WALCHEM
IWAKI America Inc.

Automatic Back-Up Pump System using EWN Metering Pumps and a PosiFlow or EFS Sensors

Worried about your pump losing prime? Why not add a 2nd pump to your system to ensure that chemical injection will not be interrupted? Using two Walchem EWN Series pumps and either a PosiFlow sensor or an EFS sensor, it is easy to verify flow and implement a back-up pump system for loss of prime.

Using an EWN-Y pump as the primary pump, mount a PosiFlow directly into the pump's manual air vent valve (MAVV), or EFS under the MAVV, and connect it directly into the PosiFlow/EFS input Connector 3 in the EWN-Y control module (see diagram below). In the User Program Menu, for PosiFlow the FL.CHK option will need to be changed from OFF to the A, B, C or D mode, depending on characteristics desired – see EWN-Y pump manual for more programming detail. The EFS will automatically be recognized when connected and powered up.

The EWN-Y primary pump can be operated in any configuration – multiplying or dividing signals from a digital input (ie. water meter), analog control signal, or simply in manual control (EFS can be used in ANA/Batch/Man modes only). When the EWN-Y pump detects no flow from the PosiFlow or EFS, it will stop the pump and close its OUT 1 alarm relay (to be programmed). This output will break the contact to the STOP input of the back-up pump, causing it to start pump operation. The back-up pump can be programmed to operate in either manual mode or via the same external Analog or Digital signal running the primary pump. Once the primary pump is back operational and the alarm relay is reset, the back-up pump will once again go automatically into standby mode.

The back-up (2nd) pump could be either an EWN-R pump or an EWN-Y pump. An EWN-R pump is shown for this example.

Materials Required:

(1) Primary Pump:	EWN-Y pump
(1) Back-up Pump:	EWN-Y or EWN-R pump
(1) PosiFlow Sensor	(or 2 if back-up pump to have PosiFlow also)
(1) EFS Sensor	An alternative to the PosiFlow (2 required if on both pumps)
(1) E90495 Connector 1	Supplied with each EWN-Y pump (optional for EWN-R pump if control desired)
(1) E90496 Connector 2	1 for STOP input of back-up pump & 1 for each PosiFlow sensor
(1) E90497 Connector 4/OUT1	1 for EWN-Y primary pump (1 for 2nd pump if alarm output is desired)

2-conductor shielded cable

Additional Options: Use the STOP Input on the primary pump from a level sensor to detect an empty tank and have the back-up pump pull from its own source. Program and use OUT 2 as an alarm indicator that the main tank is empty. The back-up pump will take care of dispensing until someone can get to the site to refill the main source tank.

(1) E90496 Connector 2	(1) required for STOP Input to the primary pump.

