



Premier Remotes Boatlift Controls Installation Instructions

Read All Directions before Installation. Installation should be performed by a qualified electrician adhering to the National Electric Code. These instructions do not supersede the National Electric Code or any local codes. It is the recommendation of Premier Remotes to wire all boat lift controls at 240 volts with neutral and ground. Additionally, GFCI must be provided. The lamp feature will not operate if the controller is wired at 240 volts without neutral. The controller can be wired at 120 volts with neutral but motor loads must be considered.

Tools Required

5/16 (4mm) standard slotted screwdriver
1/8 standard slotted screwdriver
Security Pin T25 screwdriver
Wire Strippers
Drill or Impact Driver with bits

Caution: Failure to wire the control unit correctly can damage the printed circuit board and void warranty. Please verify the unit and motors are wired correctly before energizing the unit.

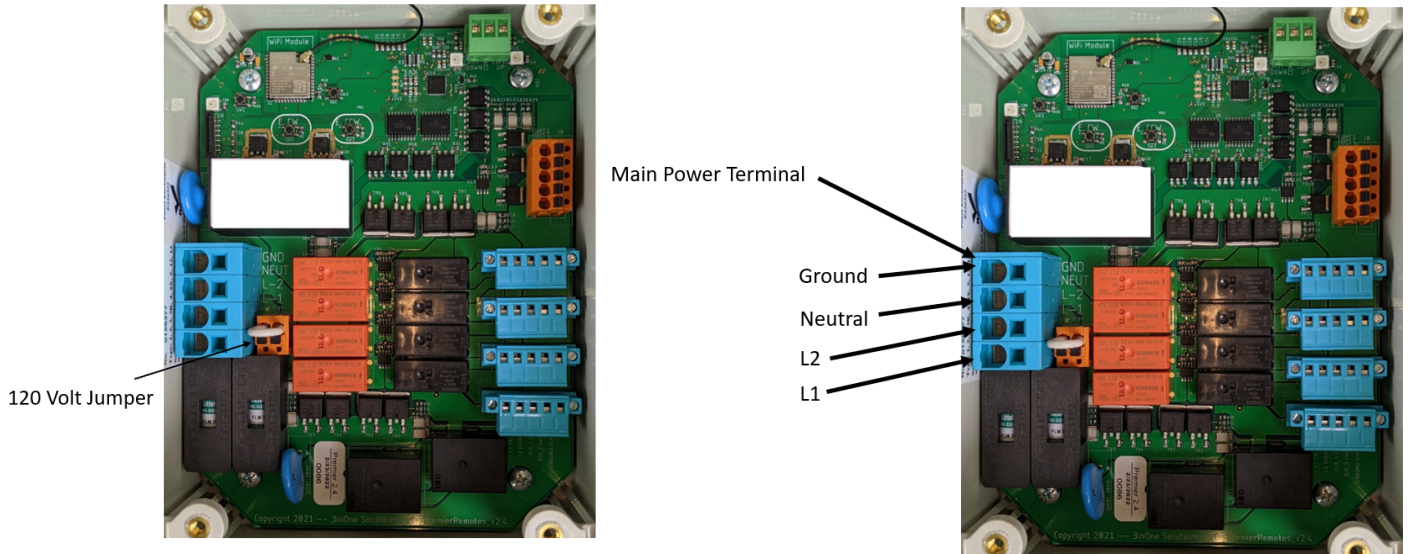
Warning: Voltage drop and lighting loads must be considered for the Premier Remote Controller to function properly. Incorrect wiring can result in damage to the Premier Remote Controller and boat lift motors! Please read all the instructions prior to installation. Please refer to the motor label for ampacity usage and code compliance. Please refer to Chart 1 as a reference.

General Specification

- Designed to operate at 120/240VAC
- Box(s) will operate 1 motor, 2 motor, and 4 motor lifts depending on model
- The lighting/aux circuits require the neutral leg of the 240VAC to be connected in order to operate.
- Please see Chart 1 for suggested wire size between the main overload protection and the motors.
- Each lamp control will support up to 800 watts each; you must consider feeder load to properly size the wire to support lighting demand. All lighting demand is supported by L1. If you are using the lighting function, please ensure the circuit is large enough to support the motor loads and the lighting loads. Please See Chart 2.

