



# MODEL P5043ME MultiWave Expansion Module

## Installation Instructions

### Used in Conjunction with the MultiWave V3.4 Software

#### **WARNING - Risk of Fire or Electric Shock**

- Disconnect all power before installing or servicing the P5043ME and the corresponding pool and spa components.
- Test GROUND FAULT protection regularly. If it fails to reset, DO NOT USE POOL or SPA! Contact qualified service technician.
- The module must be installed by a qualified person in accordance with national and local electrical codes.
- Install module no less than 10 feet [3 meters] from inside edge of pool.
- USE COPPER CONDUCTORS ONLY rated 75°C minimum.
- Do not exceed the maximum ratings of individual components, wiring devices, and current carrying capacity of conductors.
- For control grounding, bonding, installing, and wiring of underwater lights, refer to Article 680 of the National Electrical Code or Article 68 of the Canadian Electrical Code.

#### **IMPORTANT!**

In order for the Expansion Module to work with your MultiWave PE953 wireless remote and the PE653 receiver, your system must have at least software version 3.4 installed. If your system does not have at least 3.4, download the latest software from [www.intermatic.com](http://www.intermatic.com). An Intermatic CA8700 USB stick and a computer running Windows XP operating system is needed to complete the update. Refer to the software update instructions on the MultiWave page of our website.

If you are unsure what software version you are currently running, follow this procedure to verify your current version.

1. On the PE953 wireless remote, press and hold the **P/S** and **ENTER** buttons simultaneously to access **LEARN MODE**.
2. Observe the numbers at the top right corner of remote display. If the number is less than 34P, you must update your software.

**NOTE:** Once the software is updated to version 3.4, you will then be able to use a standard USB stick to perform future software updates. You can download the latest MultiWave instruction manual at [www.intermatic.com](http://www.intermatic.com).

#### **Specifications**

- Input supply: 240 VAC - 50/60 Hz, 75VA max.
- Valve actuator supply: 24 VAC - 18VA max. for each actuator
- Motor control output threshold: 24 VAC or 24 VDC - 500mA max.
- Remote switch output supply: 24 VAC - 55mA max.
- Heater control: 24 VAC - 1A max. each
- Maximum ambient operating temperature: 122°F (50°C)

#### **Mounting the P5043ME**

1. Align the mechanism tabs with the slots on the bracket.
2. Slide the bottom half of the mechanism into the slots and snap the top half into the bracket slot.
3. Install the mechanism in the applicable MultiWave device. See Figures 2 through 4.

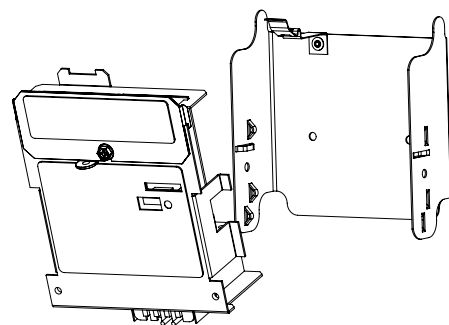
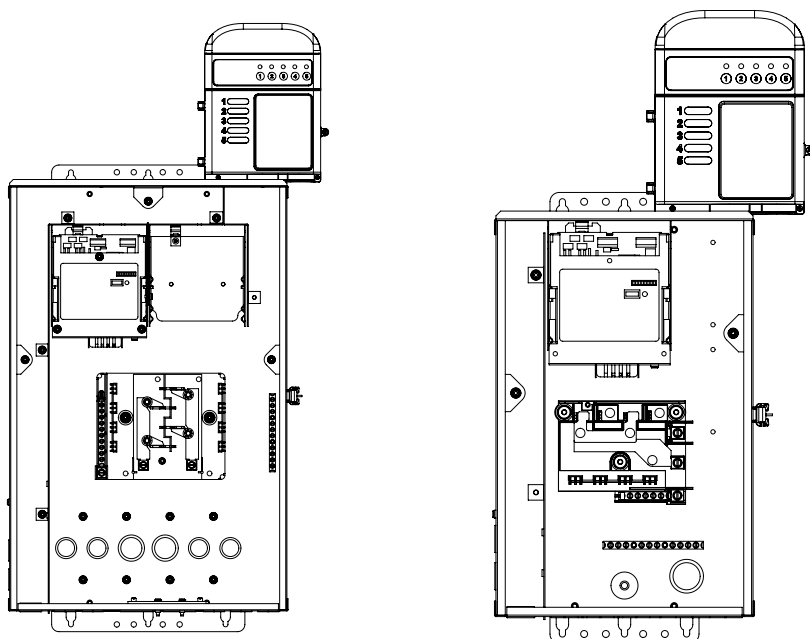
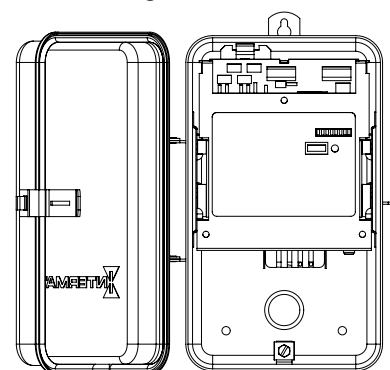


