xylem
Let's Solve Water

Installation, Operation, and Maintenance Manual

IM329_1.0

Alternator Panel

AWAVFD

CentriPro
a xylem brand

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1 Introduction and Safety

1.1 Introduction

Purpose of the manual

The purpose of this manual is to provide the necessary information for working with the unit. Read this manual carefully before starting work.

Read and keep the manual

Save this manual for future reference, and keep it readily available at the location of the unit.

Intended use

WARNING:

Operating, installing, or maintaining the unit in any way that is not covered in this manual could cause death, serious personal injury, or damage to the equipment and the surroundings. This includes any modification to the equipment or use of parts not provided by Xylem. If there is a question regarding the intended use of the equipment, please contact a Xylem representative before proceeding.

Other manuals

See also the safety requirements and information in the original manufacturer's manuals for any other equipment furnished separately for use in this system.

1.2 Safety terminology and symbols

About safety messages

It is extremely important that you read, understand, and follow the safety messages and regulations carefully before handling the product. They are published to help prevent these hazards:

- Personal accidents and health problems
- Damage to the product and its surroundings
- Product malfunction

Hazard levels

Hazard level	Indication
 **DANGER:**	A hazardous situation which, if not avoided, will result in death or serious injury
 **WARNING:**	A hazardous situation which, if not avoided, could result in death or serious injury
 **CAUTION:**	A hazardous situation which, if not avoided, could result in minor or moderate injury
NOTICE:	Notices are used when there is a risk of equipment damage or decreased performance, but not personal injury.

Special symbols

Some hazard categories have specific symbols, as shown in the following table.

Electrical hazard	Magnetic fields hazard
 Electrical Hazard:	 CAUTION:

1.3 User safety

All regulations, codes, and health and safety directives must be observed.

The site

- Observe lockout/tagout procedures before starting work on the product, such as transportation, installation, maintenance, or service.
- Pay attention to the risks presented by gas and vapors in the work area.
- Always be aware of the area surrounding the equipment, and any hazards posed by the site or nearby equipment.

Qualified personnel

This product must be installed, operated, and maintained by qualified personnel only.

Protective equipment and safety devices

- Use personal protective equipment as needed. Examples of personal protective equipment include, but are not limited to, hard hats, safety goggles, protective gloves and shoes, and breathing equipment.
- Make sure that all safety features on the product are functioning and in use at all times when the unit is being operated.

1.4 Protecting the environment

Emissions and waste disposal

Observe the local regulations and codes regarding:

- Reporting of emissions to the appropriate authorities
- Sorting, recycling and disposal of solid or liquid waste
- Clean-up of spills

Exceptional sites

CAUTION: Radiation Hazard

Do NOT send the product to Xylem if it has been exposed to nuclear radiation, unless Xylem has been informed and appropriate actions have been agreed upon.

1.5 Spare parts

CAUTION:

Only use the manufacturer’s original spare parts to replace any worn or faulty components. The use of unsuitable spare parts may cause malfunctions, damage, and injuries as well as void the warranty.

2 Transportation and Storage

2.1 Examine the delivery

2.1.1 Examine the package

1. Examine the package for damaged or missing items upon delivery.
2. Record any damaged or missing items on the receipt and freight bill.
3. If anything is out of order, then file a claim with the shipping company.

   If the product has been picked up at a distributor, make a claim directly to the distributor.

2.1.2 Examine the unit

1. Remove packing materials from the product.

   Dispose of all packing materials in accordance with local regulations.
2. To determine whether any parts have been damaged or are missing, examine the product.
3. If applicable, unfasten the product by removing any screws, bolts, or straps.

   Use care around nails and straps.
4. If there is any issue, then contact a sales representative.

2.2 Storage guidelines

Storage location

The product must be stored in a covered and dry location free from heat, dirt, and vibrations.

NOTICE:

Protect the product against humidity, heat sources, and mechanical damage.

NOTICE:

Do not place heavy weights on the packed product.

3 Product Description

3.1 Overview

The alternator is a duplex control box.

The alternator can be configured for alternation based on either Run Time or Elapsed Time depending on how the RUN INPUT terminals are wired and how the controller relay output is configured.

Intended use

- Operate two VFD systems
- Control a Lead/Lag alternate or Duty/Standby system

3.2 Requirements of cable

Input power:

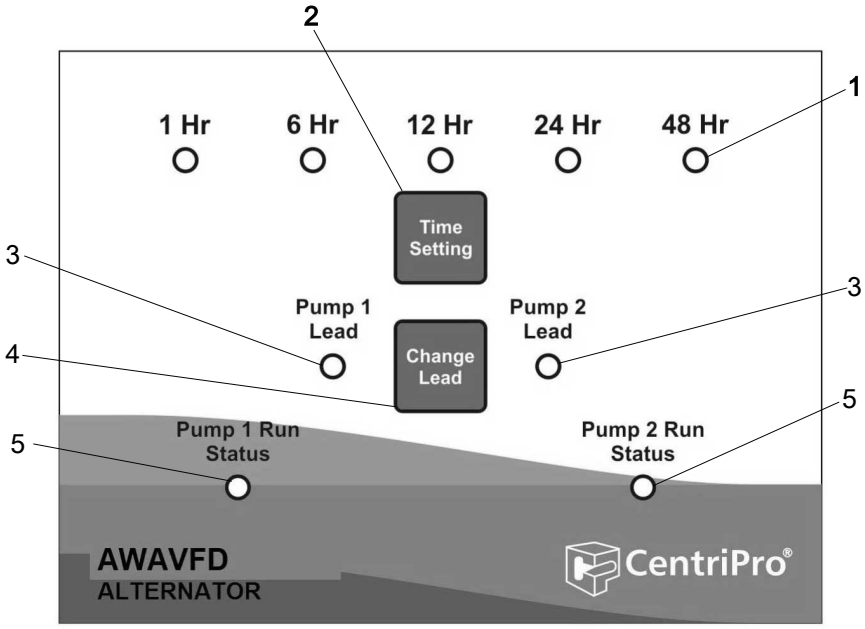
- 120/240 VAC single phase 50/60Hz
- 3 conductor cable (L1, L2(N), GND)
- 18AWG to 12AWG
- Maximum cable diameter: 0.450 in.
- Minimum cable diameter: 0.170 in. (for environmental rating)
- Input wiring installation must comply with national and local electrical codes.