1) Wiring Procedures

**All Premier Remote control units come pre-wired for 240V applications. To convert the premier remote controller to 120V, install the provided jumper wire in the 120V jumper terminal that is located above the fuses and to the right of the power block. The wire can be installed by simply pressing one end of the wire into each side of the orange 12 Volt Jumper terminal plug. The wire can be removed by pressing the black release tabs located in the center of the jumper terminal. Please see Appendix A for a complete labeled diagram of the Premier Remote Controller.



The main terminal block is located on the right hand side of the control board. Strip the ends of L1, L2 if used, Neutral, and ground of the feeder wires 11/16th (18 MM) of an inch. Connect the main feed wire(s) to L1 and L2 as labeled on the power terminal block by inserting the wires. The wires should press into the terminal block with no tools required as the terminal block utilizes a spring-cage clamp; however, for stranded wire, it may be necessary to help the spring open by inserting the provided screwdriver into the right hand side of the terminal block to assist with opening the spring-cage clamp. Connect the neutral wire and ground wire as labeled on the terminal block in the same manner.

Follow the outline below for 120V, 240V and 240V with no neutral applications.

120V

Connect the main feed wire to L-1 (usually Black)

Connect the neutral wire to the neutral lug (usually a white wire)

Connect the ground wire to the ground lug. (usually a green wire)

Verify a jumper wire is installed in the jumper terminal that is located above the the fuses and to the right of the

240V

Connect one of the main feed wires to L1 (usually Black)

Connect the second main feed wire to L2 (usually Red)

Connect the neutral wire to the neutral lug (usually a white wire)

Connect the ground wire to the ground lug. (usually a green wire)

240V with no neutral; please note the lamp feature of the box will not function.

Connect one of the main feed wires to L1 (usually Black)

Connect the second main feed wire to L2 (usually Red)

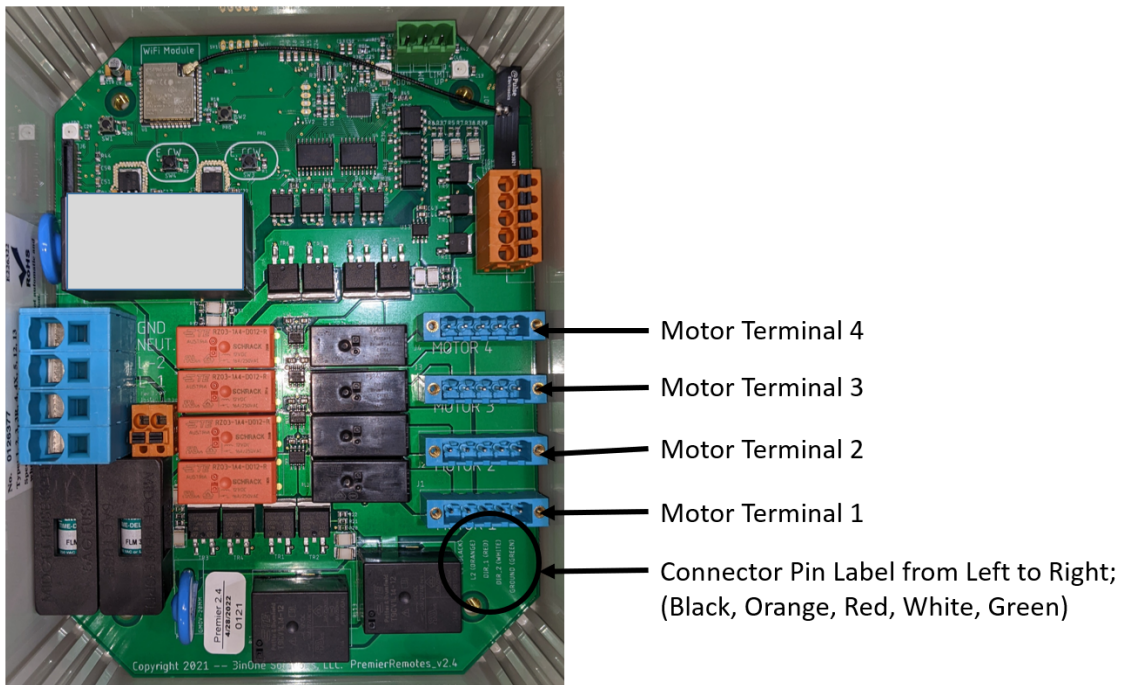
Connect the neutral wire to the neutral lug (usually a white wire)

Connect the ground wire to the ground lug (usually a green wire)

2) Wiring the Motors Circuits

The premier remote circuit board is marked with motor connectors 1, 2, 3, and 4. The markings on the PCB indicate standard boatlift wiring colors from left to right.