Figure 1. Installing mechanism in bracket.



## Connecting P5043ME to PE653 Wiring Connections

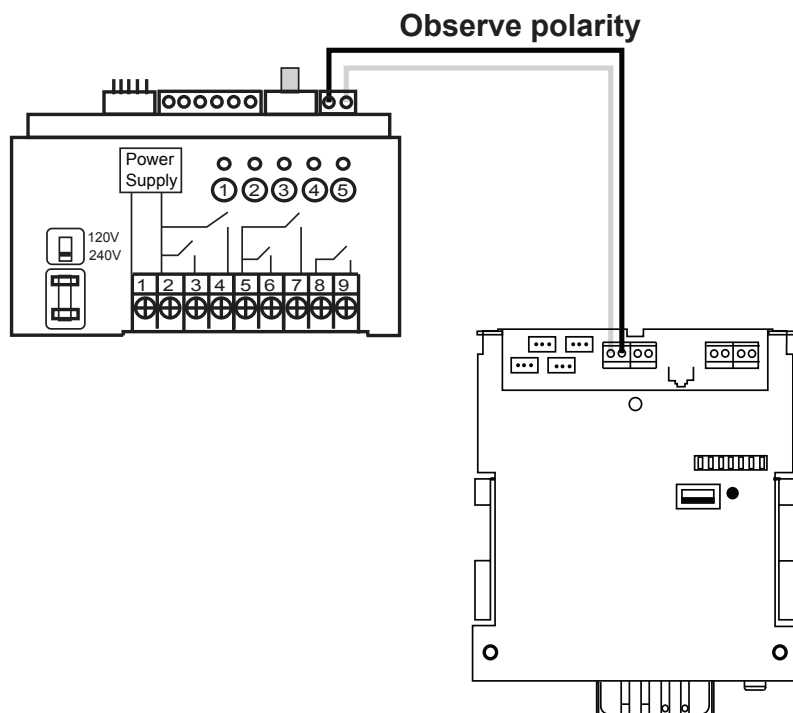


Figure 5. PE653 receiver to P5043ME wiring connections.

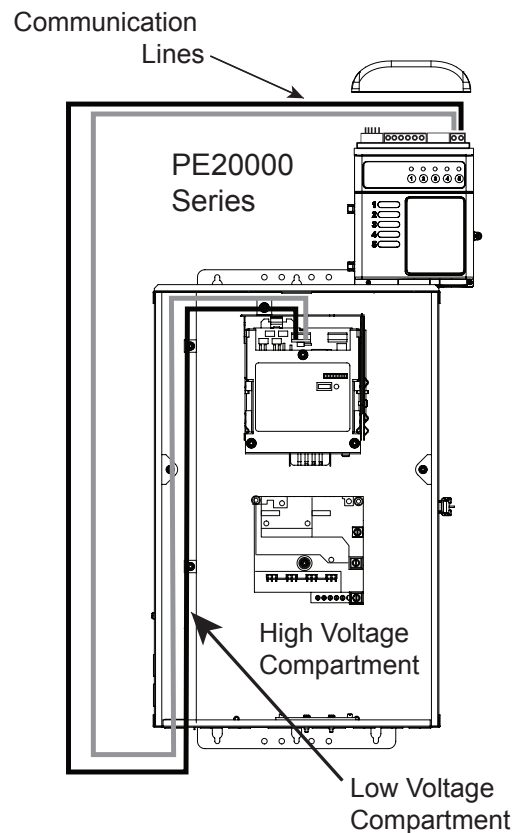


Figure 6. High and Low voltage wire routing from PE653 receiver to PE20000 Series Load Center.

