

K500 & Paddle Wheel Setup and Use for Em2

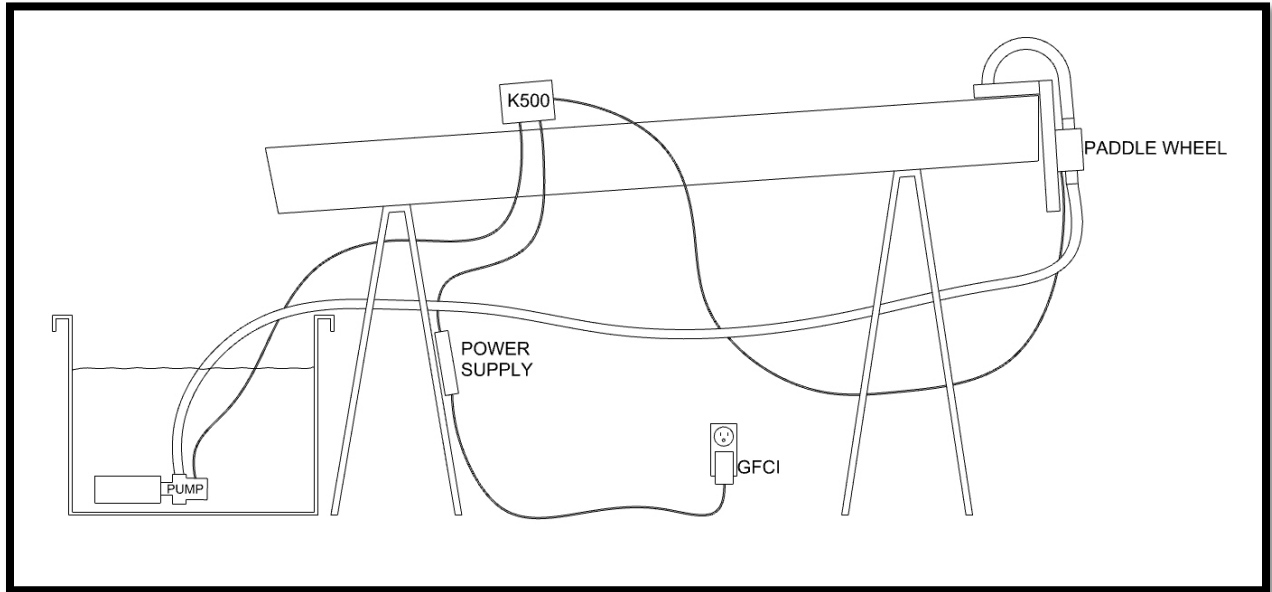


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Introduction

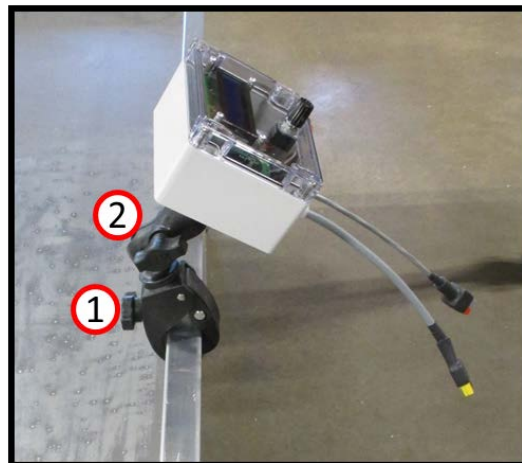
Your Emriver K500 digital flow controller can provide precise measurement of flow rates from 25 ml/sec to 210 ml/sec and automatically run hydrographs. Here are instructions for setup and use on an Emriver Em2.



Simplified diagram of K500 setup with Em2

1. Mount K500 controller on Em2 box

Place the claw mount over the edge of the box and tighten Screw One so that the bracket is secure. An extension has been provided so the controller can be placed anywhere on the box. If you need to remove the K500 from the mounting bracket, just loosen Screw Two until the balls are removable from their sockets. Screw Two can be used to adjust the viewing angle of the K500.