- 1 - (L1) BLACK
- 2 - (L2) ORANGE
- 3 - (DIR_1) RED
- 4 - (DIR_2) WHITE
- 5 - (GROUND) GREEN



Connect the motor wires to the motor connectors provided on the Premier Remotes control board. Starting left to right with the plug in the correct orientation, tighten black, orange, red, white (only if wired 120V), and green. After the wires are tightened in the correct location in the connector, plug the connector in the correct motor terminal. Then tighten the set screws on the left and right of the connector. **Failure to tighten the set screws can result in an over-current situation and potentially damage the printed circuit board.**

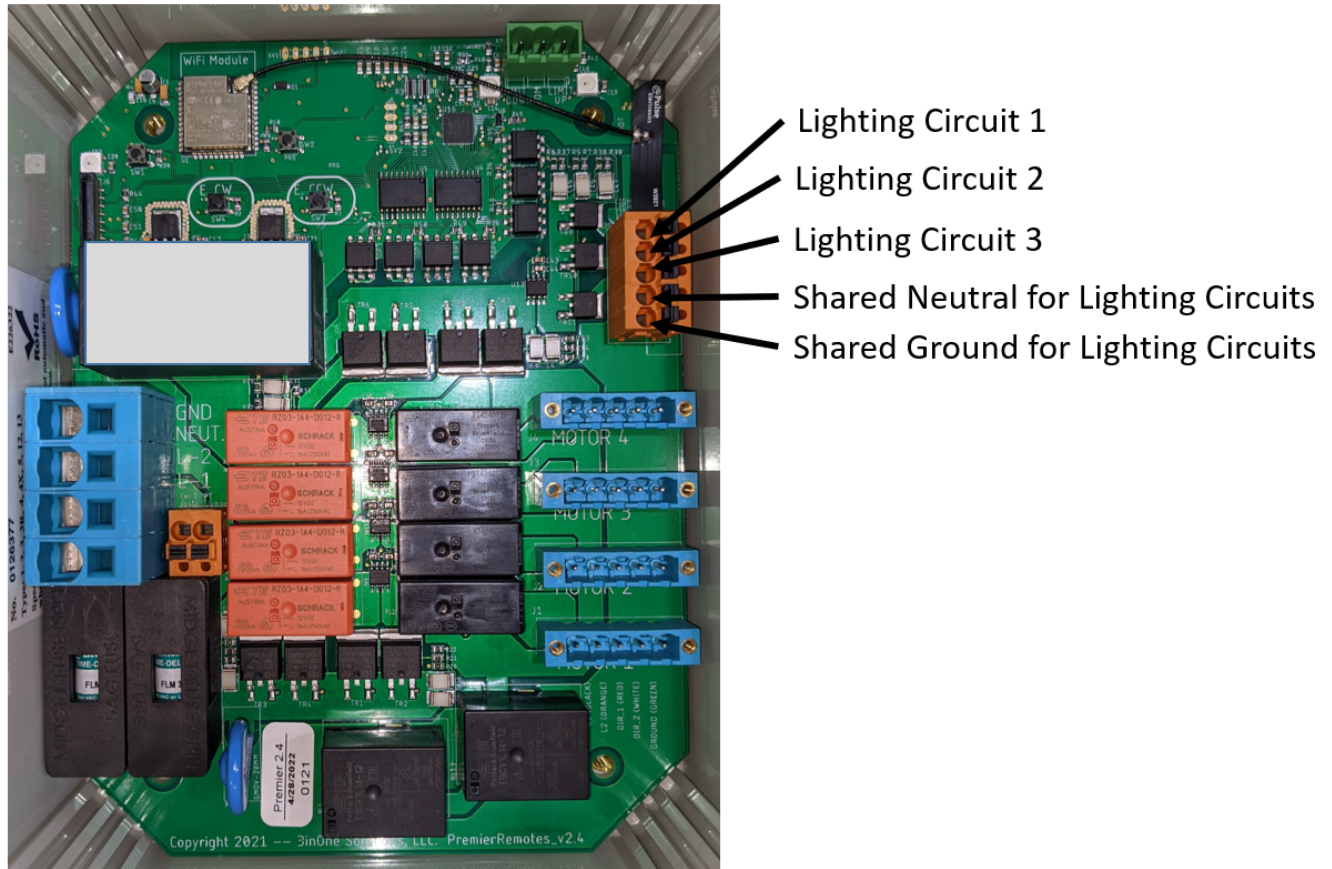
Galvanic Corrosion - Motor Circuits must have separate grounds and should only be grounded at the motor terminal for the galvanic corrosion feature to work properly.

