Econo Flo VSA-165
Control with Digital Inputs

The user can run the Econo Flo VSA-165 at the programmed STEP 1, STEP 2, STEP 3 or OVERRIDE speeds by utilizing the four digital inputs. STEP 1, STEP 2, STEP 3 or OVERRIDE are equivalent to Digital Input 1, 2, 3 or 4 respectively.

NOTE: The controller is rated to accept digital inputs of 18V-30V AC (24V DC+/- 20%) and 9-30V DC (12/24V DC+/- 20%)

NOTE: The Econo Flo VSA-165 will detect either a 50/60 HZ for AC or an active low signal for DC digital inputs.

The items below describe the functionality of the digital inputs:
1. If the user provides any one of the 4 digital inputs, then the corresponding ACTIVE STEP LED will blink with every one (1) second. The SPEED LED and corresponding bar graph LED will be illuminated to indicate the Digital Input is functioning properly.

2. The START LED will be OFF when a digital input is present.

NOTE: A generic wiring diagram is provided in Figure 1 for connecting the Econo Flo VSA-165 to a "System Level Controller". The concept can be applied to a solar system or an other type of control system.

NOTE: There is no schedule for digital inputs. The timing for each speed is controlled directly by the digital inputs.

NOTE: The digital inputs have the highest priority among all the inputs (i.e. keypad, serial or digital.) There fore the serial commands as well as the User Interface inputs will be ignored when a digital input is present.

NOTE: If more than one digital input (switch) is present the Econo Flo VSA-165 will give priority to the highest number digital input. Therefore OVERRIDE has the highest priority followed by STEP 3, then STEP 2, then STEP 1.

NOTE: If no digital input is detected,the Econo Flo VSA-165 will automatically start the 24 hour schedule if the START key was pressed prior to the application of a digital input.
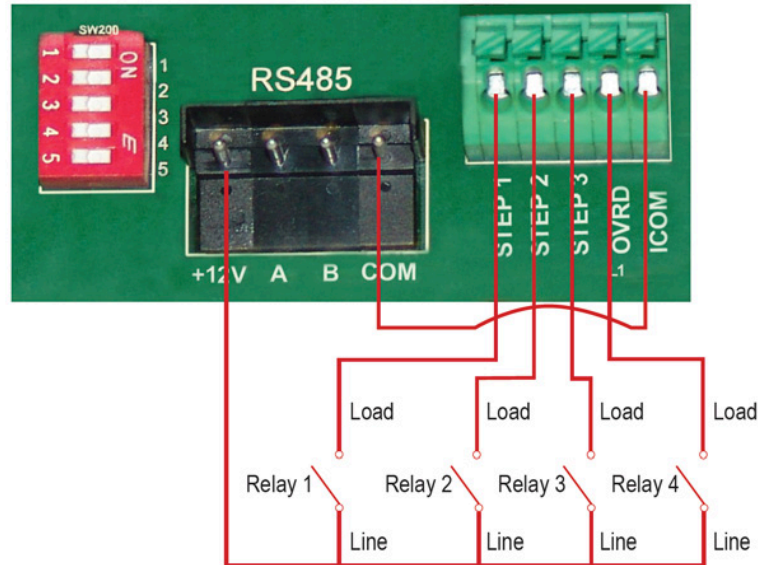
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⚠ WARNING

Access to these terminals is in close proximity to the main connectors which carry line voltage capable of causing personal injury or damaging the equipment if contact is made. Power should be turned off when accessing this area.

Figure 1.

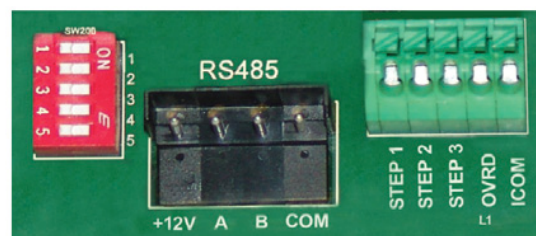**System Level Control Wiring Diagram**

DIP Switches

The DIP switches can be used to configure different settings for the Econo Flo VSA-165. Each DIP switch and their corresponding function is defined in Table 1.

Table 1.

SWITCH	FUNCTION
1	Power output ON/OFF
2	Not Used
3	Not Used
4	Not Used
5	Not Used

DIP Switch Functions

Figure 2.