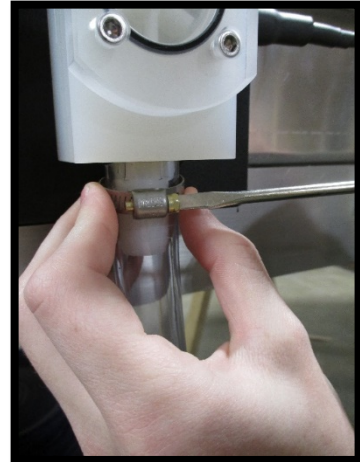
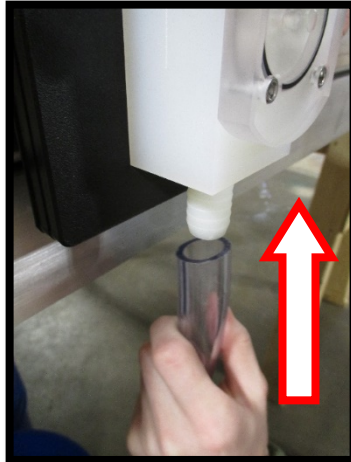
2. Mount the paddle wheel and outlet

Hang the paddle wheel and outlet tubing in the center of the upstream end of the Em2 box.



3. Connect tubing to pump and paddle wheel

If you are replacing another flow controller with the K500 and GRI pump, remove the long flexible PVC tubing from the acrylic outlet and pump, and attach one end to the barb connector on the bottom of the paddle wheel and one end to the GRI pump using the enclosed hose clamps.





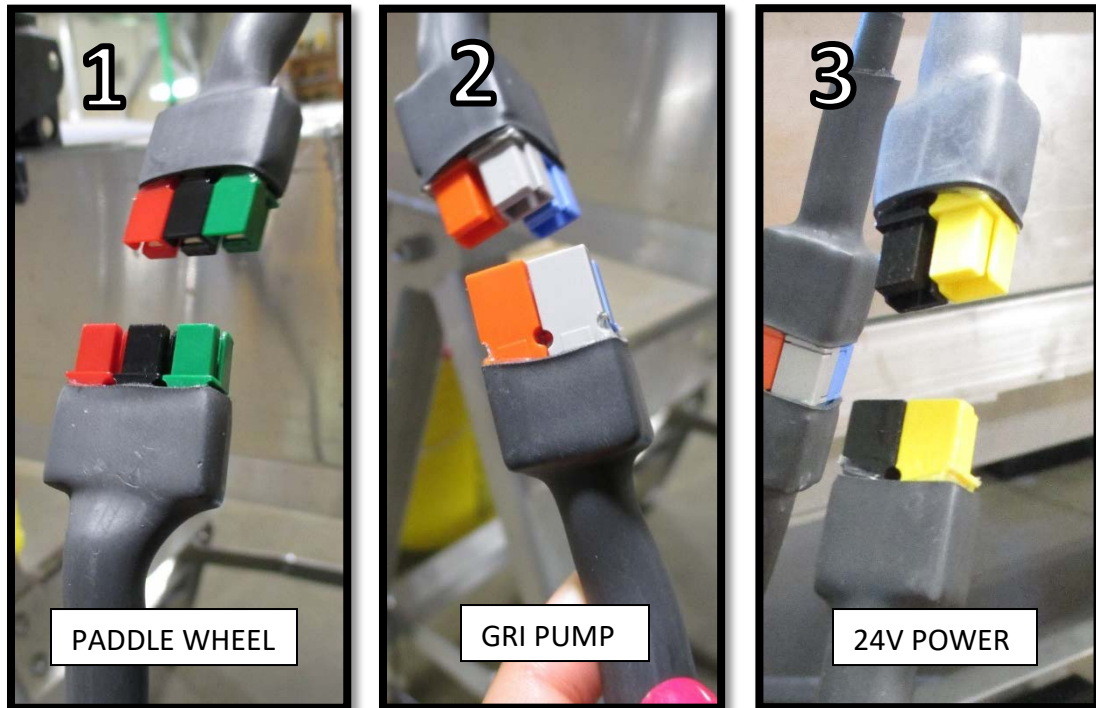
Attach the filter to the pump and be sure to fill the reservoir with water before powering up the K500 controller.