Control:

- Quantity of two, 4 conductor cables
- 22AWG to 18AWG
- Maximum cable diameter: 0.450 in
- Minimum cable diameter: 0.170 in. (for environmental rating)

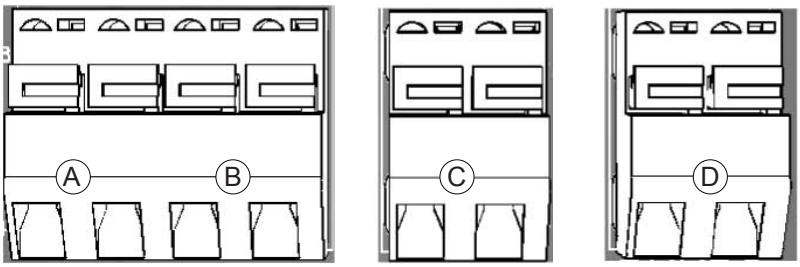
4 User Interface

4.1 User interface



Position	Name	Description
1	1 Hr to 48 Hr LEDs	Shows the currently selected alternation time The time is in hours.
2	**Time Setting** button	Allows the user to set or change the alternation time
3	Pump 1 Lead and Pump 2 Lead LEDs	Shows the current lead controller or the current duty controller in **DUTY/STANDBY** mode The LED flashes when either drive is running. For more information, see *Operating modes* on page 15.
4	**Change Lead** button	Allows the user to manually change the lead drive or the current enabled drive in **DUTY/STANDBY** mode For more information, see *Operating modes* on page 15.
5	Pump 1 Run Status and Pump 2 Run Status	LED is illuminated when the corresponding pump is running when wired for **RUN TIME**. Both LEDs are illuminated when wired for **REAL TIME**. In **DUTY/STANDBY** mode, LEDs will be illuminated when the corresponding controller does not have a fault present. For more information, see *Operating modes* on page 15.

4.2 Input and output



Pump 1 Pump 2 SP1/SP2 Output

Pump 1 Run Input

Pump 2 Run Input

Position	Name	Description
A	PUMP1 SP1/SP2 OUTPUT	• Uses the relay output to select the Setpoint 1 or Setpoint 2 on Pump/Controller 1 • When the Pump/Controller 1 is the lead, Setpoint 2 is enabled. • When the Pump/Controller 1 is the lag, Setpoint 1 is enabled. See *Change the Lead/Lag Setpoint* on page 16 to change this setting. • This output is always in the opposite state as **PUMP2 SP1/SP2 OUTPUT**. • Wire this output to the SP1/SP2 Select Input on Controller 1 for Lead/Lag Alternation. • Wire this output to the RUN/STOP Input on Controller 1 for Duty/Standby Mode.
B	PUMP2 SP1/SP2 OUTPUT	• Uses the relay output to select the Setpoint 1 or Setpoint 2 on Pump/Controller 2 • When the Pump/Controller 2 is the lead, Setpoint 2 is enabled. • When the Pump/Controller 2 is the lag, Setpoint 1 is enabled. See *Change the Lead/Lag Setpoint* on page 16 to change this setting. • This output is always in the opposite state as **PUMP1 SP1/SP2 OUTPUT**. • Wire this output to the SP1/SP2 Select Input on Controller 2 for Lead/Lag Alternation. • Wire this output to the RUN/STOP Input on Controller 2 for Duty/Standby Mode.
C	PUMP1 RUN INPUT	• Input to monitor the run status of Pump/Controller 1. • The Alternator detects that Pump/Controller is running when the RUN INPUT terminals are closed/shorted. • When the Alternator detects Pump/Controller 1 is running and Pump/Controller 1 is the lead, the Alternator will begin counting down the Alternation Time. • Connecting a jumper wire across the input will cause the Alternator to count in ELAPSED TIME Mode.
D	PUMP2 RUN INPUT	• Input to monitor the run status of Pump/Controller 2. • The Alternator detects that Pump/Controller is running when the RUN INPUT terminals are closed/shorted. • When the Alternator detects Pump/Controller 2 is running and Pump/Controller 2 is the lead, the Alternator will begin counting down the Alternation Time. • Connecting a jumper wire across the input will cause the Alternator to count in ELAPSED TIME Mode.

5 Installation

5.1 Precautions

Before starting work, make sure that the safety instructions in the chapter *Introduction and Safety* on page 3 have been read and understood.

WARNING:

Use suitable equipment and protection.

WARNING:

Always refer to the local and/or national regulations, legislation, and codes in force regarding the selection of the installation site, plumbing, and power connections.

Disconnect all mains power and wait for voltage to discharge before opening and wiring any device.

Observe accident prevention regulations in force.

5.2 Install the Alternator

The Alternator must be installed in indoors or outdoors with an ambient temperature between -4°F and 122°F (-20°C and 50°C).

1. Install the screw and wall anchor from the mounting kit into the wall structure.
2. Hang the Alternator on the screw.
3. Tighten the screw.

5.3 Wiring the Alternator power

Connect the 120 Vac or 240 Vac 50/60Hz single phase to L1, L2 (N), and GND 18 AWG to 12 AWG.