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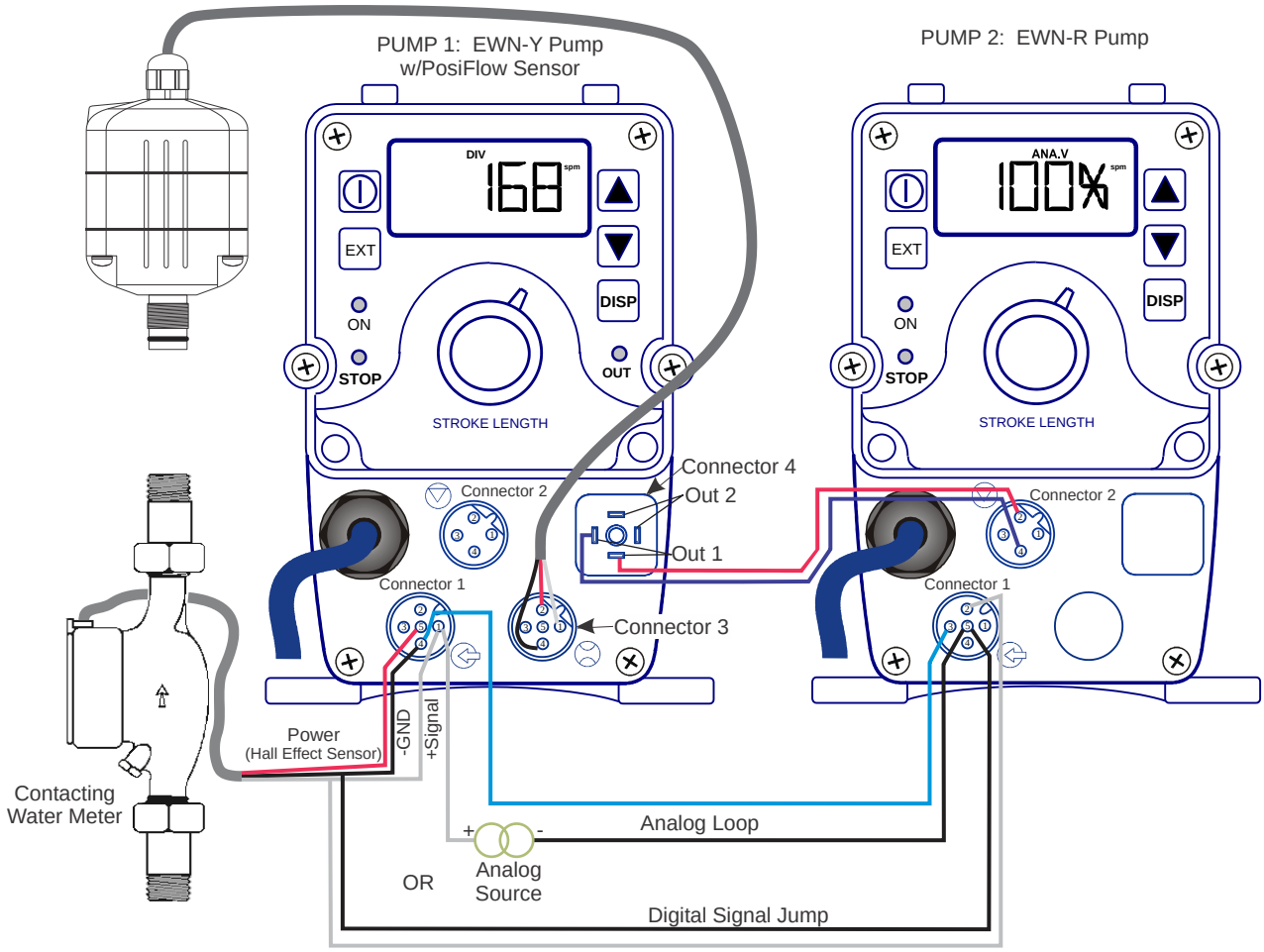

WIRING:
For back-up control, wire the EWN-Y Connector 4, OUTPUT 1 terminals to the EWN-R pump, Connector 2, terminals #2 and #4 (STOP INPUT). Any two-wire cable (18AWG or lower) can be used. In the User Program Menu, the programming of the back-up EWN-R pump will have to be changed so that the NOR.OP default condition of the STOP input is reversed to NOR.CL. (See EWN-R instruction manual p.53/67 for more detail).

For ANALOG control to both pumps, loop the analog signal through the two pumps as shown in the wiring diagram. (Note, wiring of the loop is polarity sensitive: Source+ into Pump1 Ana+ IN PIN1, Pump1 Com PIN4 to pump2 Ana+ IN PIN1, Pump2 Com PIN4 back to source-)

For a DIGITAL signal to control both pumps, the Digital input wired into the EWN-Y Connector 1, PINs 1(+) and 4(-) will need to be jumped over to the back-up EWN-R pump, Connector 1, PINs 2(+) and 5(-), positive to positive and negative to negative as shown. (Note, the power out PIN5, if used, from the EWN-Y does not need to be jumped)

For Manual operation of the 2nd pump, no other wiring needs to be done. Just leave pump operating at the desired manual settings.

Plumb and prime the liquid ends of both pumps, and now the back-up pump set!

Consult your distributor for questions or further wiring and programming details.

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