Reversing Drum Switches - See motor wire diagrams in appendix B. If the control box is replacing a drum switch or other type of drum switch, wires will need to be swapped at the motor or at the motor terminal connector. In a 120V application, usually the white and orange are swapped at the motor terminal on the PCB board. Verify the correct wiring based on the individual motors wire diagram.

3) Wiring Lighting Circuits

**Lighting circuits will not function if a neutral is not present on incoming feeder wires. If the control unit is wired 240 without a neutral, the lighting circuits will not function.

The Premier remote controller can accommodate up to 3 lighting circuits depending on load demands. Each lighting circuit can accommodate 800 watts (6.67 Amps) each. Please see chart 2. Do not exceed a combined total of 1800 (15 Amps) for all circuits. A separate switch leg is required for each light or groups of lights. The neutral and ground can be shared for lighting circuits and connected with a wire connector such as a wire.



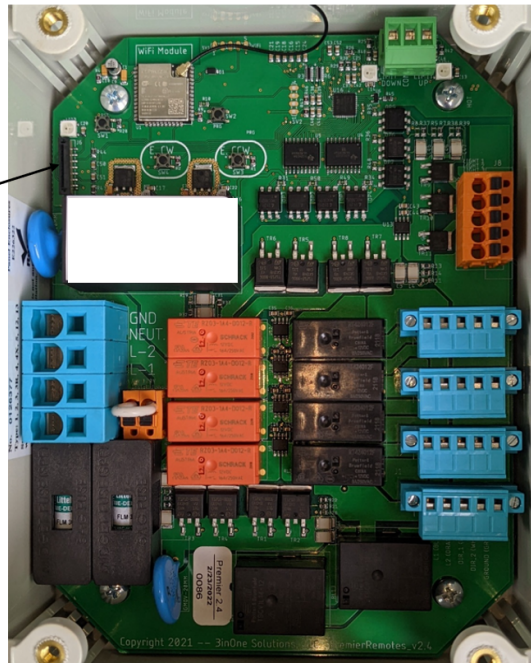
To connect wires for the lighting circuits, strip the ends of the switch leg(s), neutral, and ground of the wires 5/8th (16 MM) of an inch. Next press the stripped end of the switch leg into the corresponding terminal location. Press the neutral and ground wire into the correct location on the lighting terminal block. If multiple lighting circuits are being used, the neutrals for the lighting circuits can be connected together via a wire nut and pigtail to connect to the lighting terminal block. Similarly, with multiple lighting circuits, the grounds for the lighting circuits can be connected together via a wire nut and pigtail to connect to the lighting terminal block

4) Front Panel Installation

****Caution - Do not insert the end of the ribbon into the PCB board while energized. This can cause a short resulting in the motors to engage and run either up or down.**

With the feeder circuit controlling the Premier Remote turned off, insert the end of the ribbon from the front panel into the ribbon terminal on the printed circuit board. Using the mounting screws from the front panel, tighten the front panel screws into the mounting feet of the control unit.

Front Panel
Ribbon Terminal



Insert and push the
ribbon from the front
panel to seat it into
the ribbon terminal.



5) Panel Operation

UP/DOWN Button

Press and hold the UP or DOWN button to move the lift in the desired direction. Release the UP or Down button to stop the lift. The lift will stop when the limit switch is reached.

AUTO-RUN

To run the Lift Up or Down in automatic mode, Press the UP or DOWN button twice and release. The Lift will then raise or lower until the limit switch is reached and then Stop. The lift can be stopped in "AutoRun" by pressing either the UP or DOWN button.