5.4 Wiring and setup for Aquavar SOLO2 controllers

Always observe applicable safety instructions from this manual and from the pump controller used in the system (Aquavar SOLO2 Instruction Manual (IM260)).

For more information, see the Aquavar SOLO2 Instruction Manual (IM260).

The Alternator factory default settings are configured so that the lead pump/controller has Setpoint 2 enabled.

The SOLO2 controller factory default settings are configured so that Setpoint 2 is the higher pressure setting.

For more information about how to configure the Alternator so that the lead pump/controller has Setpoint 1 enabled on the controllers, see *Change the Lead/Lag Setpoint* on page 16.

5.4.1 Initial setup for the SOLO2

1. Open a free ½ inch NPT knockout.
2. Install the cable gland.
3. Tighten the cable gland and lock nut.

   The torque must be 40 lbf.in (4.5 Nm).
4. Check that the seal is water tight.
5. Insert the signal cable from the Alternator through the cable gland.

For more information about wiring, see *Wiring Alternator to SOLO2 controllers* on page 10.

6. Tighten the cable gland nut to seal the cable entry.

   The torque must be 50 lbf.in (5.7 Nm).

5.4.2 Wiring Alternator to SOLO2 controllers

Wiring for Lead/Lag Alternation

1. Connect the two wires from the **PUMP1 SP1/SP2 OUTPUT** terminals on the Alternator to the **Setpoint Select Input** (SP1/SP2 Input) of the controller 1.

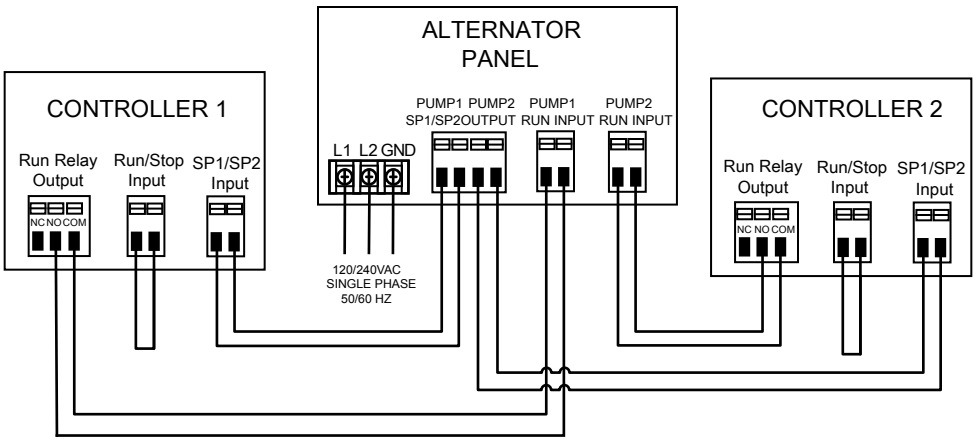


Figure 1: Lead/Lag run time wiring for Aquavar SOLO2

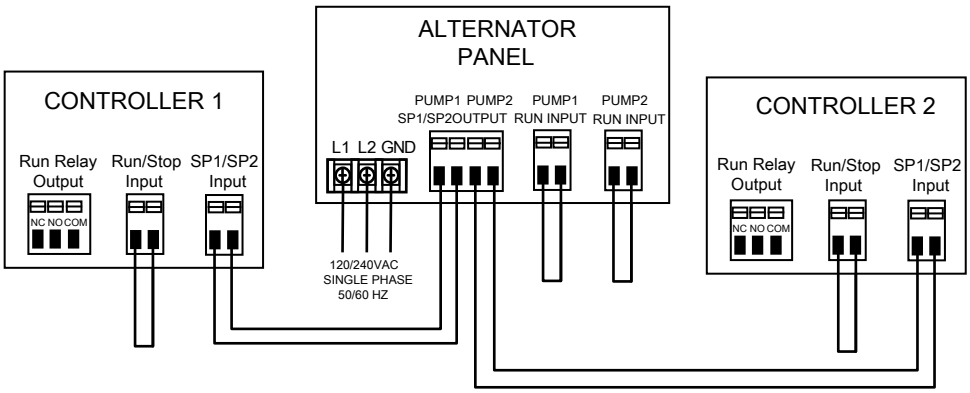


Figure 2: Lead/Lag elapsed time wiring for Aquavar SOLO2

2. Connect the two wires from the **PUMP2 SP1/SP2 OUTPUT** terminals on the Alternator to the **Setpoint Select Input** (SP1/SP2 Input) of the controller 2.
3. Connect the two wires from the **PUMP1 RUN INPUT** on the Alternator to the **NO and COM RELAY OUTPUT** terminals of the controller 1.
4. For the **ELAPSED TIME**, connect a jumper across the **PUMP1 RUN INPUT** terminals.
5. Connect the two wires from the **PUMP2 RUN INPUT** on the Alternator to the **NO and COM RELAY OUTPUT** terminals of the controller 2.
6. For the **ELAPSED TIME**, connect a jumper across the **PUMP2 RUN INPUT** terminals.

Wiring for Duty/Standby Alternation

1. Connect the two wires from the **PUMP1 SP1/SP2 OUTPUT** terminals on the Alternator to the **Run/Stop Input** of the controller 1.

