

# Diamond Power® Series II — 1 to 4 Probe Electronic Level Indicator

The Diamond Power® Series II – 1 to 4 probe electronic level indicator (ELI) from Babcock & Wilcox (B&W) was specifically designed to meet the 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 are mounted in a column, the 1 to 4 probe measures the difference in resistance between high purity water and steam.

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

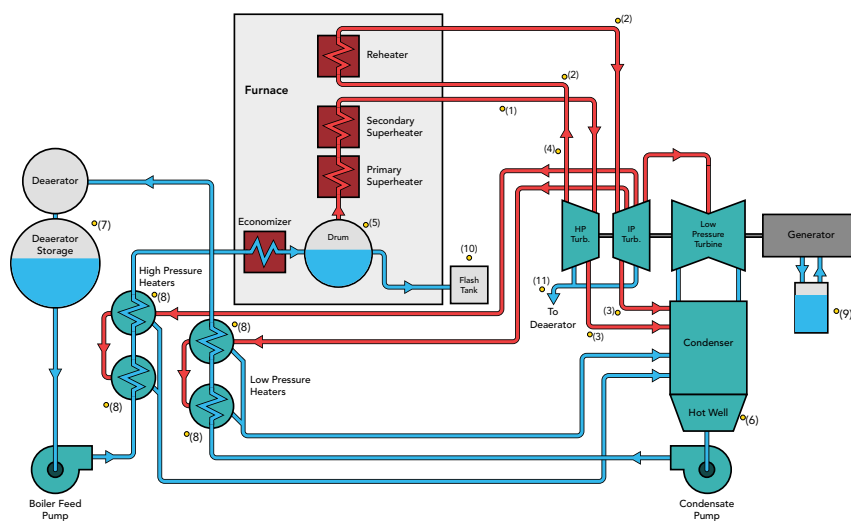
In addition to level indication the 1 to 4 probe provides relays for each probe, enabling it to service as a system trip, alarm or on-off control device. The system is completely field configurable to provide maximum versatility.

## Features

- Up to four (4) independent electrode channels
- 120/240 VAC operation
- Probe wiring continuity monitor
- Level fault monitor
- Four (4) level relay outputs – 10 amp rated
- Redundant power supplies



Diamond Power® Series II 1 to 4 Probe ELI with steam/water differentiator



Applications Schematic

## Applications

1. Main stream 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

(Continued on reverse side)

## Benefits

- Passive non-moving sensors – no moving parts to fail
- 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
- Economical alternative to float level switches

## Column Options

- Completely hydro tested assemblies with 1 to 4 probe locations with 1 in. socket weld drum connections
- Column mounted pre-wired junction box
- Column ratings
  - Up to 3000 psi (21 MPa) maximum
  - 1200 F (650C) maximum
- Column ratings
  - Carbon steel
  - Stainless steel
  - Chrome moly

## Availability and Ordering

Each 1 to 4 probe system includes: one detection/verification unit, a maximum of four conductivity probes each with one of the following:

- 1.5 in. (38 mm) male socket weld probe connector welded in 1.5 in. (38 mm) ANSI Class 3000# SW TEE
- 1 to 4 port water column
- Request Form SP-654 to list the particular equipment design specifications, configurations, and options

## Specifications

Supply Voltage	120 or 240 VAC
Supply Frequency	50 to 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	11.75 in. x 7.375 in. x 6.75 in.
Weight	13 lb (6 kg)
Ambient Temperature	32 to 140F (0 to 60C)
Conductivity Capability	0.5 micro mho and up
Electronic Unit to Column Distance	500 ft (150 m) @ >25 micro mho 164 ft (50 m) @ 4 to 25 micro mho 65 ft (20 m) @ ≥ 0.5 micro mho



Steam/water differentiator

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