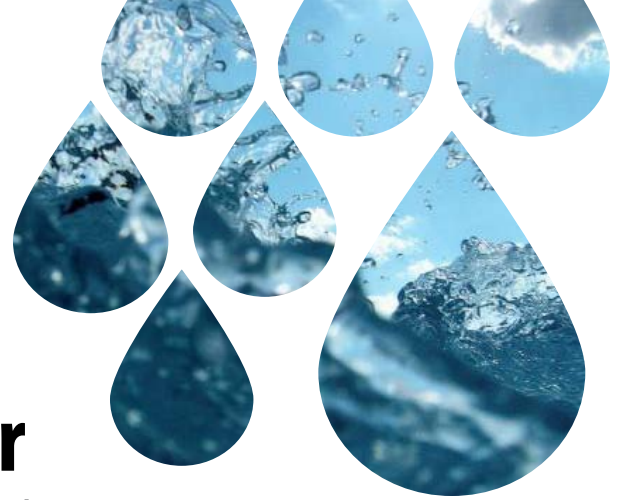


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# Dissolved Ozone Monitor

## Model Q46H/64



### INTRODUCTION.

Water treatment processes using ozone gas have steadily increased over the past 20 years. Ozone has proven to be an extremely effective oxidant, removing organic carbon from raw water and destroying most pathogens. As a result, ozone treatment is now widely used in the semi-conductor, pharmaceutical, and food and beverage industries. In addition, many large cities are now using ozone to improve the quality of the drinking water distributed to their customers.

ATi's Model Q46H/64 Dissolved Ozone Monitor provides an economical and reliable measurement system for monitoring and controlling ozone treatment systems. With a variety of outputs including 4-20 mA analog, PID control, three adjustable relays, and digital communications, the Q46H/64 is adaptable to any ozone application.

*Online Monitoring & Control*  
FOR OZONATION SYSTEMS



## INTERFERENCE-FREE OZONE MEASUREMENT.

Q46H/64 monitors use a polarographic membraned sensor to accurately measure ozone in water. The sensor operates much like a battery, generating current that is linearly proportional to the concentration of ozone in solution. An ozone-permeable membrane isolates the sensor from the measured sample and insures that the measurement is interference free.

Two versions of the sensor are available, a sensor intended for installation in a flowcell and a sensor intended for submersion applications. Requiring minimal maintenance, sensors are easy to use and easy to maintain. An integral RTD provides temperature compensation and allows temperature to be displayed and transmitted from the monitor.



## SENSOR STABILIZATION.

Ozone sensors require 2 to 4 hours of stabilization time when first installed or after membrane change. ATI offers a battery powered "polarizer" that can be used to stabilize a spare sensor so it is ready to run within a few minutes of installation. Polarizers simply plug into the sensor connector and require no adjustments.

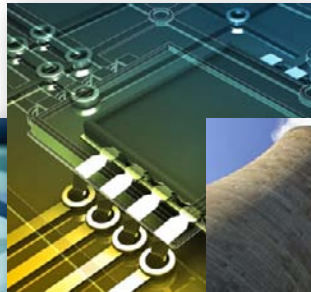


## APPLICATIONS.

Food & Beverage



Semi-Conductor Water Treatment



Potable Water Treatment



Aquarium



Pharmaceutical Manufacturing



Cooling Water



## FEATURES.

**Flexibility.** Programmable range options from 0-200 PPB up to 0-200 PPM provide maximum application flexibility.

**AC or DC Power Options.** Power options include universal 100-240 VAC or 12-24 VDC.

**PID Output.** Standard PID control function assignable to one analog output.

**Digital Communications.** Available in either Profibus DP, Modbus, or Ethernet.

**Analog Output Options.** Two isolated 4-20 mA outputs are standard, with an option for a third output if required. Default setting provides analog outputs for ozone and temperature.

**pH Input Option.** Enables monitor to measure both dissolved ozone and pH. One analog output may be assigned to the pH measurement, allowing remote monitoring and recording of both variables.