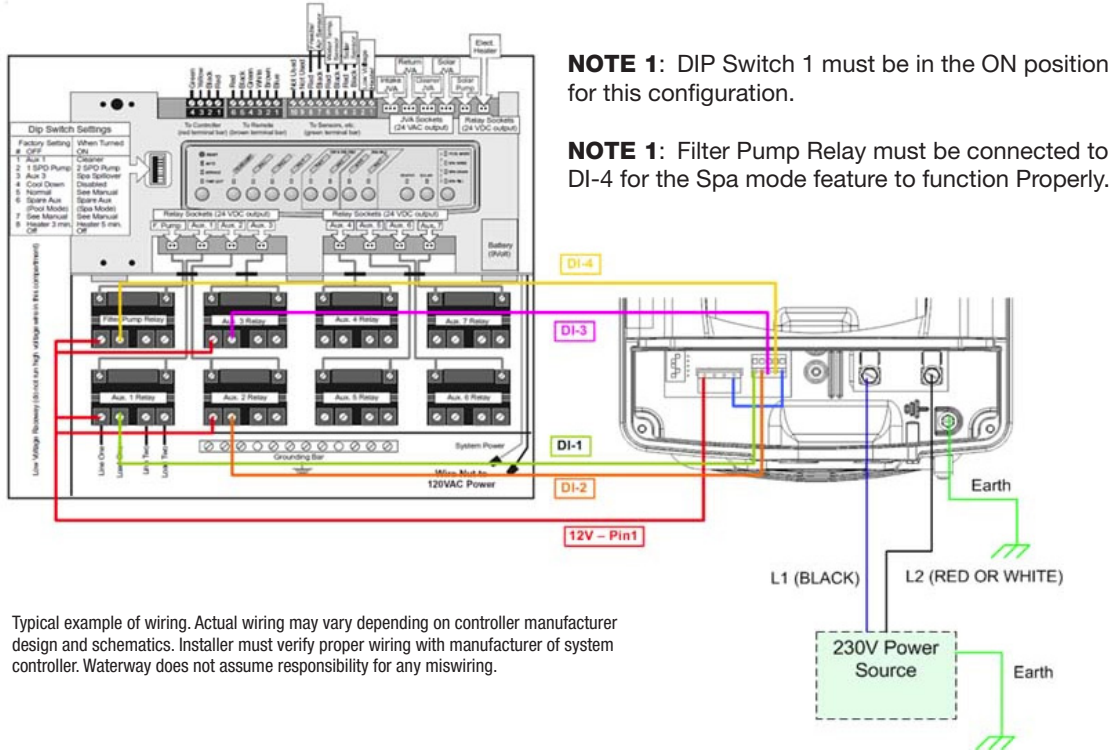**DIP Switches**

Typical Examples

## FOR REFERENCE ONLY

System Controllers – AquaLink

Wiring Diagram for AquaLink with Econo Flo VSA-165

NOTE 1: DIP Switch 1 must be in the ON position for this configuration.

NOTE 1: Filter Pump Relay must be connected to DI-4 for the Spa mode feature to function Properly.

Typical example of wiring. Actual wiring may vary depending on controller manufacturer design and schematics. Installer must verify proper wiring with manufacturer of system controller. Waterway does not assume responsibility for any miswiring.

