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# Peracetic Acid Monitor

## Model Q46/85



Peracetic acid (PAA) is an extremely strong oxidizer widely used in the food industry for disinfection of piping systems and processing equipment. It is also used for spray washing of food products, and for disinfection of cooling water systems. As a disinfecting agent, PAA is often preferred because it produces no harmful breakdown products.

As with any disinfection system, maintaining proper residual values is the key to effective pathogen control. To facilitate reliable chemical feed control, ATI has developed an on-line monitor capable of providing real time measurement of low levels of PAA in solution. The Q45-85 Peracetic Acid Monitor uses a direct sensing polarographic probe. The probe is typically used in a flowcell, but a submersible sensor is also available. A permeable diffusion membrane isolates the sensing electrodes from the measured sample, providing long-term stability without electrode fouling problems. The measurement is selective for PAA and is not affected by changes in hydrogen peroxide concentration, which is always present in PAA solutions.

*Disinfection Monitoring  
You Can Rely On!*



## APPLICATIONS



Food & Beverage



Medical Disinfection



Egg Washers



Cooling Water



Wastewater

## SENSOR OPERATION

Peracetic acid sensors are amperometric devices isolated from the water by a permeable membrane. As PAA diffuses through this membrane, it comes in contact with an active electrode and is reduced on the surface. The net effect is that the sensor generates a current proportional to PAA concentration. An integral RTD in the sensor provides for automatic temperature compensation, allowing the sensor to operate accurately over a range of 0-50° C.



PAA Sensor

Peracetic acid sensors are capable of operating over a fairly broad concentration range, from a low range of 0-20 PPM up to a high range of 0-2000 PPM. Systems will operate with good sensitivity down to 0.2 PPM and respond to changes in concentration within about 60 seconds, making them useful for automatic control.

## FEATURES

**Flexibility.** Programmable range options from 0-2 PPM up to 0-200 PPM provide maximum application flexibility.

**AC or DC Power Options.** Power options include universal 90-260 VAC or 12-24 VDC.

**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 PAA and temperature.

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

**Digital Communications.** Available in either Profibus-DP, Modbus-RTU, Modbus-TCP/IP, or Ethernet-IP.

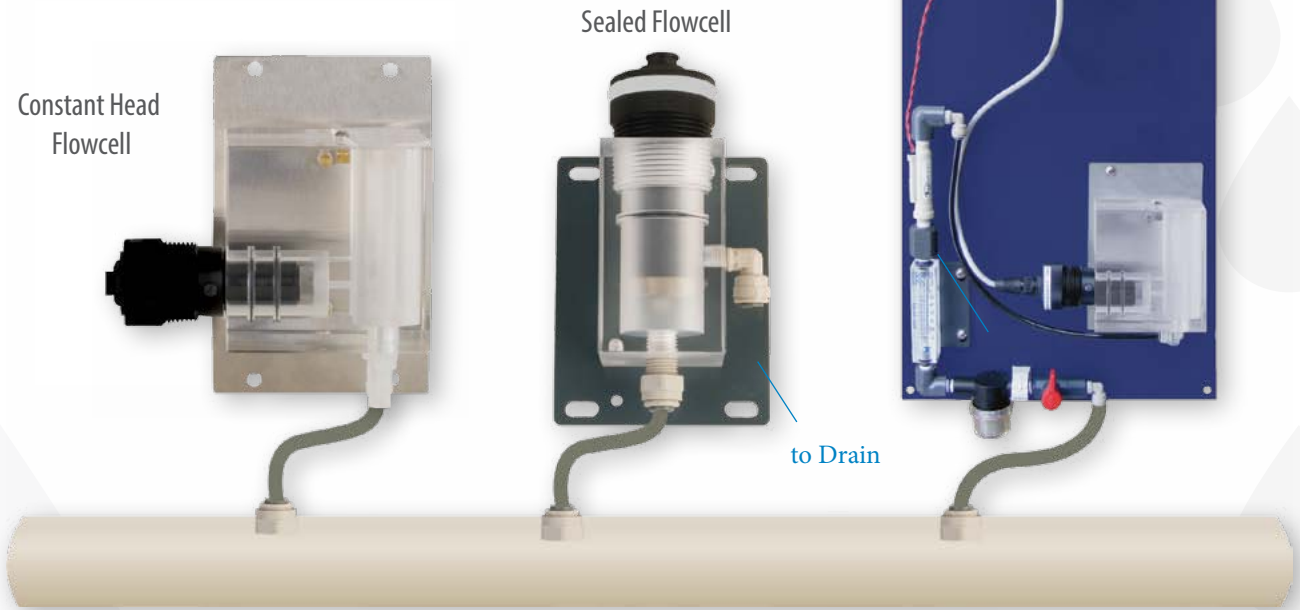
**Relay Outputs.** Three SPDT relays are standard, with relay functions programmable for alarm, control, or trouble indication. Three additional low power relays available as an option.