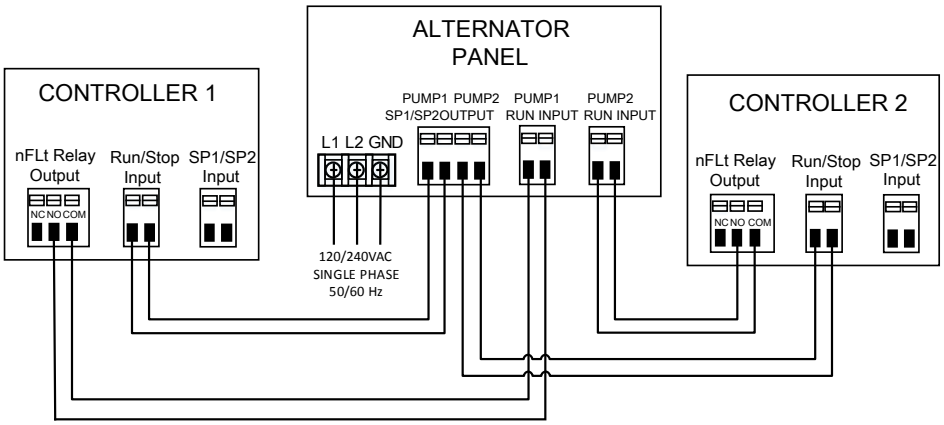


Figure 3: Duty/Standby wiring for Aquavar SOLO2

2. Connect the two wires from the **PUMP2 SP1/SP2 OUTPUT** terminals on the Alternator to the **Run/Stop Input** of the controller 2.
3. Connect the two wires from the **PUMP1 RUN INPUT** on the Alternator to the **NO and COM RELAY OUTPUT** terminals of the controller 1.
4. Connect the two wires from the **PUMP2 RUN INPUT** on the Alternator to the **NO and COM RELAY OUTPUT** terminals of the controller 2.

5.4.3 Setup for SOLO2 programming

Setup for Lead/Lag Alternation

1. Apply power to the controllers and the Alternator, removing the run jumper from the controllers to assure controllers will not run until setup is complete.
2. Set the Controller 1 to the lead by pressing CHANGE LEAD (Pump 1 Lead LED indicator will turn on).

   This enables Setpoint 2.
3. Adjust the Setpoint 2 to the desired pressure setting.

   This will be the lead pump pressure.
4. Check that the Setpoint 2 pressure setting is at least 10 psi higher than the Setpoint 1 pressure setting.
5. Set the Controller 1 to the lag by pressing CHANGE LEAD again (Pump 1 Lead LED indicator will turn off).

   This enables Setpoint 1.
6. Adjust the Setpoint 1 to the desired pressure setting.

   This will be the lag pump pressure.
7. Check that the Setpoint 1 pressure setting is at least 10 psi lower than the Setpoint 2 pressure setting.
8. Configure the Controller 2 to have the same Setpoint 2 and Setpoint 1 values configured on Controller 1.

Setup for Duty/Standby Alternation

1. Apply power to the controllers and the Alternator, removing the run jumper from the controllers to assure controllers will not run until setup is complete.
2. Set the Relay Configuration setting on both controllers to “nFlt” (relay is on when there is no fault). To access the Relay Configuration setting on the SOLO2 controllers, hold the **MODE** button for 5 seconds then press **DOWN** until “rCon” is displayed. Press **MODE** to enter the setting.
   - No additional changes are required for Duty/Standby Alternation

5.5 Wiring and setup for Aquavar SPD controllers

Always observe applicable safety instructions from this manual and from the pump controller used in the system (Aquavar SPD instruction manual (IM213)).

For more information, see the Aquavar SPD instruction manual (IM213).

The Alternator factory default settings are configured so that the lead pump/controller has Setpoint 2 enabled.

The controller factory default settings are configured so that Setpoint 2 is the higher pressure setting.

For more information about how to configure the Alternator so that the lead pump/controller has Setpoint 1 enabled on the controllers, see *Change the Lead/Lag Setpoint* on page 16.

5.5.1 Initial setup of SPD controller

1. Open a free ½ inch NPT knockout.
2. Install the cable gland.
3. Tighten the cable gland and lock nut.

   The torque must be 40 lbf.in (4.5 Nm).
4. Check that the seal is water tight.
5. Insert the cable from the Alternator through the cable gland.

   For more information about wiring, see *Wiring the Alternator to the SPD controllers* on page 12.
6. Tighten the cable gland nut to seal the cable entry.

   The torque must be 50 lbf.in (5.7 Nm).

5.5.2 Wiring the Alternator to the SPD controllers

Wiring for the Lead/Lag Alternation

1. Connect the two wires from the **PUMP1 SP1/SP2 OUTPUT** terminals to position 5 (**COM**) and position 11 (**SP2/SP1**) of controller 1's control terminals.

