Zephyr AQS™
Air Quality Station

- Three sensors of any kind
    - Airflow
    - Gas
    - Climate
    - Pressure or differential pressure
- Integral or remote mounted sensor options
- Modbus TCP/IP and EtherNet/IP communications
- Analog and relay options
- 120-240 VAC or PoE powered

Series = Zephyr AQS™ - Air Quality Station

1 to 3 = Sensor Inputs

4+ = Communication options
(Extend matrix)

5+ = Options
(Extend matrix as required)

ZAQS = Zephyr AQS™ Air Quality Monitoring Station
Web Page configurable;
Enclosure designed to IP65/NEMA 4X;
Universal power supply (24 VDC; 120-240 VAC, 50/60 Hz or PoE);
Push buttons and back-lit Tri-colour LCD display;
CE Compliant;
Discovery Tool Software

NR = Not required.
DR = Universal drift, heater house or shaft mounted airflow installation.
LR = Long range tunnel or drift type airflow installation.
DM = Duct mount airflow installation
PF = Primary fan airflow installation.
Gxxx or **RGxxx** = Integral or remote gas sensor, where **xxx** is three-digit code from Table 1. Real time gas, TWA and STEL calculations.
RH = Integral mounted climate sensor with barometric pressure, pressure compensated humidity, wet and dry bulb temperature and worker heat stress.
RRH = Remote mounted climate sensor with barometric pressure, pressure compensated humidity, wet and dry bulb temperature and worker heat stress.
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 1: See following pages for sensor option details.
Note 2: Select NR if slot position is not required.

MB-AB = Native on-board Ethernet Modbus TCP/IP and EtherNet/IP™ and Modbus RS485 communication protocols.
3A = Three freely configurable analogue 4-20 mA output signals.
2R = Two Form C, SPDT, isolated relays, 120-240 VAC or 24 VDC, 8 AMP@ 250 VAC, 5 AMP@ 30 VDC

Note 3: Mix and match as required.

NR = Not required.
BP = Bumper protection (One required for each drift mounted airflow system).
IM = ZAQS mounted on an aluminum checker plate, c/w stainless steel mounting hardware.
RM = ZAQS and remote gas or climate sensors mounted on separate aluminum checker plates, c/w stainless mounting hardware.
ESA = ESA (Electrical Safety Authority) approval for general purpose applications.
CSA = CSA special approval for general purpose applications.
EZN-E = Wireless Ethernet.
ES = Labels and documentation in Spanish.
SST = Stainless Steel Tag; 4-lines; 1.75" H x 4" W
PT = Polyester Tag; 5-lines; 1.25" H x 2.75" W

Sensor Inputs

Communication

Options

| ZAQS | → | 1 | → | 2 | → | 3 | → | 4+ | → | 5+ |

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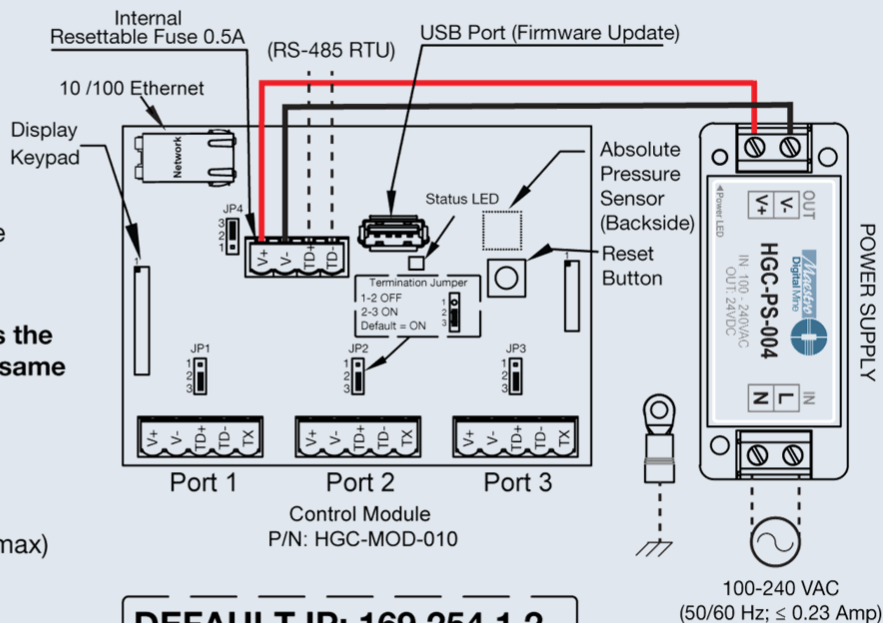
Zephyr AQS™ -— Input Device Limitations

DEVICE OPTIONS

A.) Airflow Sensors
B.) Gas Sensors
C.) Climate Sensor
D.) Pressure or Differential Pressure Sensor

NOTE: Any mix of sensors across the ports, including 3 sensors of the same type.

