LIQUITRON™ DM7000 Series Multi-Parameter Controller

The LIQUITRON™ DM7000 series controller can be setup via the following 5 steps. Further details are available in the installation and operations manual and a series of how-to videos. These can be found at http://support.lmipumps.com.

STEP 1: Unpack and Mount Controller

Remove the controller from the packaging and attach the included antenna (A) to the connector on the side as seen in Figure #1.
Remove the black mounting bracket (B) from the back of the controller and mount it using the four enclosed screws (C) or appropriate fasteners.
Place the controller on the mounting bracket and secure using the four enclosed screws (D).

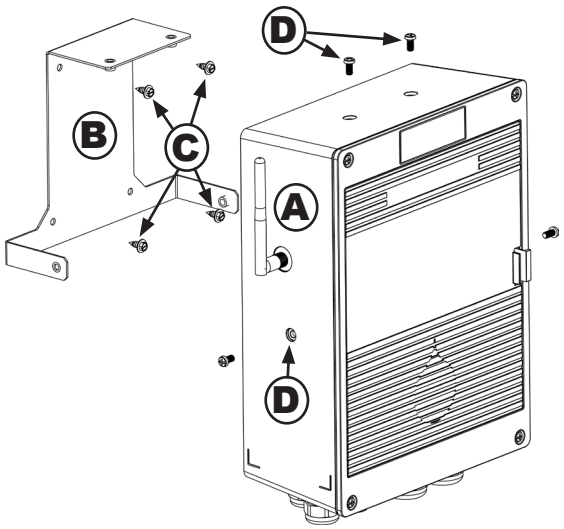

Figure #1
Note: The unit may also be wired (Step 2) prior to mounting.

STEP 2: Wire the Controller

The extent of wiring needed will depend on your application and if your unit comes with a power cord and pigtails. Refer to the wiring diagram below (Fig# 2) which is also available on the inside of the controller door.

WARNING: Be sure to connect all wiring without power applied to the controller. Failure to do so may result in incorrect measurements.

The terminal board has the following sections:

1. **Line Power:** This includes input power, pump relays, blowdown valve, and alarm relay. Wire the line, neutral, and ground wires for each relay being used. For the blowdown relay, ensure you wire to the normally open and/or normally closed terminal depending upon the type of blowdown valve connected.
2. **Sensors:** Use this section to connect various sensors - pH, conductivity, ORP, temperature.
3. **Flow Meters:** Connections are available for makeup and blowdown flow meters. 24 volt DC power is available for flow meter or other device that needs power.
4. **Flow Switch:** For applications that require flow detection, wire the flow switch here after removing the supplied jumper. Otherwise, leave the jumper in place.
5. **Low Tank Sensor:** Four low tank sensor connections are available.
6. **4-20 mA Outputs:** Two outputs are intended for data logging on devices such as chart recorders. Sensors can be configured to these outputs.
7. **Pulse Pacing:** Two outputs may be connected for pulse control of pumps. Pumps must be powered from terminal board section (1).