4. Make electrical connections

The K500 controller has three electrical pigtails.

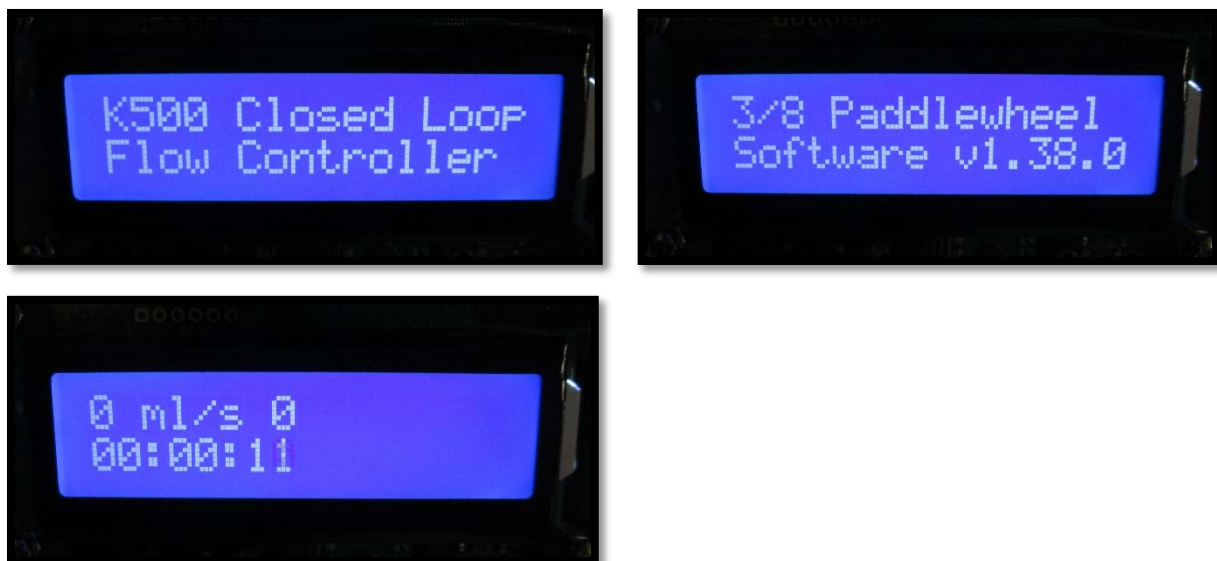


Make the power connection last, and make sure there is water in the reservoir before you start the pump using the controller.