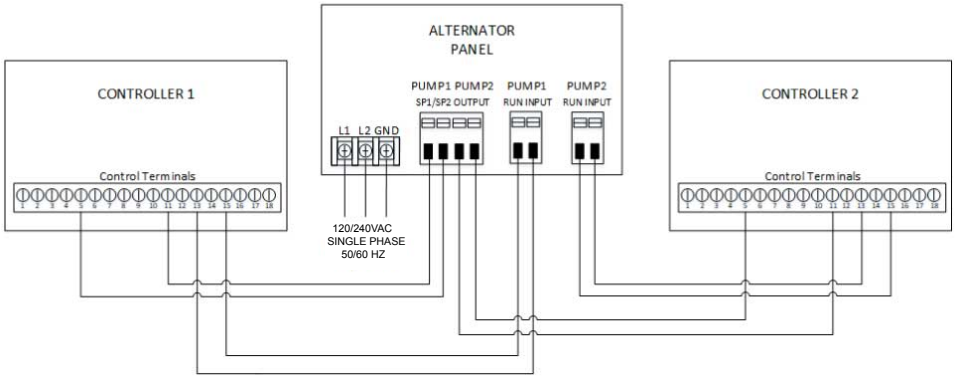


Figure 4: Lead/Lag run time wiring for Aquavar SPD

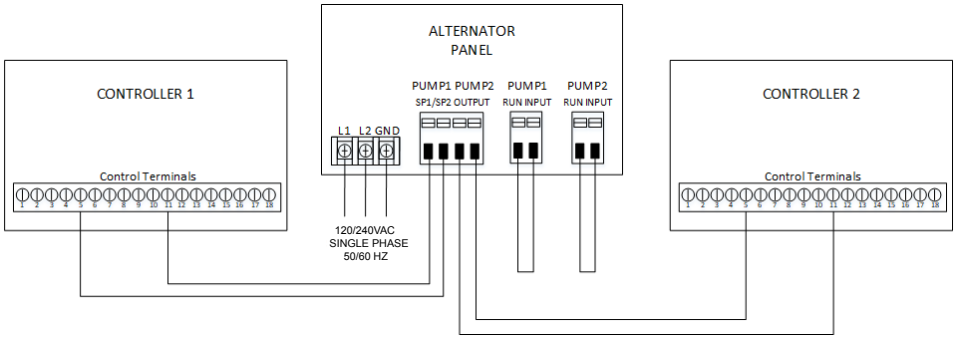


Figure 5: Lead/Lag elapsed time wiring for Aquavar SPD

2. Connect the two wires from the **PUMP2 SP1/SP2 OUTPUT** terminals to position 5 (**COM**) and position 11 (**SP2/SP1**) of controller 2's control terminals.
3. Connect the two wires from the **PUMP1 RUN INPUT** to position 13 (**RELAY1 - NO**) and position 15 (**RELAY1 - COM**) terminals of controller 1's control terminals.
4. For the **ELAPSED TIME**, connect a jumper across the **PUMP1 RUN INPUT** terminals.
5. Connect the two wires from the **PUMP2 RUN INPUT** to position 13 (**RELAY1 - NO**) and position 15 (**RELAY1 - COM**) terminals of controller 2's control terminals.
6. For the **ELAPSED TIME**, connect a jumper across the **PUMP2 RUN INPUT** terminals.

Wiring for the Duty/Standby Alternation

1. Connect the two wires from the **PUMP1 SP1/SP2 OUTPUT** terminals to position 1 (**COM**) and position 2 (**RUN/STOP**) of controller 1's control terminals.

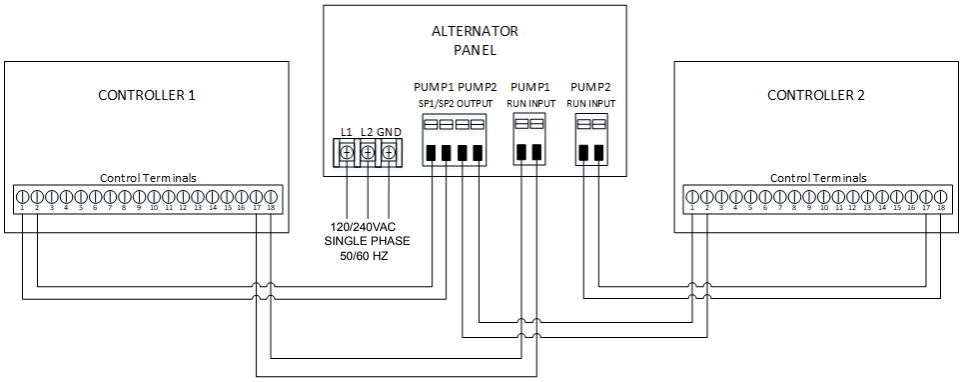


Figure 6: Duty/Standby wiring for Aquavar SPD

2. Connect the two wires from the **PUMP2 SP1/SP2 OUTPUT** terminals to position 1 (**COM**) and position 2 (**RUN/STOP**) of controller 2's control terminals.
3. Connect the two wires from the **PUMP1 RUN INPUT** to position 17 (**RELAY2 - NC**) and position 18 (**RELAY2 - COM**) terminals of controller 1's control terminals.

   This mode only runs in **ELAPSED TIME** mode.
4. Connect two wires from the **PUMP2 RUN INPUT** to position 17 (**RELAY2 - NC**) and position 18 (**RELAY2 - COM**) terminals of controller 2's control terminals.

   This mode only runs in **ELAPSED TIME** mode.

   Due to the built in relay setting of the SPD, if a controller loses power, the Alternator will treat it as though it is a no fault condition and will try to run.

5.5.3 SPD programming setup

Setup for Lead/Lag Alternation

1. Apply power to the controllers and the Alternator. Assure the controllers will not run until setup is complete.
2. Set the Setpoint 2 to the required pressure setpoint.

It is the lead pump pressure.

3. Check that the Setpoint 2 pressure setting is 10 psi higher than the Setpoint 1 pressure setting.
4. Set the Setpoint 1 to the required setpoint.

   It is the lag pump pressure.
5. Check that the Setpoint 1 pressure setting is 10 psi lower than the Setpoint 2 pressure setting.
6. Configure the controller 2 to have the same Setpoint 2 and Setpoint 1 values configured on controller 1.

Setup for Duty/Standby Alternation

No additional programming required for this mode.

6 Operation

6.1 Operating modes

6.1.1 LEAD/LAG Alternation

Use this mode of operation to create a duplex lead/lag and alternate system.

- In this mode the Alternator will switch Lead and Lag pump/controller based on the Alternation Time setting.
- The Alternation Time setting can be based on pump **RUN TIME** or on **ELAPSED TIME**.
- The timing mode is set based on what is wired to the **RUN INPUT** terminals on the Alternator Panel and the configuration of the relay on the controller.
- For more information, see *Timing modes* on page 15.

