MODEL BB4000 QUAD PUMP CONTROLLER



Model BB4000
Quad Pump Controller

MODEL BB4000

OVERVIEW:

With the accuracy of pressure-sensing level transmitters and the simplicity of float inputs, the Blue Ribbon Corporation Model BB4000 is the ideal controller for your application. This quad pump controller is easily configured for either analog sensors or float discrete inputs.

FEATURES:

- Field configured for floats or analog sensor inputs, including 20 VDC loop power
- Optional 4 analog sensor inputs or 18 discrete (float switches)
- Alternates pumps and performs lag pump delays
- Provides high and low alarms with full front panel
- Adjustable parameter values
- Optional VFD speed control output
- Pump up (fill) or pump down (empty) control
- 6 Amp pump relay outputs and alarm outputs
- Visual indication up to 255 feet
- Full front panel setup for all control options and menu items
- 120 VAC input power. Line rate and transient protection
- Isolated and transient protected (4-20 mA) analog level input
- RS-232 serial port
- Modbus Protocol
- RTU or ASCII mode
- First ON - First OFF, or First ON - Last OFF alternation
- Alternator logic skips disabled pumps, remembers lead pump position during outage
- Timed (1 minute) level simulation
- Security code protected parameter setup
- Status of discrete inputs may be viewed from front of controller
- Phoenix-style connectors
- Adjustable lag pumps delay
- High and Low level alarm relays and alarm indication
- Wet well level analog input zero and span adjustments

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Adaptive Industrial Solutions
sales@adaptiveind.com | (877) 818-5009

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Standard Specifications listed below. Consult factory for further options, which may change the overall dimensions.

Input Power	120 VAC (±10%, 13 VA max), metal oxide varistor transient protection
EMI Line Filter	Pie type
Agency Approvals	UL508, CAN/CSA
Ambient Operating Temperature	Without analog outputs: -20 °C to +65 °C (-4 °F to +149 °F) With analog outputs: -20 °C to + 50 °C (-4 °F to +122 °F)
Level Display	3-digit, 7-segment LED, 0-25 foot range (selectable decimal point position)
Indicators	LED
Color	White with Blue silk screening
Relays	6A at 250 VAC. 6A at 30 VDC
Loop Powered Supply	Isolated +24 VDC at 50 mA, regulated
Level Analog Input	Isolated 4-20 mA, 250 Ω load, transient protected
Discrete Inputs	Optically isolated and transient protected. Each input draws 7 mA at 24 VDC
Power for Discrete Inputs	Unregulated 24 VDC. Transient protected.
Power for Analog Inputs	Regulated 20 VDC ±1V. Transient protected.
Analog Outputs	Isolated 4-20 mA. Maximum load resistance: 600 Ω. Each output may be configured as a speed reference for any of the pumps, or set to follow well level input.
Auxiliary Analog Inputs	4 isolated 4-20 mA. 250 Ω load, transient protected.
Variable Frequency	• VFD speed reference: the controller must be ordered with an analog output Drive Control for speed control of each pump that will be on a VFD. • Three setup parameters are provided to establish a linear wet level v/s pump speed curve. • Pump speed clamp logic: will not allow VFD speed reference to drop below the "VFD Minimum Speed" setup parameter value. • Pump start speed boost logic: if enabled, will temporarily ramp pump speed to 100% to give the check valve a chance to open. • Call pump last logic: the controller will call pumps in the Bypass Mode last (external circuitry must be connected to discrete inputs on the controller, to signal when a pump is in the Bypass Mode).

All specifications are for reference purposes only. In the interests of continuous product improvement, all specifications are subject to change without notice. Please contact Blue Ribbon Corporation for assistance with your application.

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