Note: The software will force a 3 second delay when changing direction of the motors. Repeatedly running the motor in the SAME direction should not incur any delay and should have no adverse effects even if the motor has not come to a complete stop.

Note: The premier remote unit must be paired to WiFi at least one time so that the lift settings can be established. If the front panel is used without setting parameters entered, the unit will enter a fault mode and all the lights on the front panel will turn red. Please see Premier Remote Boatlift Control Application Instructions for further instruction on pairing the control unit to WiFi.

6) Limit Switch

Travel limit switches must be properly installed and adjusted. Regardless of manual or automatic mode of operation, the activation of the limit switch in the given direction will stop the motors.

Installation

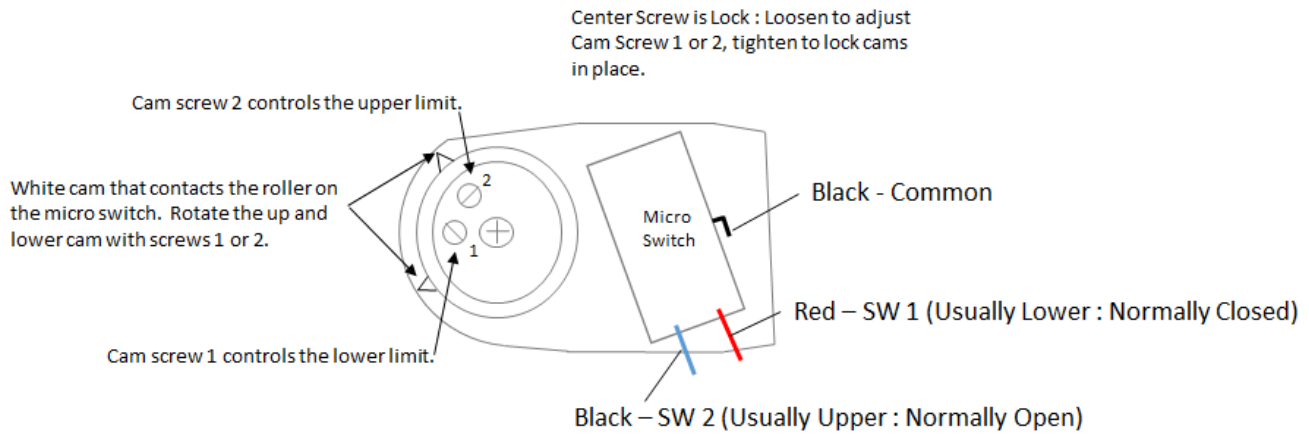
- 1) Ensure the power to the Premier Remote control box is turned off and de-energized.
- 2) Install limit switch at correct mounting location. Mount the limit switch by fork parallels to the pipe. If the fork is not parallel, the limit switch could be damaged or malfunction.
- 3) Using the supplied wire from the limit switch, route the wire to the premier remote box.
- 4) Strip the limit switch wires; red, black, and blue.
- 5) Install the red, black, and blue wires to the lugs in the premier remote box. Black is common, Limit Down is Red (Left), Limit Up is Blue (Right).

Tools Required for adjusting the limit switches (KALS KCLS KELS): Phillips Screwdriver, Small Regular Screwdriver

Adjustment

- 1) Remove the limit switch cover by loosening the two screws holding the cover.
- 2) Press the direction UP button on the Premier Remote Box front panel. When the lift is at the desired maximum height, release the button.
- 3) Loosen the center screw shown in the limit switch diagram.
- 4) Adjust the upper limit using screw 2 (blue wire). Turn the screw so that the cam contacts the micro switch roller arm in the direction the cam was turning. You will hear a small click. If the roller cam is already contacting the switch, turn the screw 2 the opposite direction, move the lift and then readjust.
- 5) Press the up direction button on the Premier Remote Box inside panel. Verify that the lift does not turn on.

- 6) Press the down direction button. Watch the cam that is associated with screw 1. Lower the lift to the minimum height. Turn the cam 1 so that it contacts the micro switch roller arm in the direction the cam was turning.
- 7) Tighten the set screw and reinstall the limit switch cover.



7) Changing Motor Direction

Changing motor direction can be done by changing the direction of the motors at the motor wiring or at the Premier Remote Controller.