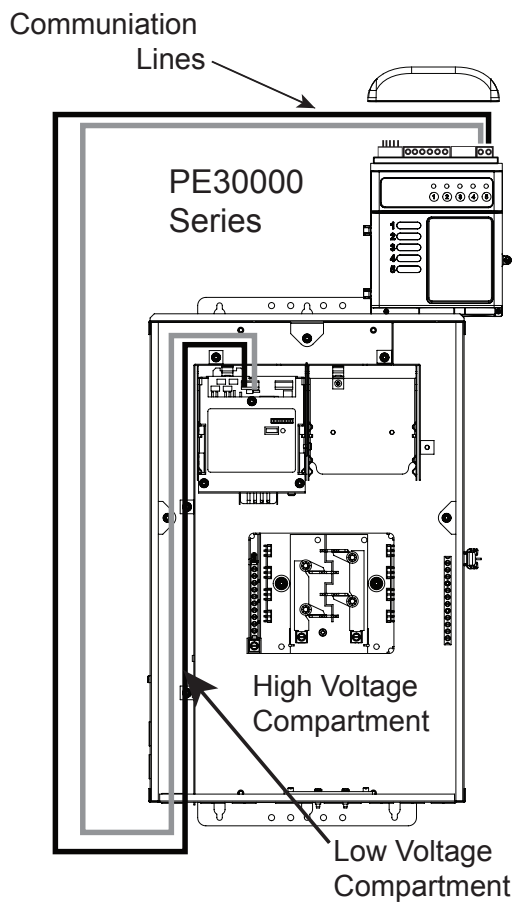


Figure 7. High and Low voltage wire routing from PE653 receiver to PE30000 Series Load Center.

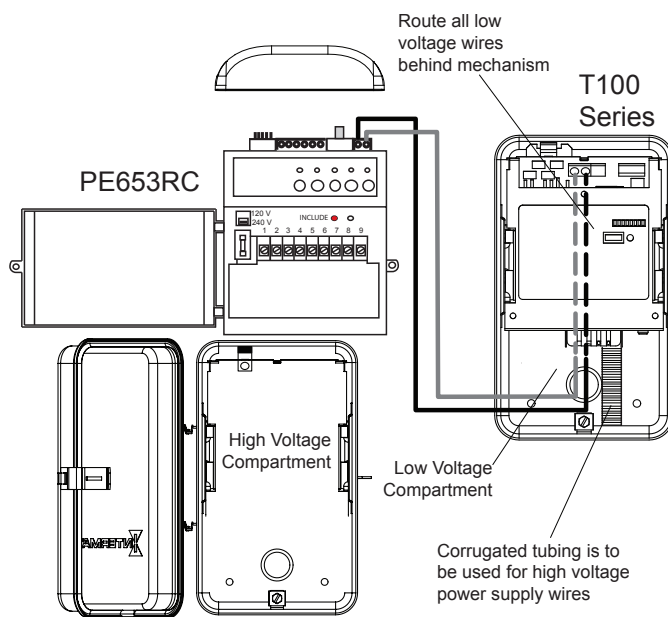


Figure 8. High and Low voltage wire routing from PE653 receiver to T100 Series enclosure.