Timing modes

The **LEAD/LAG** Alternation mode can be configured to count time in either **RUN TIME** or **ELAPSED TIME**. The **RUN TIME** will count down to the Alternation Time whenever the Alternator panel detects a closed **RUN INPUT** from the lead pump/controller.

- To enable **RUN TIME**, wire the output of the Run Relay Output from the controller to the Run Input on the Alternator Panel.
- To enable **ELAPSED TIME**, connect a jumper across the Run Input Terminals.
- If the jumpers are wired, **ELAPSED TIME** will count down to the Alternation Time as soon as the Alternator receives power.

Fault handling

If a Controller has a fault or loses power, the Alternator will keep the Lead pump/controller active when wired in **LEAD/LAG** Alternation mode and **RUN TIME** Timing.

If the Lag pump/controller is running while the Lead pump/controller is not, alternation will occur after 20 seconds to keep the active pump/controller as the Lead.

After the Alternation Time has finished, the Alternator will switch again, but will only remain for 20 seconds if the fault or power loss has not been fixed.

6.1.2 DUTY/STANDBY Alternation

Use this mode to create a Duty/Standby system where only 1 pump/controller will run at a time.

There will be no lag operation in this mode.

Each pump/controller must be sized to meet all the system demands without the assistance of the second pump/controller.

In this mode the Alternator will change which pump/controller is allowed to run based on the Alternation Time setting or the fault state of the enabled pump/control.

Timing and fault monitoring

When using DUTY/STANDBY Alternation, the Alternator will be configured to monitor the fault condition of the drive.

Configuring the system in this way will ensure the system will continue to operate if one pump/controller loses power or has a fault.

Similar to the **ELAPSED TIME** outlined above, the Alternator will count down to the Alternation Time as soon as it is powered.

For the Aquavar SOLO2, using duty/standby alternation requires the relay output to be set to No Fault (nflt). For more information, see *Setup for SOLO2 programming* on page 11.

For the Aquavar SPD, setting this mode requires wiring to the fault relay output. For more information, see *Wiring the Alternator to the SPD controllers* on page 12.

6.2 Change the Lead/Lag Setpoint

The Alternator factory default settings are configured so that the lead pump/controller specified by the Alternator will have Setpoint 2 enabled.

The controller factory default settings are configured so that Setpoint 2 is the higher pressure setting.

If the controllers are not set up with the Setpoint 2 as the higher pressure and Setpoint 1 as the lower pressure, there could be unexpected behavior with the Alternator.

If it is desired that the lead (higher) pressure be Setpoint 1 on the controllers, the Alternator can be changed to accommodate this.

1. Disconnect or power off the controllers before starting the work.
2. Press and hold the **Time Setting** and **Change Lead** buttons on the Alternator simultaneously.
3. After holding both buttons for 3 seconds, all five time LEDs will illuminate as well as either the Pump 1 Lead or Pump 2 Lead LED.
   - If the Pump 2 Lead LED illuminates, the Alternator is currently set to Setpoint 2 as the lead.
   - If Pump 1 Lead LED illuminates, the Alternator is currently set to Setpoint 1 as the lead.
4. Hold both the buttons for three more seconds, the LEDs will toggle indicating a new lead setpoint setting.
5. Release the buttons to save the new setpoint settings.

   If the buttons are not released, the setting will continue to toggle every 3 seconds until they are released.

6.3 Select the timing

Press the **Time Setting** button to select the required alternate time.

6.4 Select the lead

Press the **Change Lead** button to manually change which drive is running as the lead.

The alternation time will reset when the **Change Lead** button is pressed.

6.5 Notes

- In the **LEAD/LAG** alternation, if the lead drive stops running while the lag drive is still running, the Alternator will change the lead controller after 20 seconds. This will keep the system running at the lead pressure in case of a fault or power loss in one controller. After the alternation time, the Alternator will attempt to change again and will return after 20 seconds if the first controller still does not run.
- In **DUTY/STANDBY with Fault Monitoring** mode, when the running controller faults, the running controller will change after 20 seconds. After the alternation time, the Alternator will attempt to change again and will return after 20 seconds if the first controller still has a fault condition.

7 Troubleshooting

7.1 Precautions

Before starting work, make sure that the safety instructions in the chapter *Introduction and Safety* on page 3 have been read and understood.

7.2 The Alternator does not turn on and the LEDs are not illuminated

Cause	Remedy
No power supply	• Restore the power supply. • Check that the mains connection is intact.
Main fuse of the Alternator is blown	Replace the Alternator.

7.3 The Alternator does not change the lead pump

Cause	Remedy
The system is not running and Alternator is in **RUN TIME** mode.	When wired in **RUN TIME** mode, Alternator will only switch after one or both controllers have run for the alternation time.
The run input signal is not present.	• Check the connections to the **PUMP1 RUN INPUT** and **PUMP2 RUN INPUT** terminals on the Alternator. • If wired for **ELAPSED TIME**, check the connection of the jumper wire installed across those terminals. SOLO2 • Check that the controller relay output is set to RUN if set up for Lead/Lag operation. • Check that the controller relay output is set to nFlt if set up for Duty/Standby operation. SPD • Check that the controller is wired to the Run relay if set up for Lead/Lag operation. • Check that the controller is wired to the Fault relay if set up for Duty/Standby operation.