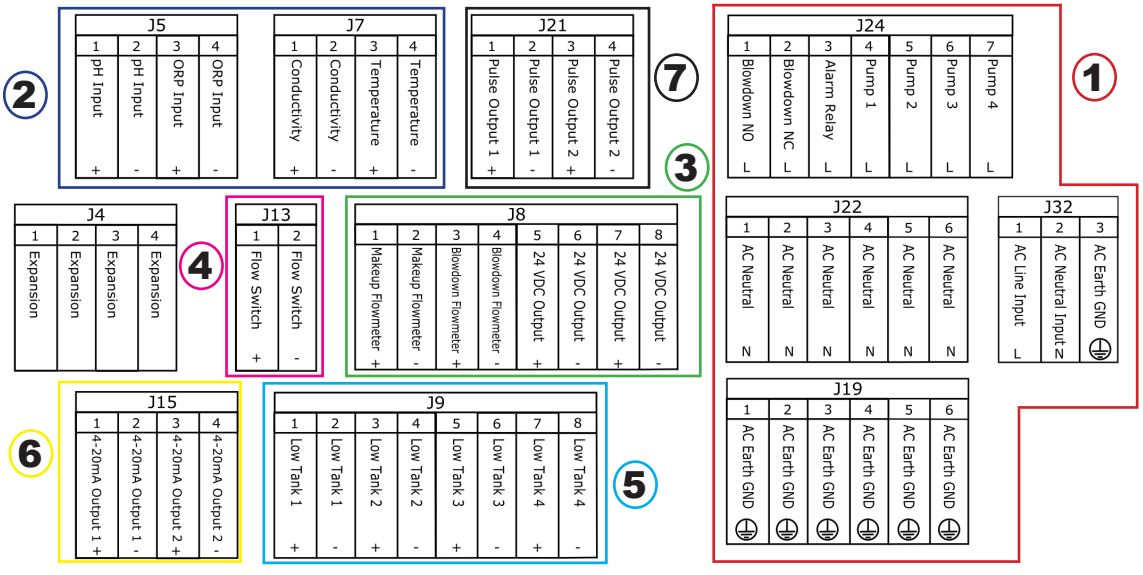

Figure #2

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STEP 2: Wire the Controller (Continued)

All connections are routed through the cable glands in the bottom of the controller. The cable glands are designed per the configuration in Figure #3 below. Actual routing may vary depending on your specific needs. **WARNING:** Power must be removed from the unit while wiring.

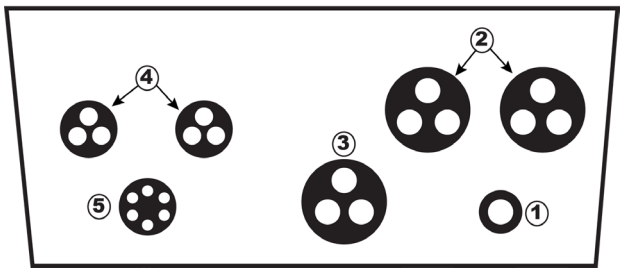


Figure #3

1. Input Power
2. Pump Relays
3. Blowdown Valve and Alarm Outputs
4. Flow Switch, Pulse Pacing, Flow Meters, Conductivity Sensor
5. ORP, pH, Low Tank Sensors

STEP 3: Setup your Controller

Power up the controller and use the touchscreen interface to configure the controller for your application. Details of the setup steps can be found in the installation and operations manual found at support.lmipumps.com. During setup, you can activate your LMI Connect Remote Monitoring Service:

Figure #4

STEP 4: Calibrate Sensors

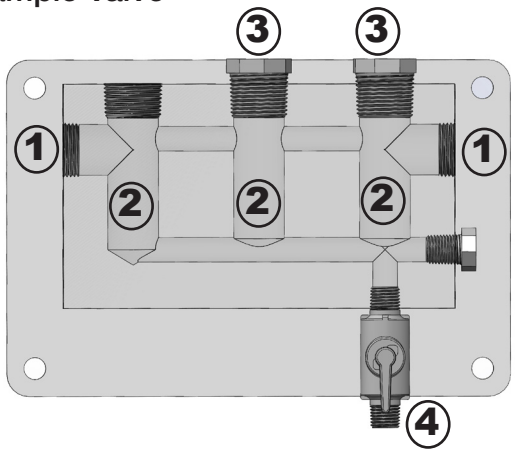
Calibration of sensors can be done per the guided setup process or after setup completion. The controller supports one, two, or three point calibration as appropriate. Ensure that the sensor is rinsed between calibration points and adequate time is given for the sensor to stablize after placing in the buffer solution.

STEP 5: Assemble Flow Cell

The optional flow cell is a convenient way to manage the installation of the various sensors for your system. The system can be mounted in two different configurations as shown below. Sensors thread into the sensor ports. Hand tight plus a half turn using PTFE tape. The optional flow switch can be attached to either the inlet or outlet. Ensure that the arrow on the flow switch aligns with the system flow. Also, if the system flow is vertical as seen in the second configuration in Figure #5 below, ensure that the flow enters from the bottom.

The flow cell consists of:

1. System Inlet/Outlet
2. Sensor Ports
3. Sensor Port Caps
4. Sample Valve



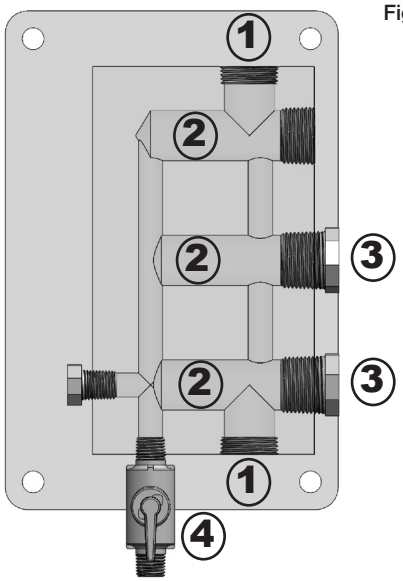


Figure #5

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