Connecting Equipment to the P5043ME Module

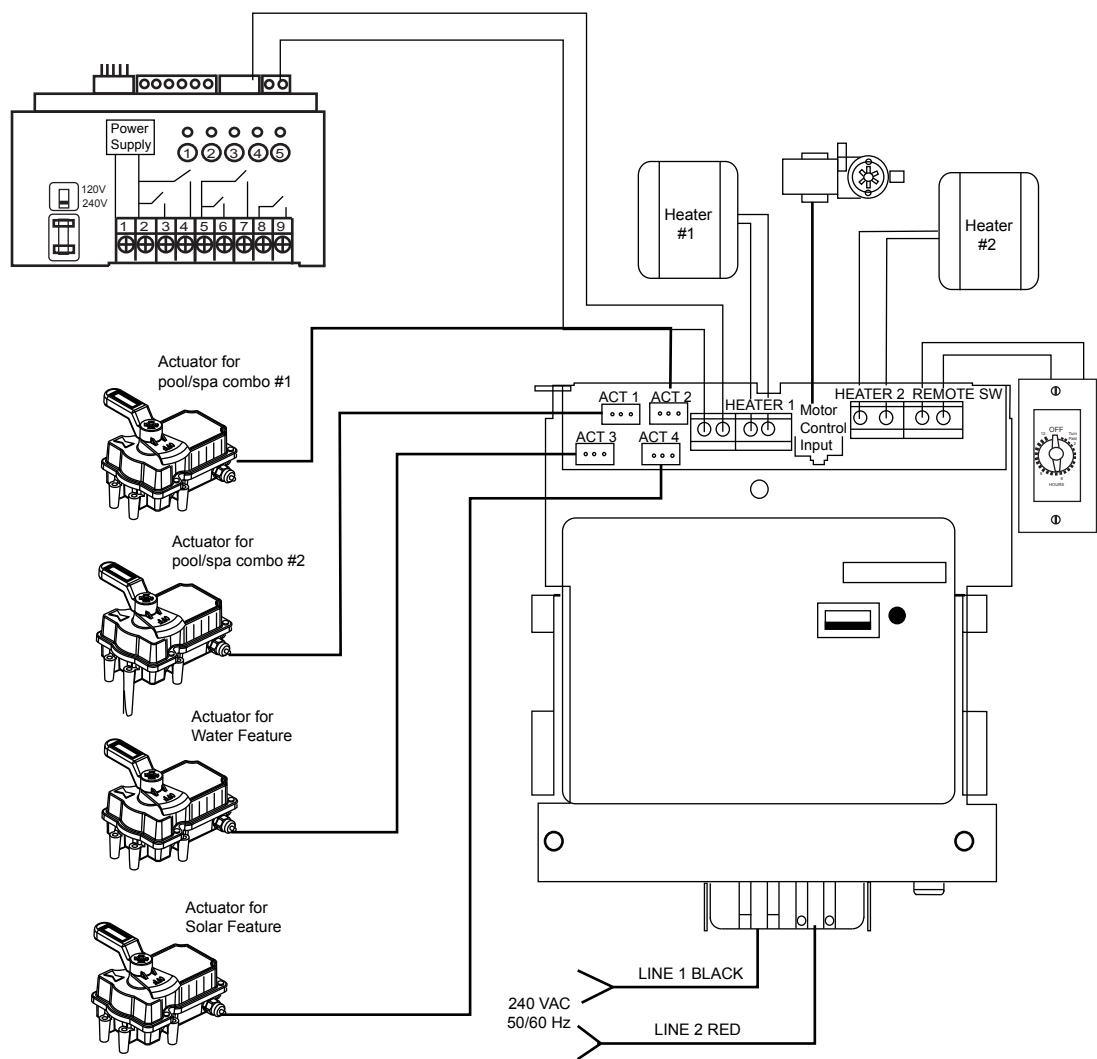


Figure 9. Connecting equipment to P5043ME module.

Refer to Figure 9 above and the guidelines below to connect the applicable pool/spa equipment to the P5043ME.

Pool/Spa Component	Guidelines
MultiWave (PE653) Receiver	Connect two wires from the RS485 connector to the top of the MultiWave receiver to the RS485 connector on the P5043ME module. <b>Be sure to observe proper polarity.</b>
Valve Actuators for Pool/Spa Combination Systems	Connect as shown in Figure 9 ( <b>ACT 1</b> and <b>ACT 2</b> ).
Valve Actuator for Water Feature	Connect as shown in Figure 9 ( <b>ACT 3</b> ).
Valve Actuator for Solar Feature	Connect as shown in Figure 9 ( <b>ACT 4</b> ).
Heater #1	Connect two wires from your heater’s external two-wire heater control connection point to the <b>HEATER 1</b> connector on the module.
Heater #2	Connect two wires from your heater’s external two-wire heater control connection point to the <b>HEATER 2</b> connector on the module.
Remote Switch Dry Contact	Connect wires to <b>REMOTE SW</b> connector only. Do not connect to a switch with voltage applied.
Motor Control Input	Connect RJ45 connector that’s attached to the end of a CAT5-568B cable into the <b>MOTOR</b> connector on the module.