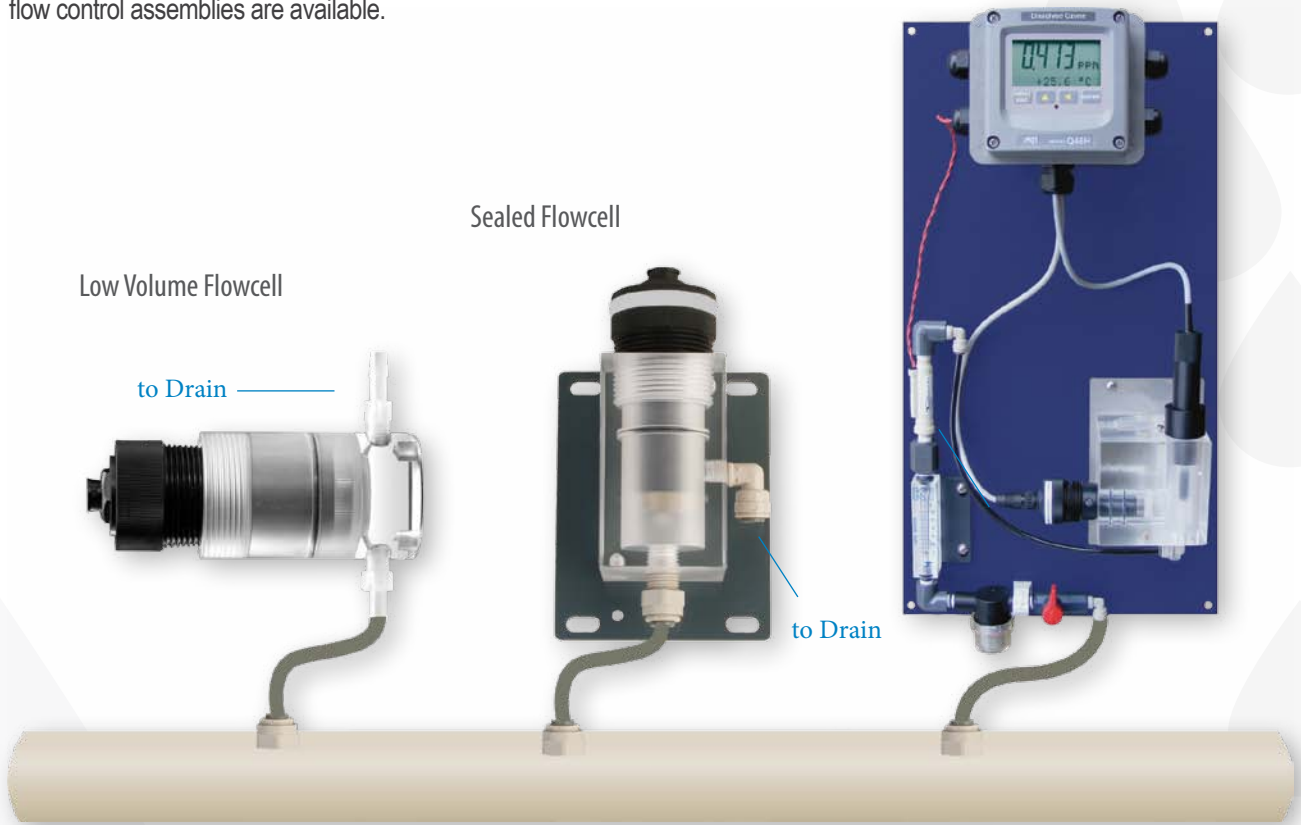
**Flexible Mounting.** NEMA 4X (IP-66) enclosure is suitable for wall, pipe, or panel mounting.

**Large LCD display.** Back-lit large LCD display provides clear visibility in any lighting conditions. A scrolling second line on the display provides additional information and programming prompts.

**Relay Outputs.** Three SPDT relays are standard, with relay functions programmable for alarm, control, or trouble indication. Three additional low power relays available as an option.

## FLOW OPTIONS.

Dissolved ozone sensors require a steady flow of sample across the membrane at the tip of the sensing assembly. ATI offers a number of options for flowcells, including the standard constant-head overflow system, a sealed flowcell for pressures up to 50 PSI, and a low-volume flowcell where low sample flow is important. A 1-1/2" flow tee is also available for in-line applications with reliable constant flow and pressure conditions. For simplicity of installation, complete flow control assemblies are available.



## YOUR SOURCE FOR OZONE MONITORING PRODUCTS.

ATI also offers a loop-powered dissolved ozone monitor for those applications where extra outputs and/or relays are not required. A battery powered portable unit is also available with an internal data logger for temporary monitoring applications. And for safety around your ozone system, ATI manufactures a variety of portable and fixed point gas detectors.