RULES:

- Ethernet or PoE (100 m / 328 ft. max)
- RS-485 (305 m / 1000 ft. max)

SPARE COVER SCREW
(HGC-CS-001)

Internal Resettable Fuse 0.5A

USB Port (Firmware Update)

(RS-485 RTU)

10 /100 Ethernet

Display Keypad

Status LED

Absolute Pressure Sensor (Backside)

Reset Button

Termination Jumper
1-2 OFF
2-3 ON
Default = ON

JP4

JP1   JP2   JP3

Port 1   Port 2   Port 3

Control Module
P/N: HGC-MOD-010

POWER SUPPLY

HGC-PS-004
IN 100 - 240VAC
OUT 24VDC

OUT V+ V-
IN N L

100-240 VAC
(50/60 Hz; ≤ 0.23 Amp)

DEFAULT IP: 169.254.1.2

To reset the IP address:
- Remove power from control board
- Press reset button
- Power device and continue pressing
  reset button until red status led turns off

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
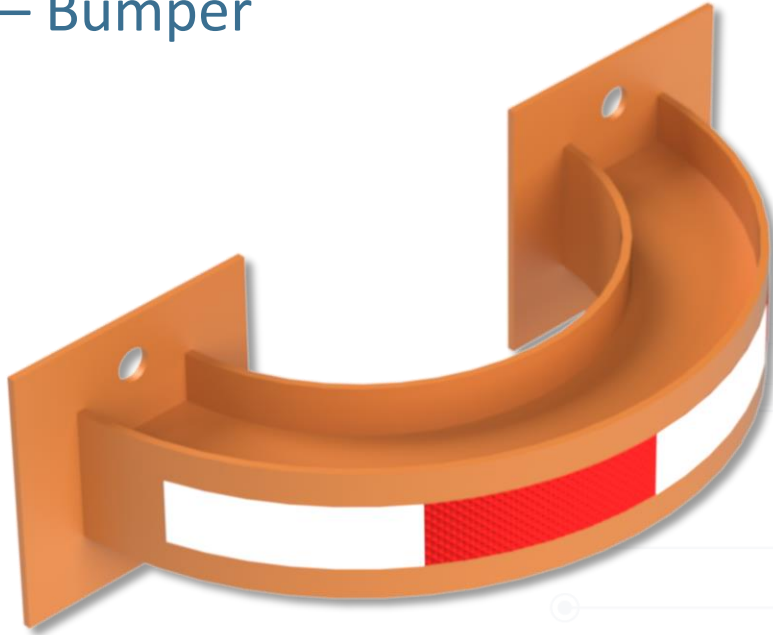   20 lbs - 16" x 14" x 8"
    9 kg - 406 mm x 356 mm x 203 mm

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 (NO2), EC	5 PPM	G027	RG027
Nitrogen Dioxide (NO2), EC	10 PPM	G004	RG004
Nitrogen Dioxide (NO2), 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 (O2), EC	0-25%	G008	RG008
Hydrogen Sulfide (H2S), EC	50 PPM	G009	RG009
Hydrogen Sulfide (H2S), EC	100 PPM	G010	RG010
Sulphur Dioxide (SO2), EC	10 PPM	G011	RG011
Sulphur Dioxide (SO2), EC	300 PPM	G026	RG026
Sulphur Dioxide (SO2), EC	1000 PPM	G012	RG012
Chlorine (Cl2), EC	5 PPM	G014	RG014
Ammonia (NH3), EC	100 PPM	G015	RG015
Carbon Dioxide (CO2), IR	0.5%	G016	RG016
Carbon Dioxide (CO2), IR	2%	G017	RG017
Carbon Dioxide (CO2), 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 & 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); ≤0.5% of full-scale accuracy; ±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

1+ = Options
(Extend matrix as required)

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

Options

EZN		1+

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