Connecting the Variable Speed Pump to the P5043ME

- A CAT5-568B network cable is required to route between the module and variable speed pump.
1. Insert the CAT5-568B connector to the motor control input to the P5043ME module.
  2. Cut off the second RJ45 connector from the other end of the cable and strip each connector wire.
  3. Refer to the applicable variable speed pump manufacturer wiring diagram on next page to connect the wires to the P5043ME.

Connecting the Jandy® Variable Speed Pump to the P5043ME

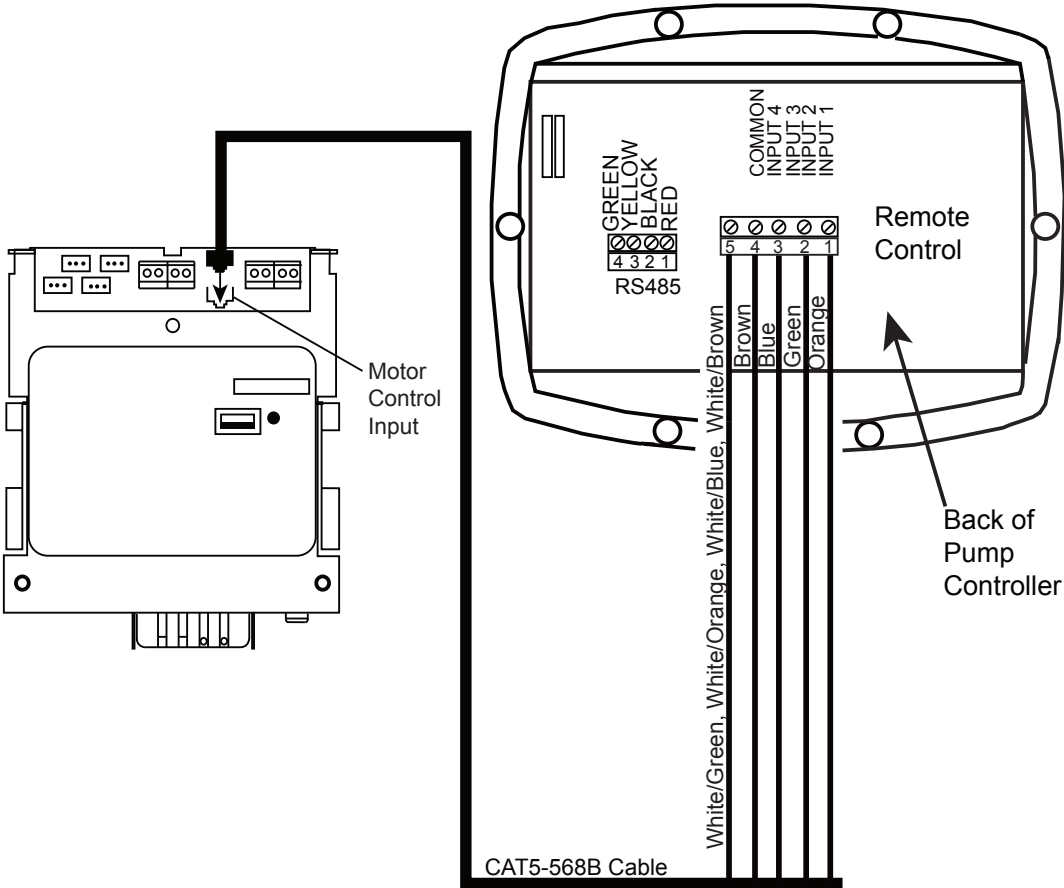


Figure 10. Connecting Jandy® variable speed pump to P5043ME.

