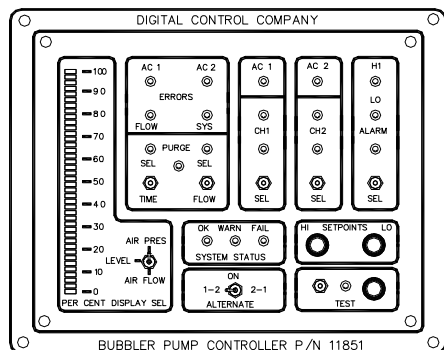




# Bubbler Pump Controller (BPC) Level Transmitter Model Number: 11851 (U.L. Listed)

Manufacturer of High Performance Instrumentation and Control Systems



## Description:

The Bubbler Pump Controller (BPC) model 11851 is a control and display unit which automatically controls a bubbler type level measurement system. It operates by controlling up to two air compressors that supply air on demand into a reservoir tank to maintain a minimum pressure. This pressure forces air at a constant rate into a bubbler tube with its opening placed near the bottom of the liquid. The pressure required to force air through the tube is proportional to the depth of the liquid. The BPC measures this pressure and generates a 4-20 mA signal which represents the depth. The controller also automatically detects an air flow reduction in the bubbler tube and initiates a line purge in addition to a timed purge and a manual purge request input to keep the air line clear from obstructions. The BPC can be ordered with an optional bubbler system that can either be mounted onto a separate flat plate or installed inside a "U-Chassis" along with the BPC controller. The BPC also includes an RS-232 serial communications interface designed to support SCADA systems using a variety of Modbus based communication devices giving the unit remote data acquisition, monitoring, and control capability.

## Applications:

- Wastewater Pump Station Levels
- Water and Wastewater Plant Tank Levels
- Liquid Level for Tank Monitoring
- Storm Water Levels
- Holding Pond Levels
- Groundwater and River Levels
- Landfill Liquids (Leachate) Levels
- Most Liquid Level Monitoring Applications Where Liquid is Vented to Atmosphere

## Features:

- Built-in bubbler level measurement control system with internal pressure transducers that operates up to 2 air compressors.
- Automatic purging to keep bubbler line clear.
- Manual bubbler line purge request input.
- Automatic air tank moisture drain valve control.
- On, Off, High, and Low setpoints adjustable from front panel or remotely via serial port.
- 40 segment bargraph displays level, setpoints, air tank pressure, and air flow rate through the bubbler line.
- External digital level display available.
- Air compressors and alarms status indicators on front panel.
- Front panel test knob for simulated level input testing.
- 4-20 mA signal output proportional to level.
- RS-232 serial port for SCADA communications support.
- Uses non-volatile memory allowing system to retain program software and setpoints during power loss.
- Various specific gravities available to accurately measure most liquids.
- Proven software that allows for easy setup and reliability.
- Custom software available from factory.

## Specifications:

### Input Power:

- Controller - 12 VAC  $\pm 10\%$ , 3 A max.
- Bubbler System - 115VAC  $\pm 10\%$ , 2 A min. (varies with air compressor size)

### Operating Temperature Range:

- $-30^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$  ( $-22^{\circ}\text{F}$  to  $+140^{\circ}\text{F}$ )

### Accuracy:

- $\pm 1\%$  of full scale over temp range

### Display Resolution: 2.5%

### Ranges:

- 0 to 20 ft. standard (other ranges available)

### Relay Outputs:

- Air Pump 1, 2, and High Alarm - SPST Form A - 15 A at 125 VAC
- Low Alarm - SPDT Form C - 10 A at 125 VAC

### Discrete Outputs:

- Air Pump and System Error - Open Drain FET, Non-isolated

### 4-20 mA Current Loop Output:

- Non-isolated transmitter
- Total compliance of 12 VDC

### Transient Protection:

- Metal Oxide Varistor

### Interconnect:

- Pluggable terminal blocks (screw type)
- Relays - quick connect terminals (#250 tab)
- DE-9 Connector for RS-232 Bus

### Communications Protocol:

- Modbus ASCII

### External Dimensions:

- Controller - 6.10"H x 7.70"W x 3.70"D
- Air Tank - 18.60"H x 4.00"W/D
- Bubbler Flat Plate - 10.90"H x 9.25"W x 4.0"D
- "U-Chassis" - 12.85"H x 11.0"W x 5.625"D

### UL File Number:

- E201217



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