To change the motor direction, on "T" motors swap the motor direction wires T5 and T8. On motors that are color wires only swap motor red and motor black. (See appendix B).

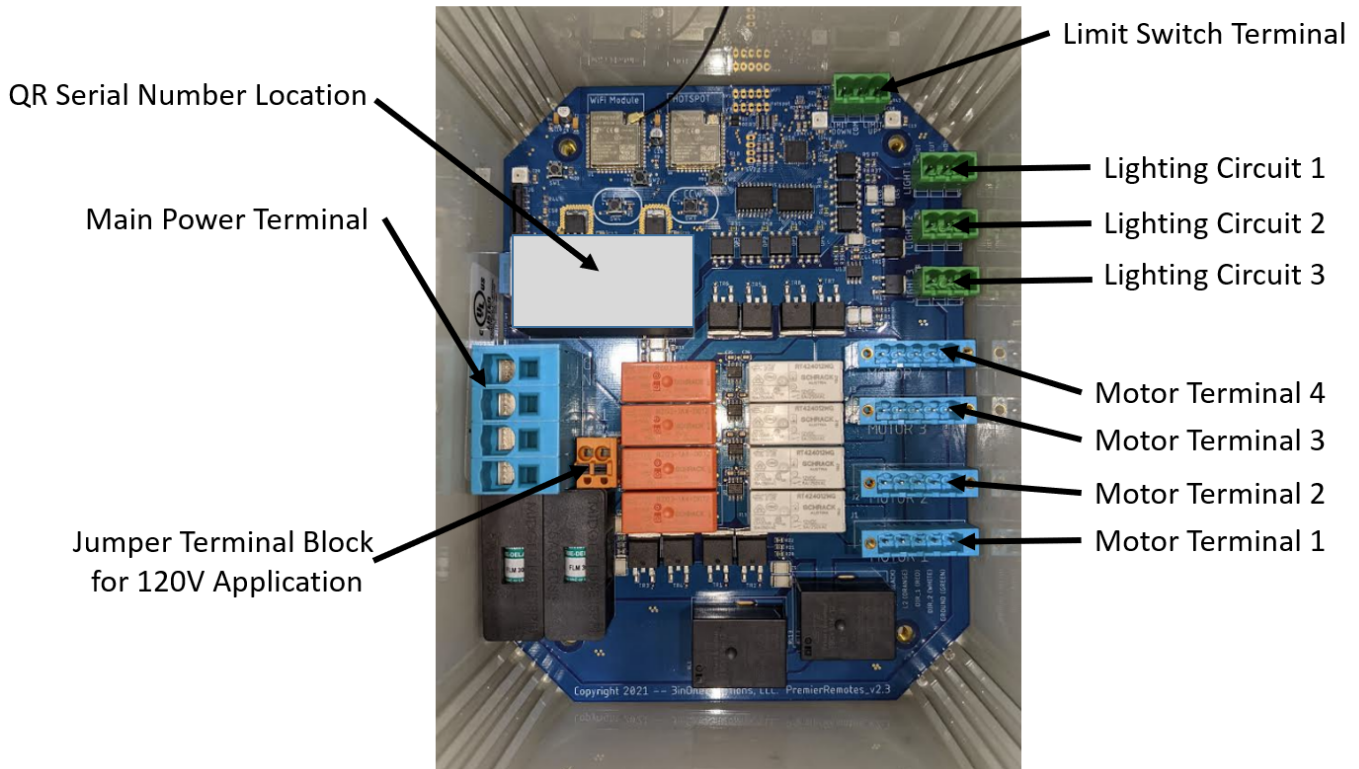
To change the motor direction at the Premier Remote Controller, swap the direction wires. If wired at 120V you will swap wires at terminal direction 1 and direction 2. If wired at 240V you will swap the direction wire from direction 1 to direction 2.