Connecting the Hayward EcoStar® Variable Speed Pump to the P5043ME

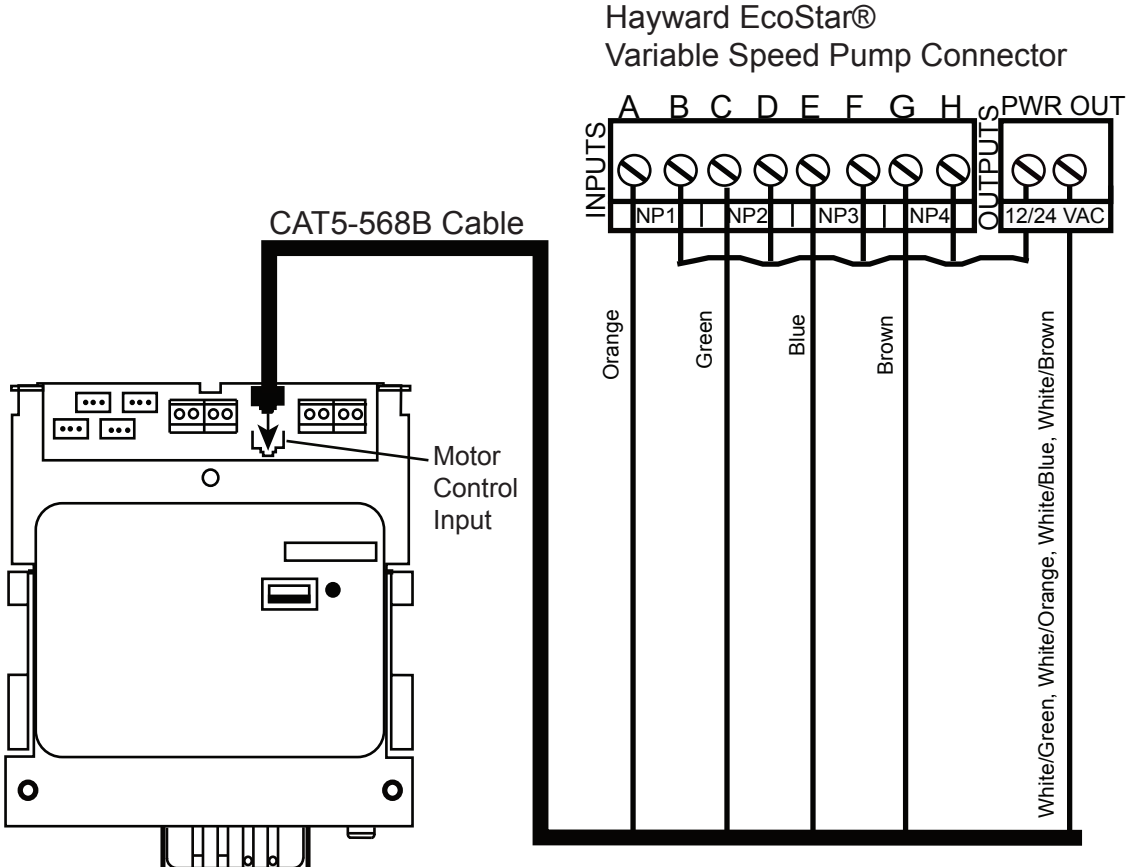


Figure 11. Connecting Hayward EcoStar® variable speed pump to P5043ME.

