

# Aquarian 1000Plus

The Aquarian 1000Plus represents the standard in electronic level detection. Based on the widely accepted conductivity probe technology, it was specifically designed to meet industry's growing needs and demand for a reliable, cost effective and versatile means of sensing water levels in a variety of applications.

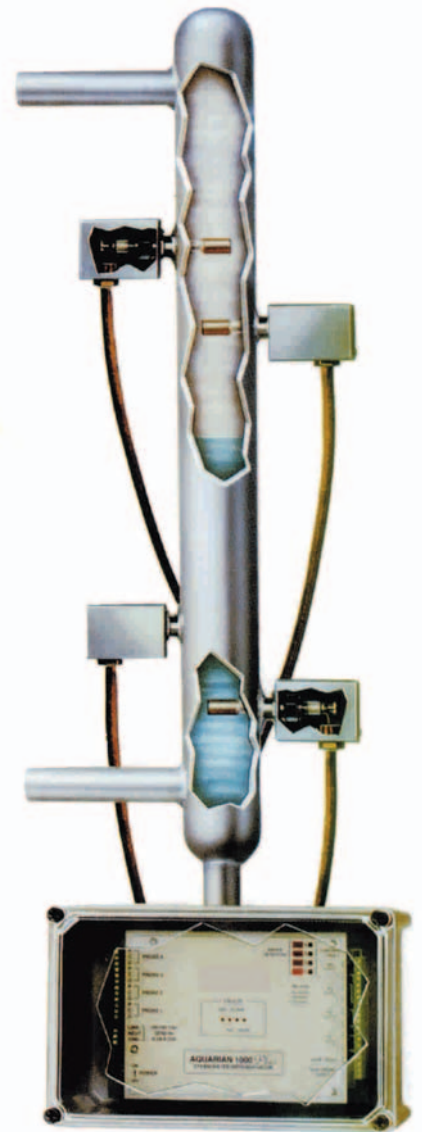
Equipped with one to four probes which can be mounted directly to pressure vessels or factory mounted in a column, the Aquarian 1000Plus measures the difference in resistance between high purity water and steam. The insulated probe and the pressure vessel, in which it is mounted, form a resistivity cell. Coupled with a reference resistor, the cell forms a resistor divider network. By passing a square wave dc voltage through the network, and processing the resulting signal, a distinction between steam and water is made, even in water conductivities as low as 0.5 micromho.

To provide maximum system reliability and diagnostics, redundant power supplies were incorporated to maintain system operation while alarming operators of system service requirements.

In addition to level indication, the Aquarian 1000Plus provides relays for each probe, enabling it to serve as a system trip, alarm or on-off control device. The system is completely field configurable to provide maximum versatility.

## FEATURES AND BENEFITS

- Passive non-moving sensors - no moving parts to fail
- Up to 4 independent electrode channels
- 120/240 VAC operation
- Redundant power supplies
- Probe wiring continuity monitor
- Level Fault Monitor
- 4 level relay outputs – 10 amp rated
- Local fault indication on: Power supply failure, Probe wire/connector failure, Level indication failure, Clock (timing circuit) failure
- Field configurable to handle any service requirement
- System and level fault relays
- Economical alternative to float level switches



Controlling  
the **power**  
of **steam**

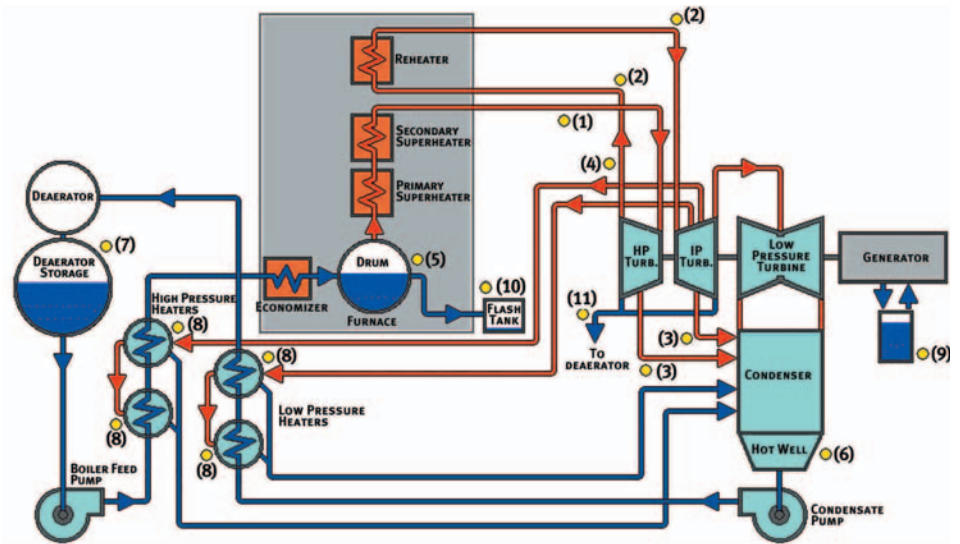
# Aquarian 1000Plus

## SPECIFICATIONS

- Supply Voltage: 120 or 240 VAC
- Supply Frequency: 50-60 Hz
- Supply Current: 1/4" & 1/8" A
- Relay Contact Ratings:
  - 10A @ 120 VAC
  - 10A @ 24 VDC Resistive
  - 1/3 hp @ 120 VAC
- Enclosure: NEMA 4X
- Enclosure Dimensions: 11-3/4" x 7-3/8" x 6-3/4"
- Weight: 13 lbs. (6 kg)
- Ambient Temperature: 32°F to 140°F (0° to 60°C)
- Conductivity Capability: 0.5 micromho and up
- Electronic Unit to Column Distance:
  - 500 ft. (150m) @ >25 micro mho
  - 165 ft. (50m) @ 4 to 25 micro mho
  - 65 ft. (20m) @ ≥0.5 micro mho
- Probe Connectors:
  - Type A - 1/2" male Socket Weld
  - 1-1/2" male Socket Weld

## COLUMNS OPTIONS

- Completely hydro tested assemblies with 1 to 4 probe locations with 1" Socket Weld drum connections.
- Column mounted pre-wired junction box
- Column ratings:
  - up to 3000psi maximum
  - 1200°F maximum
- Column materials:
  - carbon steel
  - stainless steel
  - chrome moly



## APPLICATIONS(BELOW)

1. Mainstream header drain
2. Hot and cold reheat drains
3. Turbine extraction drain
4. Turbine water induction prevention (TWIP)
5. Main boiler high/low alarms and trips
6. Hot well alarms
7. Deaerator storage level alarms
8. HP and LP Feedwater heater- column level alarms and trips
9. Generator coolant liquid level
10. Blow-down flash tank alarm
11. Turbine casing drains

*The manufacturer reserves the right to change the designs and materials of its products without notice.*

## ORDERING

Each Aquarian 1000Plus system Includes: one detection/verification unit, a maximum of four conductivity probes each with one of the following:

- 1/2" Type A male Socket Weld probe connector.
- 1-1/2" male Socket Weld probe connector for welding in 1-1/2" ANSI Class 3000# SW Tee.
- 1 to 4 port water column
- Request Form # 9340-1201

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