Power Defender 165/225/270
Variable Speed Pumps
Pool Controller Installation Guide

Power Defender 165/225/270 Variable Speed Pumps can be connected to the **Waterway OASIS Pool Controller** via quick and direct communication through a RS-485 cord. This provides full control with respect to schedule and speed of the variable speed pump (see page 13 of the OASIS manual). Or it can be connected to other brands of pool controller such as Jandy, Pentair, and more... utilizing auxilary relays to operate up to 4 different speeds as shown below. For further information, see page 24 of the Waterway Variable Speed Motor Manual.

INP #1	1350 RPM
INP #2	1725 RPM
INP #3	2760 RPM
INP #4	3450 RPM

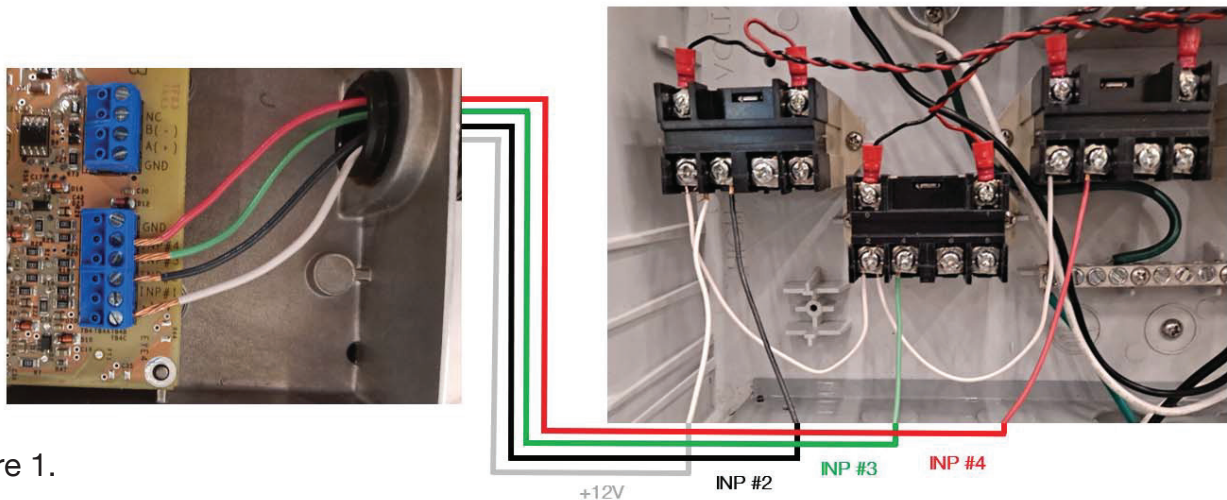## System Level Control Wiring Diagram

Figure 1.

+12V   INP #2   INP #3   INP #4

Typical Connection using 3 relays to control INP #2, INP #3, and INP #4
NOTE: +12v is jumped to each relay

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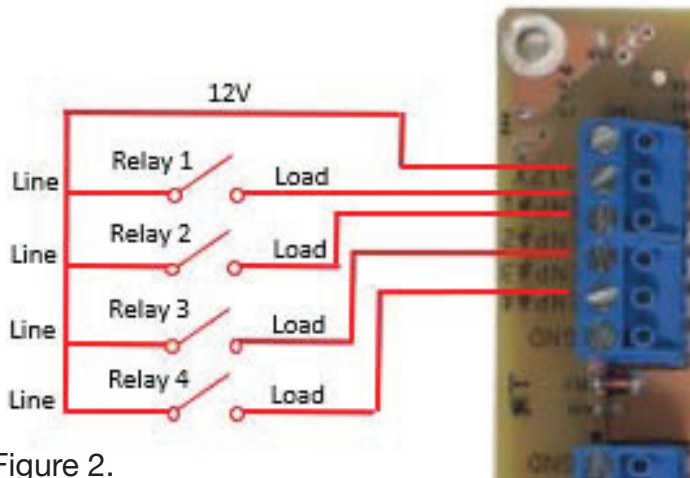
Figure 2.

NOTE: The controller is rated to accept digital input from the onboard +12V terminal.