Connecting the Century® Variable Speed Pump to the P5043ME

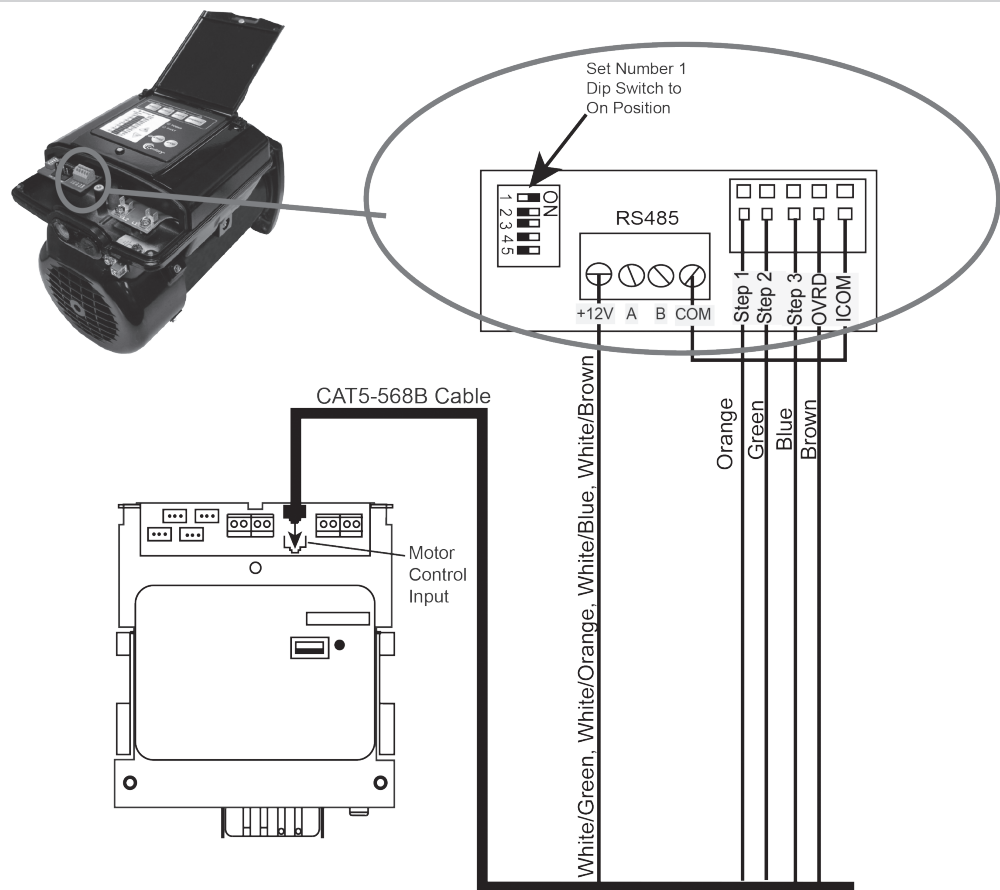


Figure 12. Connecting Century® variable speed pump to P5043ME.

Connecting the Marathon® and Speck® Three Speed Pump to the P5043ME

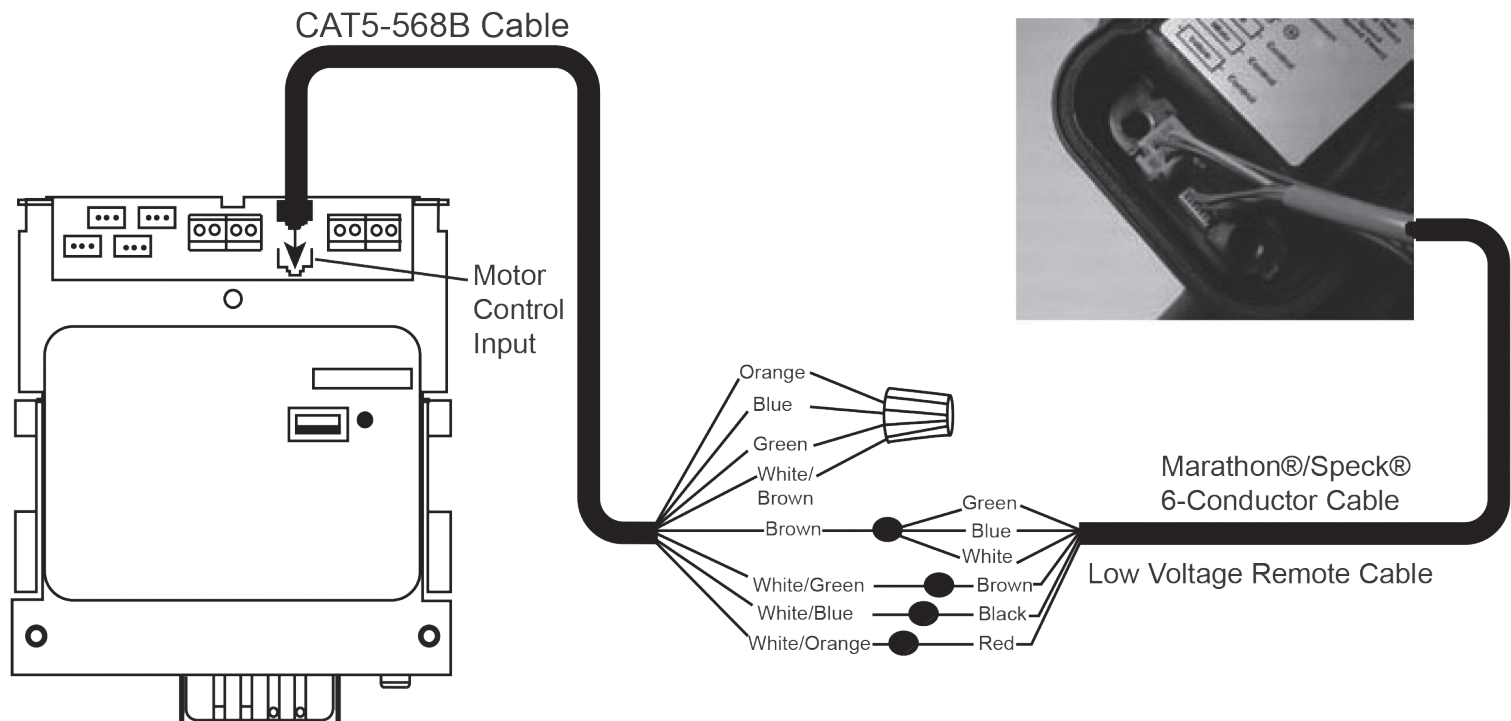


Figure 13. Connecting Marathon® and Speck® three speed pump to P5043ME.