Portable O<sub>3</sub> Gas Detector



PQ45 Portable DO<sub>3</sub> Data Logger



Q45H/64 Loop-Powered Transmitter

# Q46H/64 SPECIFICATIONS

## ELECTRONIC MONITOR

<b>Display Range</b>	0-200.0 PPB, 0-2.000 PPM, 0-20.00 PPM, 0-200.0 PPM
<b>Accuracy</b>	± 0.01 PPM
<b>Repeatability</b>	± 0.01 PPM
<b>Zero Drift</b>	< 0.01 PPM/month
<b>Power</b>	100-240 VAC, 50/60 Hz., 10 VA max. or 12-24 VDC, 500 mA max.
<b>Analog Outputs</b>	Two isolated 4-20 mA, 500 Ω load max. (3 <sup>rd</sup> output optional)
<b>Relay Output</b>	Three SPDT, contacts rated 6 amp @ 250 VAC, 5 amp @ 24 VDC (3 additional low power SPST non-isolated relays optional)
<b>Display</b>	4 digit, 0.75" numeric LCD with 12 digit second line, LED back light
<b>Enclosure</b>	NEMA 4X (IP-66) Polycarbonate, V-0 flammability
<b>Operating Conditions</b>	0-60° C
<b>Weight</b>	6 lbs. (2.7 Kg) with sensor, flowcell & accessories

## SENSOR & FLOWCELL

<b>Sensor</b>	Membrane-covered Polarographic (flow type or submersible)
<b>Wetted Materials</b>	PVC and Titanium
<b>Sensor Cable</b>	25 ft. (7.5 m) standard, 100 ft. (30 m) max. with junction box
<b>Response Time</b>	90% in 60 seconds
<b>Sample Temperature</b>	0-50° C
<b>Sample Pressure</b>	0-50 PSIG (Pressure controlled to fixed value)
<b>Temperature Sensor</b>	Internal Pt100 RTD
<b>Flowcell Materials</b>	Acrylic with barb fittings
<b>Sample Connections</b>	1/4" I.D. hose barb inlet, 1/2" I.D. hose barb drain for standard flowcell

### NOTES:

- 1 - All systems are supplied with one package of membranes, one 120 cc bottle of electrolyte, and one spare parts kit containing 3 each of all o-rings and special screws.
- 2 - Suffix C, 2, 3, or 4 allow Q46H to supply outputs for both ozone & pH.
- 3 - Flowcell for DO<sub>3</sub> / pH Combo system should be kept within 25' for monitor.
- 4 - Buffer packet for pH 4 & 7 supplied with options 2, 3 or 4, suffix C.
- 5 - Pipe mount requires two 2" U-bolts (47-0005)

## ORDERING INFORMATION

Model Q46H/64 - A - B - C - D - E - F Dissolved Ozone Monitor

### Suffix A - Power

- 1 - 100-240 VAC, 50/60 Hz.
- 2 - 12-24 VDC, (requires 500 mA)

### Suffix B - Sensor Style

- 1 - Sensor with constant head flowcell and 25' cable
- 2 - Submersible sensor with 25' cable
- 3 - Sensor with sealed low volume flowcell
- 4 - Sensor with 1-1/2" Flow "T"
- 5 - Sensor with sealed flowcell
- 6 - Flow sensor only, no flowcell (use with extreme caution)

### Suffix C - pH Sensor Input

- 1 - None
- 2 - Q22 pH Sensor with battery preamp, 25' cable
- 3 - Standard pH sensor with 25' cable & adapter for overflow cell
- 4 - Standard pH sensor with 25' cable & sealed flowcell

### Suffix D - Digital Output

- 1 - None
- 2 - Profibus DP
- 3 - Modbus
- 4 - Ethernet

### Suffix E - Optional output (select only one)

- 1 - None
- 2 - One additional 4-20mA output
- 3 - Three additional low power relays (SPST, 0.5A max.)

### Suffix F - System Assembly

- 1 - None
- 2 - Panel with flow controls, without flow switch
- 3 - Panel with flow controls, with flow switch

## ACCESSORIES

<b>07-0100</b>	Universal Junction Box, NEMA 4X
<b>31-0001</b>	5-c sensor interconnect cable, max. 100 ft (O <sub>3</sub> only)
<b>31-0038</b>	7-c sensor interconnect cable, max. 100 ft (O <sub>3</sub> / pH systems)
<b>00-0628</b>	Mounting bracket kit for submersible sensor
<b>00-0570</b>	Ozone sensor polarizer, flow cell style
<b>05-0068</b>	Panel mount bracket kit
<b>47-0005</b>	2" U-bolt, 304SS
<b>55-0057</b>	Fixed flow regulator, 400 cc/min. 1/4" inlet & outlet, viton



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