7.4 The Alternator attempts to change the lead pump but after 20 seconds returns to original lead pump

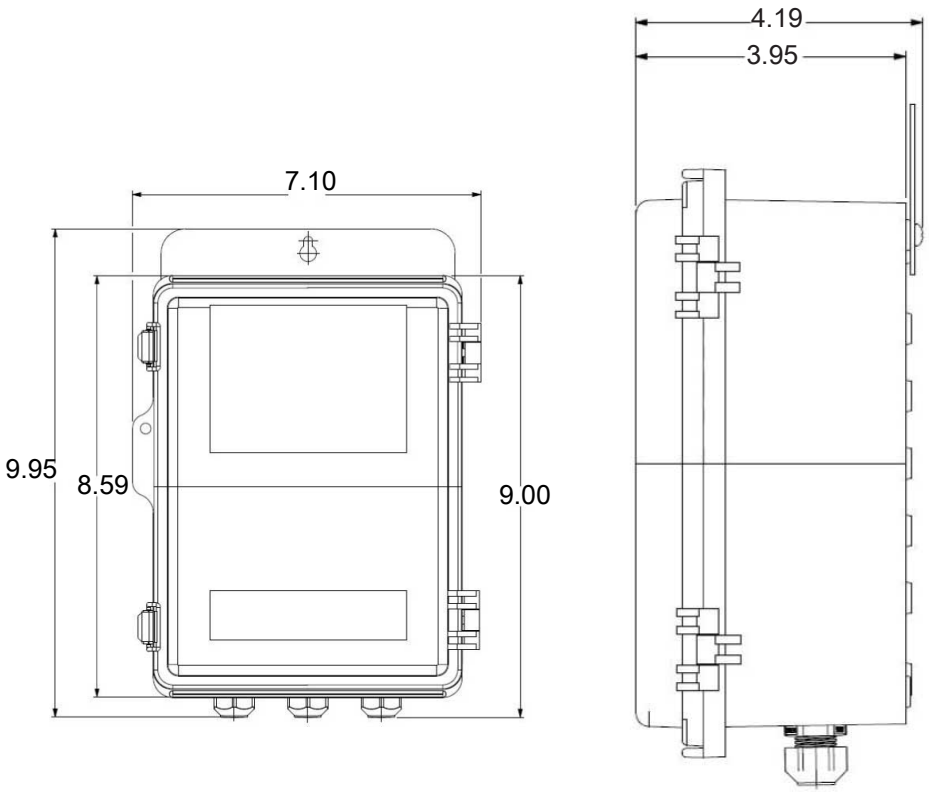
Cause	Remedy
One of the Run Input signals is not present.	Check the connections to the **PUMP1 RUN INPUT** and **PUMP2 RUN INPUT** terminals.
One of the controllers is faulted or has lost power.	Check the status of the pump controllers and fix any problems present.
One or both of the controller pressure setpoints are not configured properly.	• SP2 on both controllers must be set to the required lead pressure. • SP1 must be set to a lower lag pressure. • For more information, see *Change the Lead/Lag Setpoint* on page 16.

7.5 The Alternator does not change the lead pump when there is a fault on a controller

Cause	Remedy
The alternator is wired for **DUTY/STANDBY** and controller programmed for **RUN TIME**.	SOLO2: • Fix any problems present on the pump controller and program controller as shown in *Setup for SOLO2 programming* on page 11. SPD: • Fix any problems present on the pump controller and wire controller as shown in *Wiring the Alternator to the SPD controllers* on page 12.

8 Technical Reference

8.1 Technical data



Input voltage range	120/240 VAC wide input
Input phase	Single phase
Input current	1.0 A
Rated input frequency	50/60 Hz
Enclosure rating	NEMA 3
Ambient temperature	-4°F to 122°F (-20°C to 50°C)
Dimensions	9.95 in x 7.10 in x 4.19 in (LxWxD)
Weight	1.6 lbs

9 Product Warranty

Commercial warranty

Warranty. For goods sold to commercial buyers, Seller warrants the goods sold to Buyer hereunder (with the exception of membranes, seals, gaskets, elastomer materials, coatings and other "wear parts" or consumables all of which are not warranted except as otherwise provided in the quotation or sales form) will be (i) be built in accordance with the specifications referred to in the quotation or sales form, if such specifications are expressly made a part of this Agreement, and (ii) free from defects in material and workmanship for a period of one (1) year from the date of installation or eighteen (18) months the date of shipment (which date of shipment shall not be greater than thirty (30) days after receipt of notice that the goods are ready to ship), whichever shall occur first, unless a longer period is specified in the product documentation (the “Warranty”).

Except as otherwise required by law, Seller shall, at its option and at no cost to Buyer, either repair or replace any product which fails to conform with the Warranty provided Buyer gives written notice to Seller of any defects in material or workmanship within ten (10) days of the date when any defects or non-conformance are first manifest. Under either repair or replacement option, Seller shall not be obligated to remove or pay for the removal of the defective product or install or pay for the installation of the replaced or repaired product and Buyer shall be responsible for all other costs, including, but not limited to, service costs, shipping fees and expenses. Seller shall have sole discretion as to the method or means of repair or replacement. Buyer’s failure to comply with Seller’s repair or replacement directions shall terminate Seller’s obligations under this Warranty and render the Warranty void. Any parts repaired or replaced under the Warranty are warranted only for the balance of the warranty period on the parts that were repaired or replaced. Seller shall have no warranty obligations to Buyer with respect to any product or parts of a product that have been: (a) repaired by third parties other than Seller or without Seller’s written approval; (b) subject to misuse, misapplication, neglect, alteration, accident, or physical damage; (c) used in a manner contrary to Seller’s instructions for installation, operation and maintenance; (d) damaged from ordinary wear and tear, corrosion, or chemical attack; (e) damaged due to abnormal conditions, vibration, failure to properly prime, or operation without flow; (f) damaged due to a defective power supply or improper electrical protection; or (g) damaged resulting from the use of accessory equipment not sold or approved by Seller. In any case of products not manufactured by Seller, there is no warranty from Seller; however, Seller will extend to Buyer any warranty received from Seller’s supplier of such products.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ANY AND ALL OTHER EXPRESS OR IMPLIED WARRANTIES, GUARANTEES, CONDITIONS OR TERMS OF WHATEVER NATURE RELATING TO THE GOODS PROVIDED HEREUNDER, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY EXPRESSLY DISCLAIMED AND EXCLUDED. EXCEPT AS OTHERWISE REQUIRED BY LAW, BUYER’S EXCLUSIVE REMEDY AND SELLER’S AGGREGATE LIABILITY FOR BREACH OF ANY OF THE FOREGOING WARRANTIES ARE LIMITED TO REPAIRING OR REPLACING THE PRODUCT AND SHALL IN ALL CASES BE LIMITED TO THE AMOUNT PAID BY THE BUYER FOR THE DEFECTIVE PRODUCT. IN NO EVENT SHALL SELLER BE LIABLE FOR ANY OTHER FORM OF DAMAGES, WHETHER DIRECT, INDIRECT, LIQUIDATED, INCIDENTAL, CONSEQUENTIAL, PUNITIVE, EXEMPLARY OR SPECIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOSS OF PROFIT, LOSS OF ANTICIPATED SAVINGS OR REVENUE, LOSS OF INCOME, LOSS OF BUSINESS, LOSS OF PRODUCTION, LOSS OF OPPORTUNITY OR LOSS OF REPUTATION.

