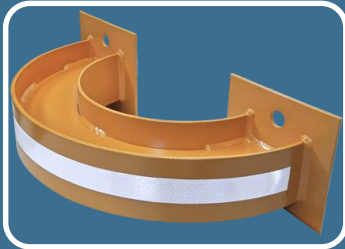
### ADO – Analog/Discrete integral output card

- One (1) 4-20 mA analog output with 2.5 kV optical isolation
- Three (3) discrete outputs, 120-240 VAC or 24 VDC, Form C, SPDT relay, 8 AMP@ 250 VAC, 5 AMP@ 30 VDC
- Card is integral to the Vigilante AQS™ enclosure



## Bumper protection & mounting options

**More time at the Face.**



### BP – Lower drift sensor 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. 23 kg/50 lbs weight



### IM – Integral Mounting Option

- System mounted on an aluminum checker plate, complete with Stainless Steel mounting hardware and carrying handles



### RM – Remote Mounting Option

- Remote mounted gas sensors on aluminum checker plate with a junction box, VAQS is mounted on a 2<sup>nd</sup> checker plate, complete with Stainless Steel mounting hardware and carrying handles
- The remote gas sensor plate size is dependent on the number of gas sensors required. Maximum of six (6) gas sensors per single Vigilante AQS™.



## Fiber Optic connection options

**More time at the Face.**



### ST – Fiber Optic Connection

- This photo illustrates a ST fiber (ST = Straight Tip) cable that can be connected directly into a Maestro device using this option code.
- Normally used in multi-mode applications. The fiber connectors have a push and twist bayonet connector. The 2.5 mm ferrule diameter provides a robust design suited well for field applications.



### SC – Fiber Optic Connection

- This photo illustrates a SC fiber (SC = Square Connector) cable that can be connected directly into a Maestro device using this option code.
- Single and multi-mode applications. A snap action push-pull connector. The 2.5 mm ferrule diameter provides a robust design suited well for field applications.





# EZ Node™ Wireless Node - Model Number Matrix

**More time at the Face.**

Series = EZ Node™ Wireless Adapter

1 = Options



**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.

**E** = Ethernet, IEEE 802.11b/g compliant, 2.4 GHz Wireless radio, PoE (Power over Ethernet), 1 X 10/100 BASE-TX (Cat. 5, RJ-45) Ethernet Interface, FCC Part 15.247, IC RS210 & CE Wireless approvals, RoHS Compliance c/w 3 dBi Omni-directional antenna, waterproof RJ45 connector and one 24 VDC power injector to be installed in any Ethernet based Maestro product, discovery tool, The EZ Node™ is configured through a simple web browser and requires no additional software.

**LFV** = Leaky Feeder, VHF Radio modem, 148 – 174 MHz, c/w unity gain stub VHF antenna, (Customer to provide upstream and downstream frequencies with order).

**LFU** = Leaky Feeder, UHF Radio modem, 450 – 480 MHz, c/w unity gain stub UHF antenna, (Customer to provide upstream and downstream frequencies with order).

**NOTE 1:** Leaky Feeder applications will require the Vigilante AQS™, AirScout™, GasMon™, EthernetI/O™ or SuperBrite™ Marquee Display to be configured with RS485 as the physical layer.

**NOTE 2:** Leaky Feeder applications will require a EZ Base™ Leaky Feeder Head End chassis and Protocol Converters..

Series



EZN

Options



1

Increase Safety and Productivity