Ozone Transmitter & Controller

Ozone Sensor with Computer Interface

Ozone Transmitter & Controller for ambient or food storage applications. NEMA-2 Enclosure great for applications where computer interface is preferred. (Image shows S-930 with a display)

Features

- low & high alarm with control diagnostics
- great for windy environments
- optional highly visible LCD display
- 4-20 mA output
- software included for PC interface

Product ID: **S-930**
Lead Time: **2 weeks**
Price: **$1,095.00**

S-930 Models

The S-930 can be purchased as different models, each with a different sensor head: ultra-low (S-930UL-D), low (S-930L-D), and high (S-930G-D). Call for pricing on options with no display or with simplified wiring (no circular connectors).

*	Model	Range	Resolution	Price	*
16298	S-930UL-D	0.005-0.15 ppm	0.001 ppm	Online Pricing	Buy Online!
16298	S-930L-D	0.008-0.500 ppm	0.001 ppm	Online Pricing	Buy Online!
16298	S-930G-D	0.20-10.00 ppm	0.01 ppm	Online Pricing	Buy Online!

Additional Sensor Heads

Order additional sensor heads for the S-930 as replacements or to expand the versatility of your monitor.

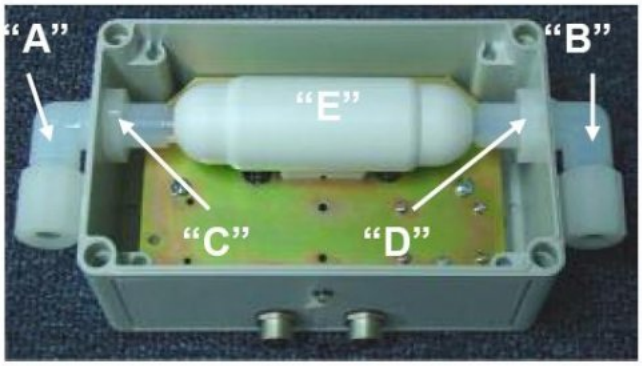
Extra Heads	Range	Resolution	Sensor Price	*
OZU-2 (Ultra-low head)	0.005-0.150 ppm	1 PPB	Online Pricing	Buy Online!
OZL-2 (Low Head)	0.008-0.500 ppm	1 PPB	Online Pricing	Buy Online!
OZG-2 (High Head)	0.20-10.00 ppm	0.01 PPM	Online Pricing	Buy Online!

Specifications

Range	
OZU-2 head	0.005 to 0.150 ppm
OZL-2 head	0.008-0.500 ppm
OZG-2 head	0.01-10.00
Accuracy	
OZU-2 head	+/-0.010
OZL-2 and OZG-2 heads	+/-10%
Resolution	
Ultra Low head	0.001 ppm
Low head	0.001 ppm
High head	0.01 ppm
Response time	
Ultra Low head	<70 seconds
Low head	<60 seconds
High head	<60 seconds
Sensor type	GSS
Alarms	2 set points. User configurable.
Outputs	12 to 24V, 4 to 20mA, RS-485, Relays
Temperature range	23 to 104 F (-5 to +40 C)
Humidity range	5 to 95%
Power Requirement	24VDC, 500mA (range 22-26 VDC)
Weight	1.8-lbs (0.85 kg)
Supporting documents	User manual and NIST-Traceable Calibration Sheet included
[illegible]	[illegible]

S-930 Removable Sensor Head

Removing and Replacing the Sensor Head

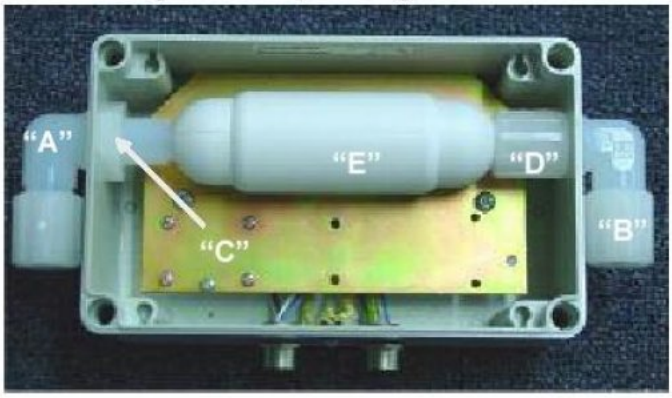


- Undo the four lid screws, remove lid and view the interior of the enclosure as shown above.
- Unscrew and remove the inlet & outlet nozzles "A" & "B" as well as the corresponding lock-nuts "C" & "D".
- Remove the sensor head "E".
- Now replace the sensor head (keyed to fit one way only) and re-position nozzles "A" & "B".
- Finally, tighten lock-nuts "C" & "D".