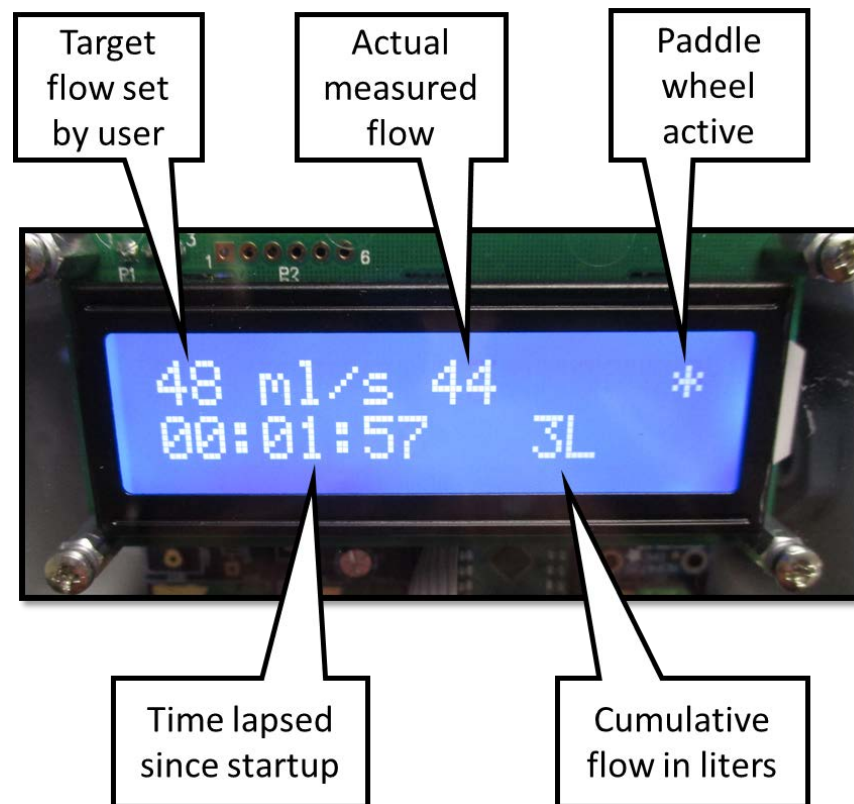
5. K500 Operation

Upon startup, the K500 will briefly display two splash screens and then go to the home display where the timer will immediately start.



Home Screen

The home screen provides the user with five indicators.

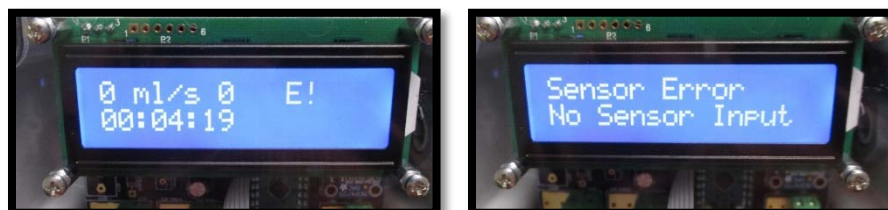


While at the home screen, turn the knob to start flow. The lowest setting is 25 ml/sec. You may need to set a higher flow rate when you are first starting up the system to flush air from the tubing or filter. Agitating the filter with the pump assembly under water can help remove air.

Each 'click' of the knob is a one ml/sec change in the flow. After setting a target flow, it will take a little time for the pump to stabilize the flow around the target. The range of flow is from 25 ml/sec to 210 ml/sec.

Error Statement

If the K500 does not detect input from the paddle wheel, either because the sensor is disconnected or there is no flow from the pump, an error indicator will appear on the home screen.



If you receive an error statement, first check the electrical connection from the paddle wheel to the K500. If the connection is OK, check to see whether there is air in the filter or tubing that is preventing the pump from priming or getting flow to the paddle wheel. Reset the K500 by disconnecting the power supply and reconnecting.

Navigating the Menu Screens

Press the knob once to display the **Menu Selector** screen.



Turn the knob one 'click' to the right to get the **Zero Flow** screen. Here you can **press** the knob once to stop all flow.



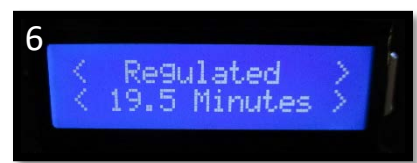
Turn the knob again to get the **Maximize Flow** screen. Here you can **press** the knob once to set the flow to the maximum level, 210 ml/sec.