Limited consumer warranty

Warranty. For goods sold for personal, family or household purposes, Seller warrants the goods purchased hereunder (with the exception of membranes, seals, gaskets, elastomer materials, coatings and other "wear parts" or consumables all of which are not warranted except as otherwise provided in the quotation or sales form) will be free from defects in material and workmanship for a period of one (1) year from the date of installation or eighteen (18) months from the product date code, whichever shall occur first, unless a longer period is provided by law or is specified in the product documentation (the “Warranty”).

Except as otherwise required by law, Seller shall, at its option and at no cost to Buyer, either repair or replace any product which fails to conform with the Warranty provided Buyer gives written notice to Seller of any defects in material or workmanship within ten (10) days of the date when any defects or non-conformance are first manifest. Under either repair or replacement option, Seller shall not be obligated to remove or pay for the removal of the defective product or install or pay for the installation of the replaced or repaired product and Buyer shall be responsible for all other costs, including, but not limited to, service costs, shipping fees and expenses. Seller shall have sole discretion as to the method or means of repair or replacement. Buyer’s failure to comply with Seller’s repair or replacement directions shall terminate Seller’s obligations under this Warranty and render this Warranty void. Any parts repaired or replaced under the Warranty are warranted only for the balance of the warranty period on the parts that were repaired or replaced. The Warranty is conditioned on Buyer giving written notice to Seller of any defects in material or workmanship of warranted goods within ten (10) days of the date when any defects are first manifest.

Seller shall have no warranty obligations to Buyer with respect to any product or parts of a product that have been: (a) repaired by third parties other than Seller or without Seller’s written approval; (b) subject to misuse, misapplication, neglect, alteration, accident, or physical damage; (c) used in a manner contrary to Seller’s instructions for installation, operation and maintenance; (d) damaged from ordinary wear and tear, corrosion, or chemical attack; (e) damaged due to abnormal conditions, vibration, failure to properly prime, or operation without flow; (f) damaged due to a defective power supply or improper electrical protection; or (g) damaged resulting from the use of accessory equipment not sold or approved by Seller. In any case of products not manufactured by Seller, there is no warranty from Seller; however, Seller will extend to Buyer any warranty received from Seller’s supplier of such products.

THE FOREGOING WARRANTY IS PROVIDED IN PLACE OF ALL OTHER EXPRESS WARRANTIES. ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO ONE (1) YEAR FROM THE DATE OF INSTALLATION OR EIGHTEEN (18) MONTHS FROM THE PRODUCT DATE CODE , WHICHEVER SHALL OCCUR FIRST. EXCEPT AS OTHERWISE REQUIRED BY LAW, BUYER’S EXCLUSIVE REMEDY AND SELLER’S AGGREGATE LIABILITY FOR BREACH OF ANY OF THE FOREGOING WARRANTIES ARE LIMITED TO REPAIRING OR REPLACING THE PRODUCT AND SHALL IN ALL CASES BE LIMITED TO THE AMOUNT PAID BY THE BUYER FOR THE DEFECTIVE PRODUCT. IN NO EVENT SHALL SELLER BE LIABLE FOR ANY OTHER FORM OF DAMAGES, WHETHER DIRECT, INDIRECT, LIQUIDATED, INCIDENTAL, CONSEQUENTIAL, PUNITIVE, EXEMPLARY OR SPECIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOSS OF PROFIT, LOSS OF ANTICIPATED SAVINGS OR REVENUE, LOSS OF INCOME, LOSS OF BUSINESS, LOSS OF PRODUCTION, LOSS OF OPPORTUNITY OR LOSS OF REPUTATION.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which may vary from state to state.

To make a warranty claim, check first with the dealer from whom you purchased the product or visit www.xyleminc.com for the name and location of the nearest dealer providing warranty service.

The product warranty can be extended to twenty-four (24) months from the date of installation or thirty (30) months from the product date code, whichever shall occur first, if registered through the ecocirc mobile application. All other aspects of the product warranty will remain the same as stated above.

Xylem |’zīləm|

1) The tissue in plants that brings water upward from the roots;
2) a leading global water technology company.

We’re a global team unified in a common purpose: creating advanced technology solutions to the world’s water challenges. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. Our products and services move, treat, analyze, monitor and return water to the environment, in public utility, industrial, residential and commercial building services settings. Xylem also provides a leading portfolio of smart metering, network technologies and advanced analytics solutions for water, electric and gas utilities. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise with a strong focus on developing comprehensive, sustainable solutions.

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