System Controllers – IntelliTouch

Wiring Diagram for IntelliTouch with Econo Flo VSA-165
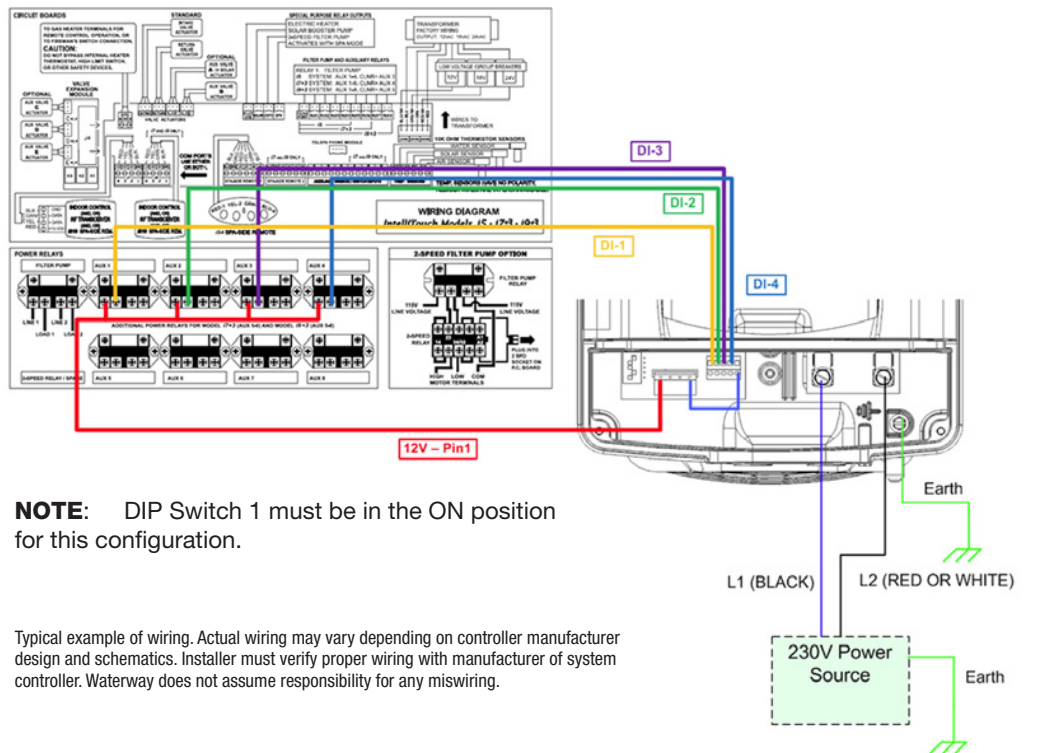
NOTE: DIP Switch 1 must be in the ON position for this configuration.

Typical example of wiring. Actual wiring may vary depending on controller manufacturer design and schematics. Installer must verify proper wiring with manufacturer of system controller. Waterway does not assume responsibility for any miswiring.

System Controllers – Pro Logic

Wiring Diagram for Pro Logic with Econo Flo VSA-165

- Similar to the AquaLink
  - 12V from the RS485 can be wired to the LINE IN of each AUX. LOAD OUT will be the input for each digital signal.
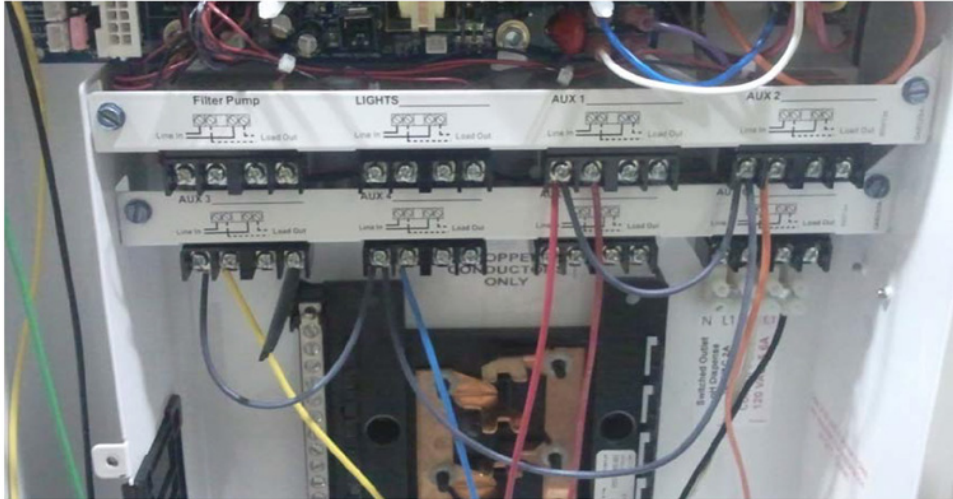 - Verify DIP switch 1 is ON

Typical example of wiring. Actual wiring may vary depending on controller manufacturer design and schematics. Installer must verify proper wiring with manufacturer of system controller. Waterway does not assume responsibility for any miswiring.

System Controllers – Multiwave

Wiring Diagram for Multiwave with Econo Flo VSA-165

Select Breaker to match wire size and load requirement. Observe maximum control circuit capacity.

Make sure voltage selector switch is in 120V positon before applying power to Terminals 1 & 2.

NOTE: DIP Switch 1 must be in the ON position for this configuration.

Typical example of wiring. Actual wiring may vary depending on controller manufacturer design and schematics. Installer must verify proper wiring with manufacturer of system controller. Waterway does not assume responsibility for any miswiring.