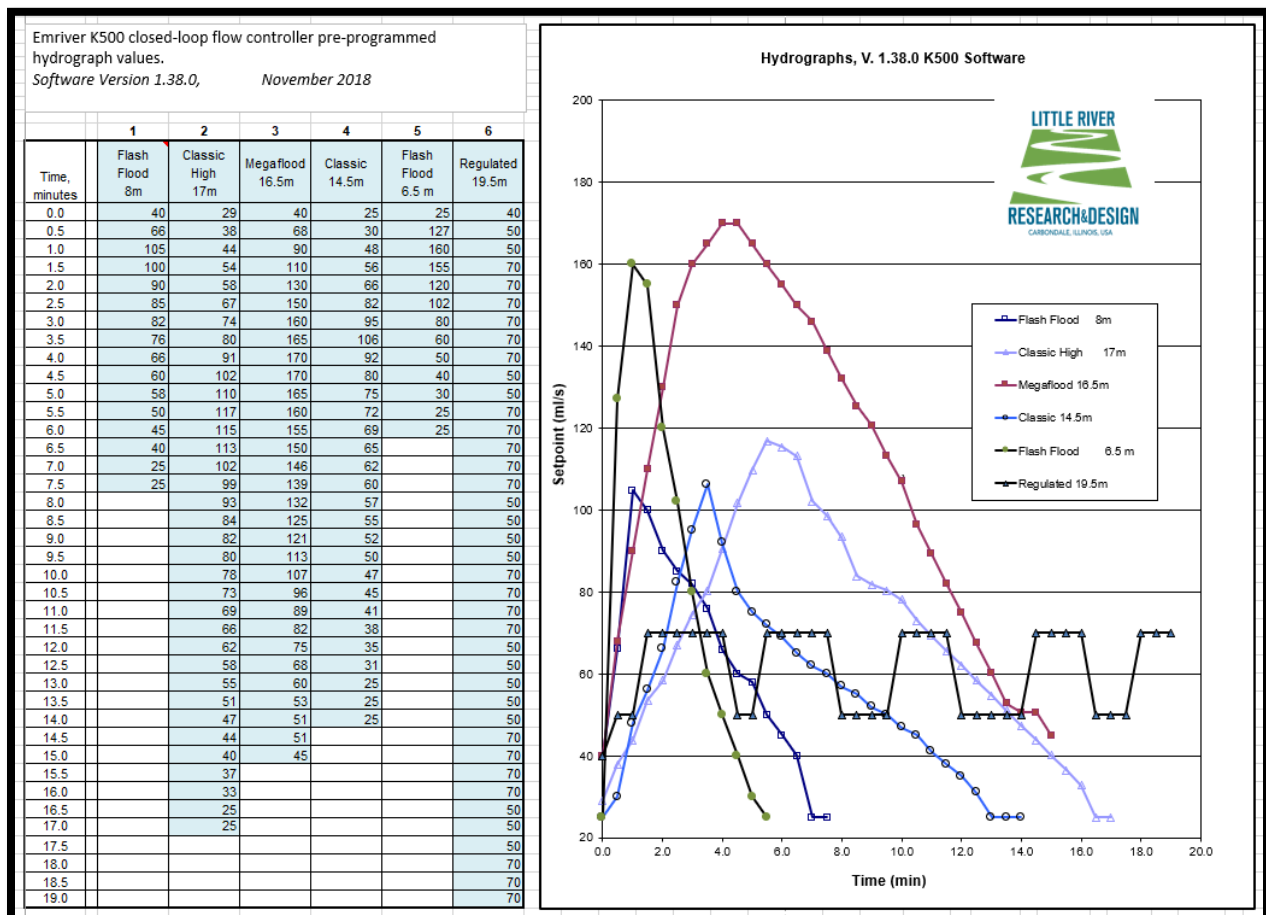
Turn the knob again to get the **Hydrograph Selector** screen.



Here you can **press** the knob once to enter the submenu of Hydrograph options. **Turn** the knob to cycle through the options. **Press** the knob to select and start a hydrograph. The K500 will give an audible beep to indicate when the flow rate changes within a hydrograph. When the hydrograph is complete, flow will return to zero. **Press** the knob during a hydrograph to stop flow.



Press the knob on the **Back** screen to go back to the main **Hydrograph Selector**.



Preprogrammed hydrographs on K500. See image on our website, emriver.com

Turn the knob to view the **Controller Information** screen. Here you can **press** the knob to view information.



Turn the knob to return to the **Main Screen**.

6. Powering Down

To power down when finished, simply unplug the power cord on the K500. The controller should be powered down after each use.

For questions or troubleshooting beyond this manual, please see our website, emriver.com, or call Little River Research & Design at 618-529-7423.