In order to use Digital Inputs:

1. Connect the +12V from the pump to the desired input through a relay on a controller.

2. When the relay is closed and 12V is provided to an input connection, the pump will run that corresponding speed.

NOTE: A generic wiring diagram is provided in Figure 1 for connecting the Power Defender 165/225/270 to a "System Level Controller". The concept can be applied to a solar system or another 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.) Therefore 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 Power Defender 165/225/270 will give priority to the highest number digital input. Therefore INP# 4 has the highest priority followed by INP# 3, then INP# 2, then INP# 1.
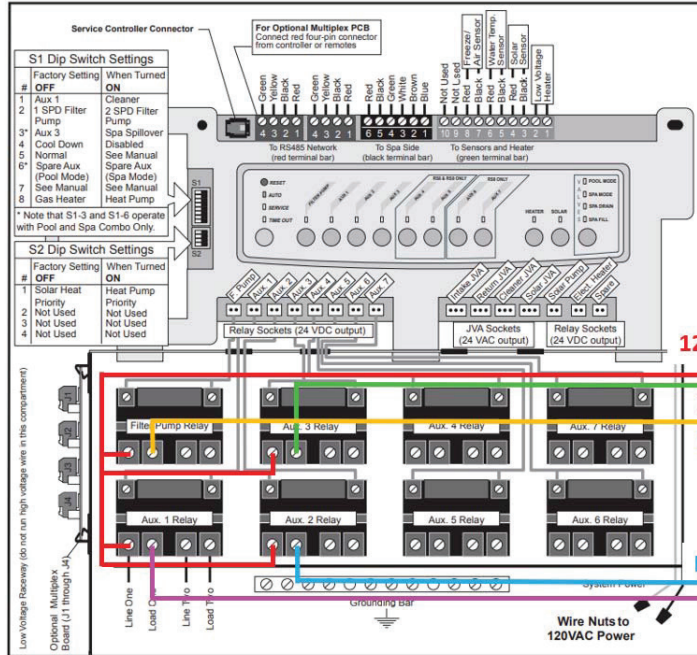
NOTE: If no digital input is detected, the Power Defender 165/225/270 will automatically start the schedule if the START key was pressed prior to the application of a digital input.
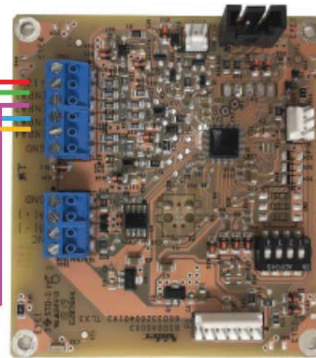
Typical Examples

FOR REFERENCE ONLY

System Controllers – AquaLink

Wiring Diagram for AquaLink with Power Defender 165/225/270


NOTE 1: Filter Pump Relay must be connected to INP# 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

