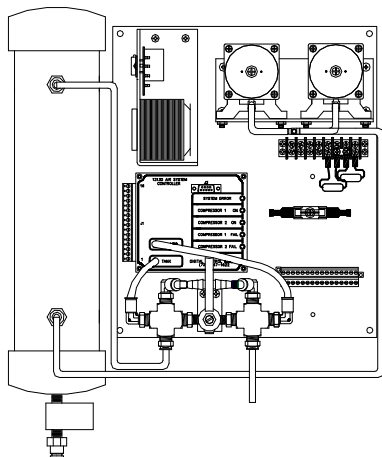




## UPC Bubbler Level Air System Model Number: 12090 (U.L. Listed)

*Manufacturer of High Performance Instrumentation and Control Systems*



### Description:

The Bubbler Level Air System model 12090 is an automatic bubbler type liquid level measurement system designed primarily for Universal Pump Controllers (UPC). It operates by forcing compressed air into a bubbler tube at a constant rate with its opening placed near the bottom of the liquid. The air system measures the pressure required to force air through the tube and generates a 4-20 mA signal which is proportional to the depth of the liquid. The system also detects an air flow reduction through the bubbler tube and initiates a line purge in addition to a timed purge cycle to keep the air line clear from obstructions. The air system is designed to control up to two air compressors which are alternated to minimize their use. If one compressor fails, then the other takes over while keeping the system operational. The air system also includes an RS-232 serial communications interface designed to support SCADA systems using a variety of Modbus based communication devices giving the system remote data acquisition, monitoring, and control capability. It also provides power to the UPC.

### 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:

- Operates up to 2 AC air compressors. DC air compressors are also available.
- Automatic and timed cycle air tube purging.
- Automatic air tank moisture drain valve control.
- Ranges of up to 100 feet available.
- Level can be adjusted in the field within the ordered range.
- 4-20 mA signal output proportional to level.
- Air compressor and system status indicators on front panel.
- System error relay output to detect errors from remote site.
- Pressure gauge - 0 -150 psig (optional).
- High accuracy pressure transducer -  $\pm 0.25\%$  (optional).
- Level digital display (optional).
- System available in an optional enclosure.
- Compact design allows for easy low cost installation.
- RS-232 serial port for SCADA communications support.
- Uses non-volatile memory allowing system to retain program software 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:**

- 115 VAC (with power supply), 2 A min. (varies with air compressor size)

#### **Operating Temperature Range:**

- -30°C to +60°C (-22°F to +140°F)

#### **Accuracy:**

- $\pm 1\%$  of full scale over temp range (higher accuracy available)

#### **Ranges:**

- 0 to 20 ft. standard (up to 100 ft. available)

#### **Relay Outputs:**

- System Failure - SPDT Form C - 10 A at 125 VAC

#### **Discrete Outputs:**

- Purge Freeze - Open Drain FET, Non-isolated

#### **4-20 mA Current Loop Output:**

- Non-isolated transmitter
- Total compliance of 9 VDC

#### **Transient Protection:**

- Metal Oxide Varistor

#### **Interconnect:**

- Pluggable terminal blocks (screw type)
- DE-9 connector for RS-232 Bus

#### **Communications Protocol:**

- Modbus ASCII

#### **External Dimensions:**

- System Flat Plate - 12.90"H x 10.90"W x 4.00"D
- Air Tank - 17.00"H x 4.00"W/D

#### **UL File Number:**

- E201217



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