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

**Clear 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.

## FLOW OPTIONS

Peracetic Acid sensors require a steady flow of sample across the membrane at the tip of the sensing assembly. ATI offers options for flowcells, including the standard constant-head overflow system, and a sealed flowcell for pressures up to 50 PSI. For simplicity of installation, complete flow control assemblies are available. Panel assemblies are available with or without a flow switch and can greatly reduce installation time. For open tank installation, a submersible sensor is available. Sample agitation is required as PAA sensors cannot be used in still water.



## YOUR SOURCE FOR PEROXIDE MONITORING PRODUCTS

ATI also offers a loop-powered dissolved peroxide 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 peroxide system, ATI manufactures a variety of portable and fixed point gas detectors.



Toxic Gas Detector



PQ45 Portable PAA Data Logger



PAA Loop-Powered Transmitter

# Q46/85 SPECIFICATIONS

## ELECTRONIC MONITOR

<b>Display Range</b>	0-20.00, 0-200.0 PPM, 0-2000 ppm
<b>Accuracy</b>	± 0.3 PPM or 2% of full scale
<b>Repeatability</b>	± 0.1 PPM
<b>Non-Linearity</b>	0.1% of selected range
<b>Temperature</b>	0.01% of span/°C
<b>Power</b>	90-260 VAC, 50/60 Hz, 10 VA max.; 12-24 VDC, 500 mA max.
<b>Relays</b>	Two isolated 4-20 mA, 500 Ω load max. (3rd output optional)
<b>Display</b>	4 digit, 0.75" numeric LCD with 12 character second line, LED back light.
<b>Enclosure</b>	NEMA 4X (IP-66) Polycarbonate, V-0 flammability
<b>Operating Temperature</b>	-40 to + 60°C
<b>Weight</b>	6 lbs. (2.7 kg) with sensor, flowcell & accessories
<b>Zero Drift</b>	< 0.01 PPM/month

## SENSOR & FLOWCELL

<b>PAA Sensor</b>	Membraned-Covered Polarographic
<b>Materials</b>	PVC
<b>Response Time</b>	90% in 60 sec
<b>Temperature Limits</b>	0 to 50°C
<b>Pressure Limit</b>	0-50 PSIG
<b>Sensor Cable</b>	25 ft (7.5 m) standard
<b>Sensor Flowcell</b>	Clear Acrylic Constant-Head Overflow standard Sealed Acrylic Flowcell optional
<b>Sample Connections</b>	1/4" I.D. hose barb inlet, 1/2" I.D. hose barb drain for standard flowcell
<b>Temperature Sensor</b>	Internal Pt100 RTD
<b>Sample Flow</b>	5-15 GPH (0.3-1.0 LPM)

## 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 - Pipe mount requires two 2" U-bolts (47-0005)

## ORDERING INFORMATION

Model Q46/85-A-B-C-D-E PAA

### Suffix A - Power

- 1 - 100-240 VAC, +/-10%, 50/60 Hz
- 2 - 12-24 VDC, (requires 500 mA)

### Suffix B - Sensor Style

- 1 - Sensor with constant head flowcell and 25 ft cable
- 2 - Sensor with sealed flowcell
- 3 - Submersible sensor with 25 ft cable

### Suffix C - Digital Output

- 1 - None
- 2 - Profibus-DP
- 3 - Modbus-RTU
- 4 - Ethernet-IP
- 5 - Modbus-TCP/IP

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

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

### Suffix E - System Assembly

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

## ACCESSORIES

- 07-0100** NEMA 4X junction box  
**31-0038** 7-c sensor interconnect cable, max. 100 ft  
**05-0094** Panel mount bracket kit  
**47-0005** 2" U-bolt, 304SS  
**55-0057** Fixed flow regulator, 400 cc/min 1/4" inlet & outlet, viton



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