The sensor head can easily be replace with a refurbished head after years of use. Also a different range sensor can be easily swapped into the box for different ozone level range.

S-930 Head Replacement

Removing and Replacing the Sensor Head

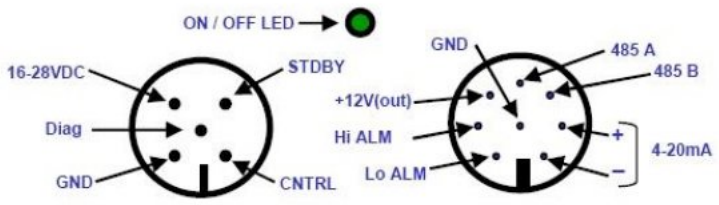


- Undo the four lid screws, remove lid and view the interior of the enclosure as shown above.
- Unscrew and remove the inlet & outlet nozzles "A" & "B".
- Remove the threaded bush "D" & lock-nut "C".
- Remove the sensor head "E".
- Now replace the sensor head (keyed to fit one way only) and re-position the bush "D".
- Finally, re-insert nozzle "A" using lock-nut "C" & screw nozzle "B" into bush "D" ensuring a tight fit against the sensor head "E".
- Never reverse the positions of nozzles "A" & "B".

The Series-930 sensor head can easily be fitted with either the 0.000-0.500 or 0.00-20.00 PPM head.

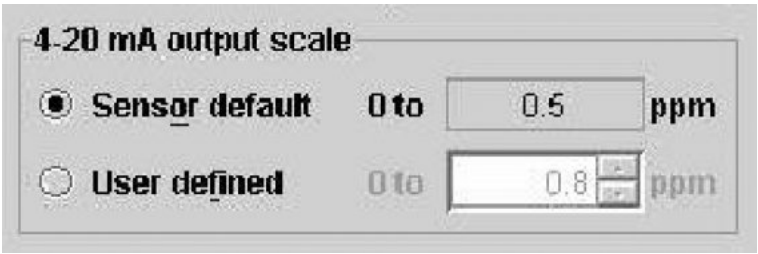
S-940 Pin Connections

The connector pin designations are shown in the diagram below.



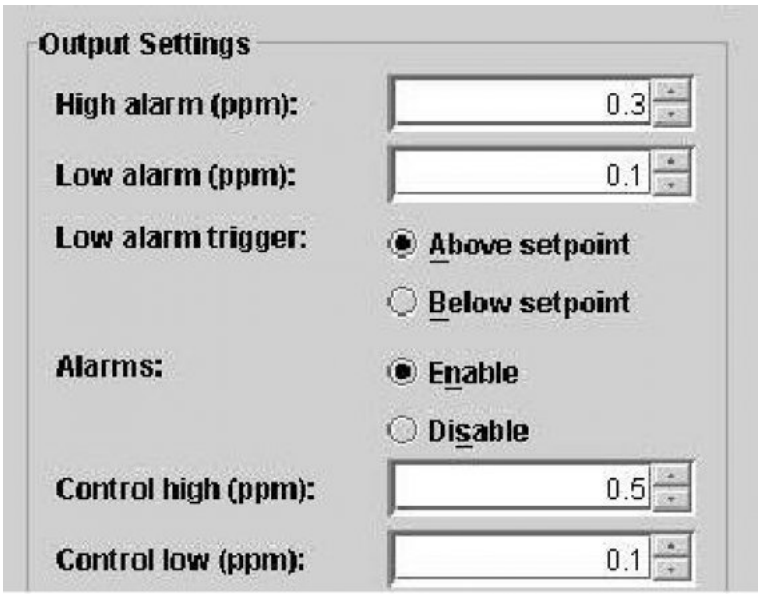
See the many outputs from the S-930.

Measure & Transmit



The Series-930 provides a 4-20mA signal that is linearly proportional to the ozone concentration. The full scale value is dependent on the sensor head range. The S-930 automatically recognizes the sensor head type and sets the default full scale range. The output can also be user set!

S-930 Alarms



The unit can either be used as a control device (to maintain ozone concentration between two setpoints), or as a simple switching device (to switch alarms & units ON or OFF). The S-930 output settings are factory set as follows (see image).

