# Application Note:
How to Implement Smart Load Sharing with a Pump Controller

Defining the Problem:

A local Public Utility District has a freshwater collection tank that sometimes fills rapidly and other times slowly. At times the main pump could not keep up and a backup pump must be turned on to keep up with the incoming water. The problem is that with the primary pump running most of the time, it had a higher failure rate and maintenance costs.
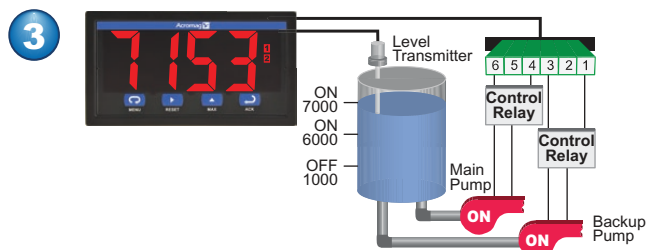
System Requirements:

Find a better way to share the load between the two pumps.
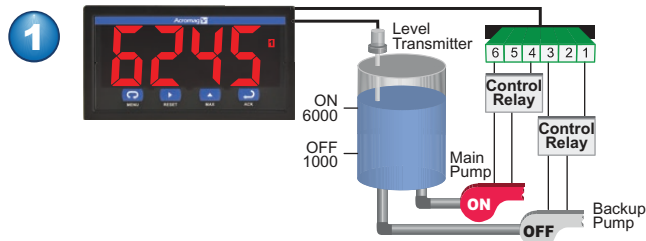
1 Relay #1 turns the main pump on at 6000 gallons and turns it off at 1000 gallons.
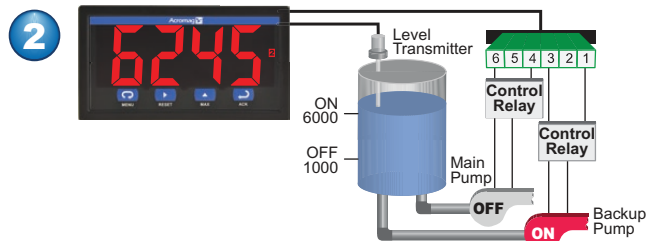
2 With the Pump Alternation feature activated, the next time the level reaches 6000 gallons relay #2 starts the backup pump.

3 If the active pump is not able to keep up, and the level reaches 7000 gallons, the other relay will start the inactive pump as well.
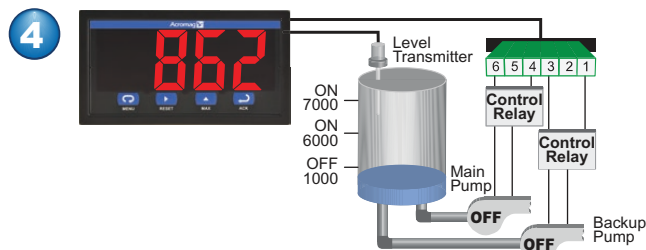
4 When the level falls below 1000 gallons both pumps will turn off.

Implementing the Solution:

The VPM3000 can be used as a low-cost pump controller when paired with a continuous level transmitter. Either by controlling one pump for filling and another for draining or as in this case, two for draining. The VPM3000 has a useful feature of being able to control and alternate between two pumps. In this case the goal is to control the level between 1,000 and 6,000 gallons. The first or main pump turns on when the level reaches 6,000 gallons and pumps down to 1,000 gallons and then shuts off. The next cycle, the second or backup pump turns on at 6,000 gallons and shuts off at 1,000 gallons thereby distributing the pumping load more effectively. If at any time the active pump cannot keep the level below 7,000 gallons, the inactive pump is turned on also.

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Notes:

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Why Acromag:

The unique combination of features available on the VPM3000 allowed the customer a low-cost solution without having to invest in an expensive and complicated controller. The VPM3000 is easily configured through the front panel pushbuttons or the free DisplayWizard software. No need for complicated PLC programming.

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