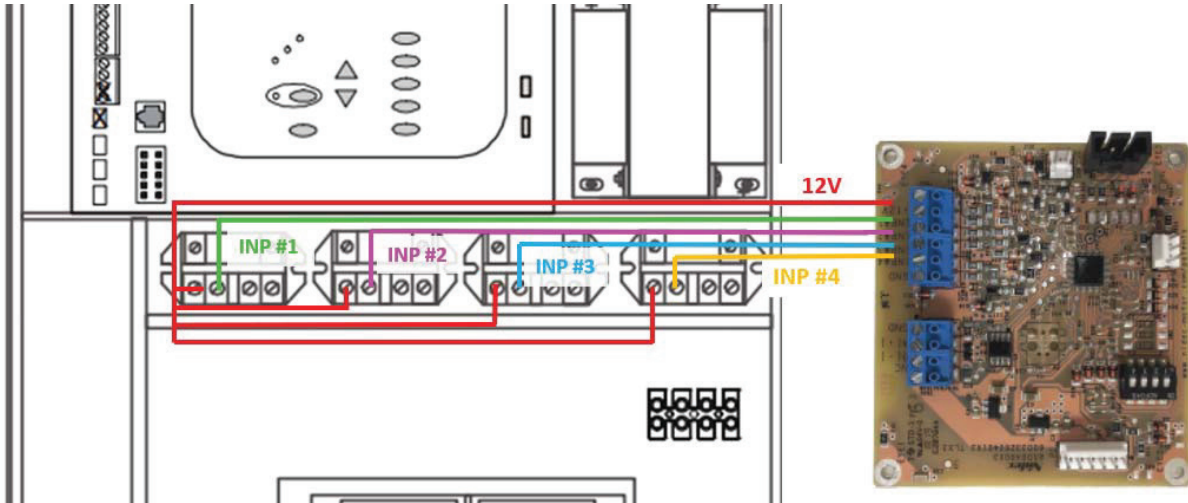### Wiring Diagram for IntelliTouch with Power Defender 165/225/270
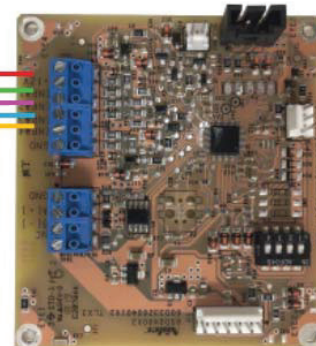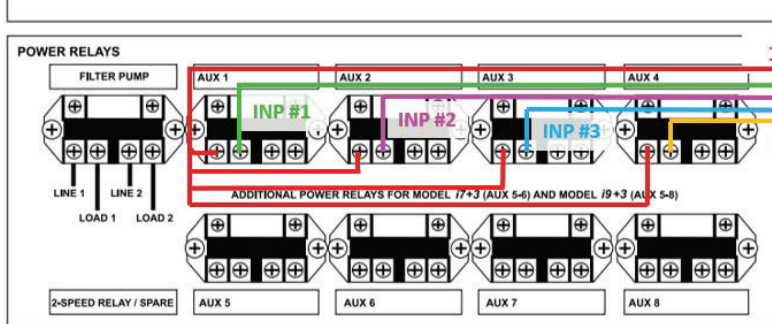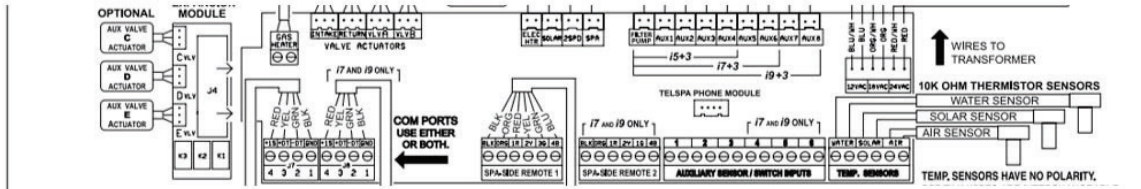
Typical example of wiring. Actual wiring may vary depending on controller manufacturer design and schematics. Installer must verify proper wiring with manufacturer of system controller. Waterway does not assume responsibility for any miswiring.

System Controllers – ProLogic

Wiring Diagram for ProLogic with Power Defender 165/225/270

- 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.
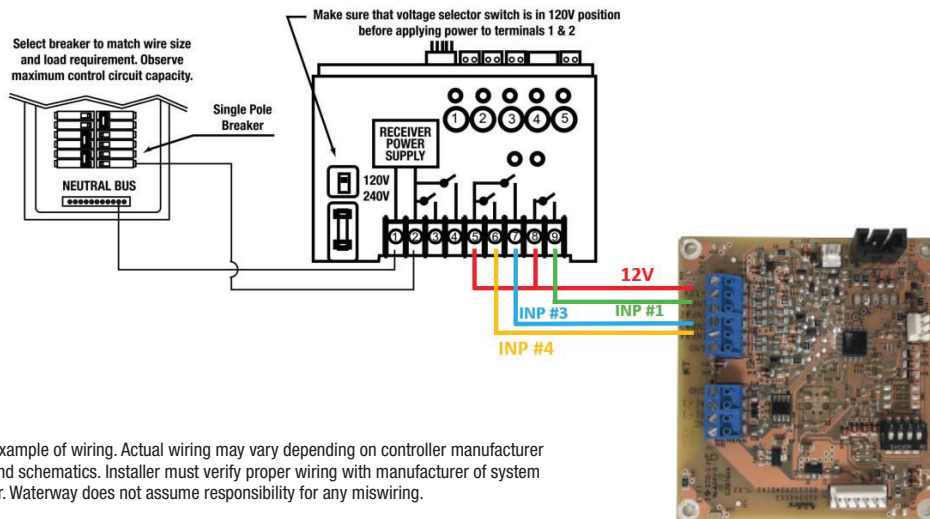

Typical example of wiring. Actual wiring may vary depending on controller manufacturer design and schematics. Installer must verify proper wiring with manufacturer of system controller. Waterway does not assume responsibility for any miswiring.

System Controllers – Multiwave

Wiring Diagram for Multiwave with Power Defender 165/225/270

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.

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.

WARRANTY
For product registration visit: www.waterwayplastics.com.
For Warranty questions or claims please contact point of purchase.