Calibration Certificate - Low Head

aeroQUAL

Aeroqual Limited, Level 20, ASB Bank Building, 135 Albert Street, Auckland, New Zealand.
Phone +64 9 355-3370 Fax +64 9 358-7340
www.aeroqual.com

Calibration Certificate No. 614

DATE: 18-Jun-04
MODEL: OZL
Serial No: OZLC190504-586
QC Approval:

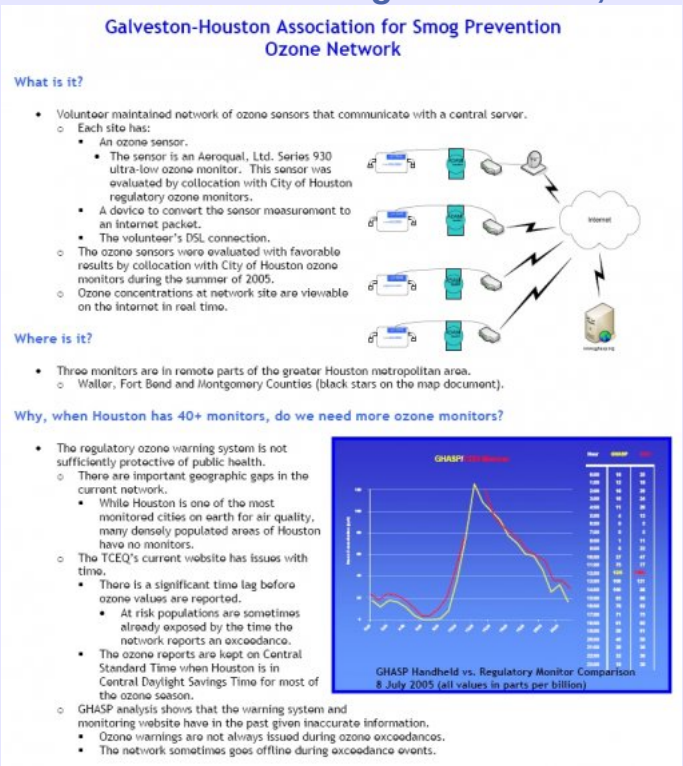
	OZONE CONCENTRATION / ppm			
Calibration Standard	0.000	0.100	0.300	0.500
AQL Sensor mean	0.002	0.090	0.305	0.472

CALIBRATION STANDARD
The Aeroqual ozone monitors are calibrated in a controlled environment, against a dual cell UV photometric analyser utilising an external zero air source. The instrument has a linearity of 1 ppb and a precision of 2 ppb. This calibration unit is maintained and certified by New Zealand's National Institute of Water and Atmospheric Research (www.niwa.cri.nz) . Traceability is maintained with other international standard organisations and governmental bodies.

WARNING
Aeroqual monitors are very sensitive instruments and need to be treated with due care.
The calibration of Aeroqual sensors will be affected by excessive exposure to ozone. In addition, contamination of filters and sensitive parts of the instrument will adversely affect readings - thus keep the instrument as clean as possible and free from avoidable contaminants.
Use strictly in accordance with the product user guide.

Every Aeroqual product comes with its own unique calibration certificate. The customer knows that the accuracy of their sensor has be tested & verified.

Ozone Air Monitoring in Houston, TX



Galveston-Houston Association for Smog Prevention
Ozone Network

What is it?

- Volunteer maintained network of ozone sensors that communicate with a central server.
  - Each site has:
    - An ozone sensor.
      - The sensor is an Aeroqual, Ltd. Series 930 ultra-low ozone monitor. This sensor was evaluated by collocation with City of Houston regulatory ozone monitors.
    - A device to convert the sensor measurement to an internet packet.
    - The volunteer's DSL connection.
  - The ozone sensors were evaluated with favorable results by collocation with City of Houston ozone monitors during the summer of 2005.
  - Ozone concentrations at network site are viewable on the internet in real time.

Where is it?

- Three monitors are in remote parts of the greater Houston metropolitan area.
  - Waller, Fort Bend and Montgomery Counties (black stars on the map document).

Why, when Houston has 40+ monitors, do we need more ozone monitors?

- The regulatory ozone warning system is not sufficiently protective of public health.
  - There are important geographic gaps in the current network.
    - While Houston is one of the most monitored cities on earth for air quality, many densely populated areas of Houston have no monitors.
  - The TCEQ's current website has issues with time.
    - There is a significant time lag before ozone values are reported.
      - At risk populations are sometimes already exposed by the time the network reports an exceedance.
    - The ozone reports are kept on Central Standard Time when Houston is in Central Daylight Savings Time for most of the ozone season.
  - GHASP analysis shows that the warning system and monitoring website have in the past given inaccurate information.
    - Ozone warnings are not always issued during ozone exceedances.
    - The network sometimes goes offline during exceedance events.

GHASP Handheld vs. Regulatory Monitor Comparison
8 July 2005 (all values in parts per billion)

S-930s being used for ambient air quality monitoring in Houston, TX.