## Verifying Installation

Apply power to the P5043ME and the MultiWave system. Verify that the following occurs:

- The USB status solid amber LED illuminates
- The COMM LED status indicator illuminates to verify the P5043ME is communicating with the PE653 receiver.
- Activate your heater outputs, motor control outputs, and 12 VDC motor control configuration to verify the corresponding LED indicators illuminate. See Figure 14 and the table below for description of the LED indicators.

LED Status Indicator	Description
12 VDC	Indicates the motor control connector on the P5043ME is configured for either a Marathon® or Speck® pump and outputs 12 VDC when switching pump speeds.
COMM	Indicates data is being exchanged between the PE653 and the P5043ME devices.
RLY1, RLY2, RLY3, RLY4	Indicates a particular speed select output status is ON for the pump connected to the motor control connector on the P5043ME.
HTR1, HTR2	Indicates a particular heater output is calling for a connected heater to activate.
USB Status LED	Indicates the system is powered up and ready. Please refer to color identification key on the module label for any other color.

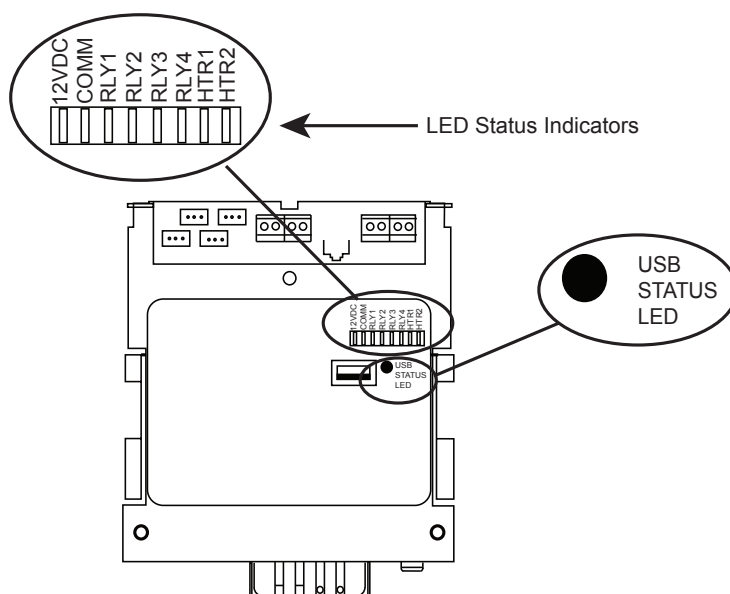


Figure 14. P5043ME with LED indicators.

## LIMITED ONE-YEAR WARRANTY

If within the warranty period specified, this product fails due to a defect in material or workmanship, Intermatic Incorporated will repair or replace it, at its sole option, free of charge. This warranty is extended to the original household purchaser only and is not transferable. This warranty does not apply to: (a) damage to units caused by accident, dropping or abuse in handling, acts of God or any negligent use; (b) units which have been subject to unauthorized repair, opened, taken apart or otherwise modified; (c) units not used in accordance with instructions; (d) damages exceeding the cost of the product; (e) sealed lamps and/or lamp bulbs, LED's and batteries; (f) the finish on any portion of the product, such as surface and/or weathering, as this is considered normal wear and tear; (g) transit damage, initial installation costs, removal costs, or reinstallation costs.

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This warranty service is available by either (a) returning the product to the dealer from whom the unit was purchased or (b) completing a warranty claim online at [www.intermatic.com](http://www.intermatic.com).

This warranty is made by: Intermatic Incorporated, Customer Service 7777 Winn Rd., Spring Grove, Illinois 60081-9698. For warranty service go to: <http://www.intermatic.com> or call 815-675-7000.