8) Troubleshooting

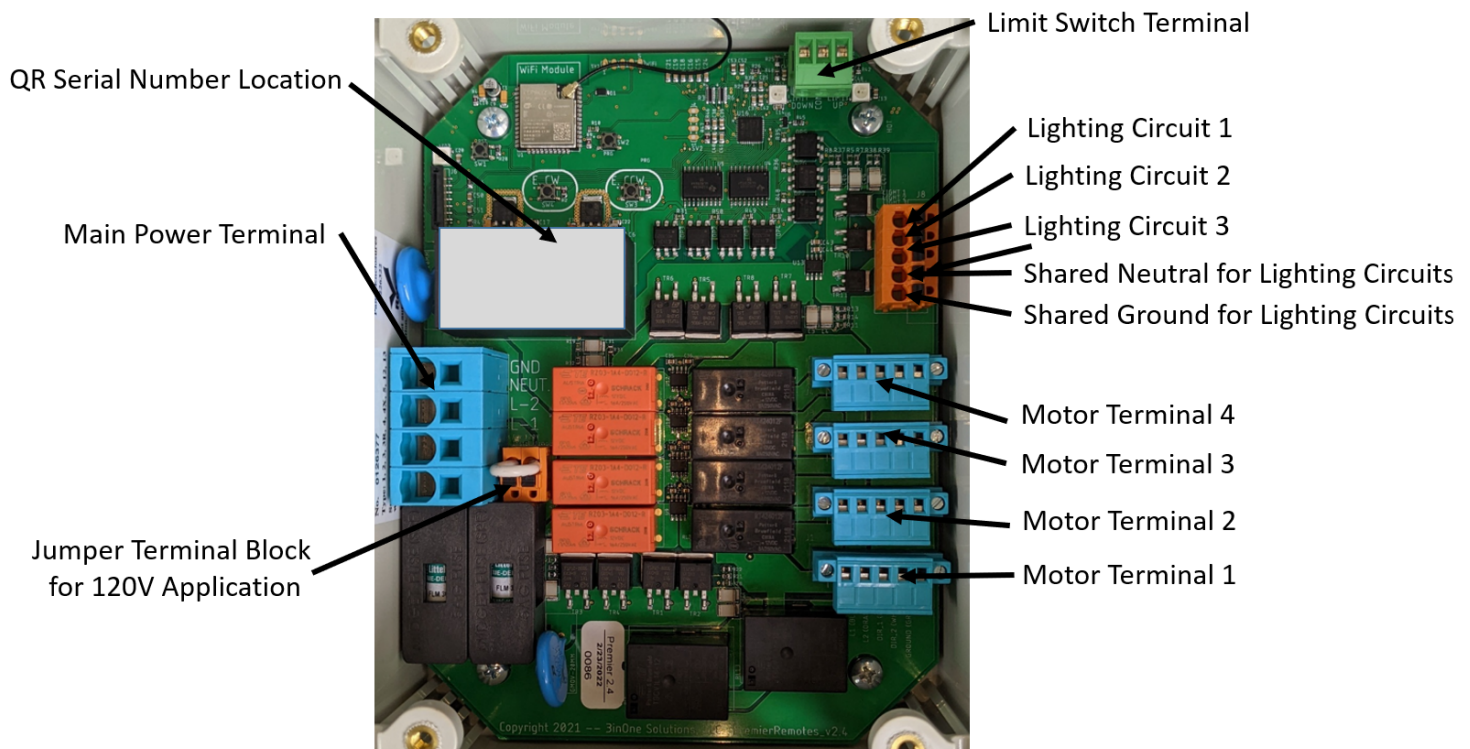
- Control Box has No Power -
 - Check and verify power at the terminal block using a multimeter. Single phase 240 voltage should measure 240V between L1 and L2, it should measure 120V from L1 to ground/neutral, and should measure 120V from L2 to ground/neutral. Single phase 120V should measure 120V from L1 to ground/neutral.
 - If wired 120V, ensure the supplied jumper is inserted in the 120V jumper block.
 - Remove two fuses and check and verify resistance.
- All Motors go in the wrong direction - Change Direction 1 and Direction 2 at the motor terminals on the premier remote control printed circuit board. Refer to section 7.
- Some motors go in the wrong direction. Identify the motor(s) that are moving in the wrong direction.
Option 1 (recommended) - Change the motor direction 1 and direction 2 at the motor terminals on the premier remote control printed circuit board.
Option 2 - Change leads at motor by swapping wires identified with “*”. On “T” motors this is T5 and T8. On spade motors this is typically motor red and motor black. Please see the wiring diagram in appendix B.
- Front Panel is not responding or is not backlit - Refer to Section 3. Ensure the front panel ribbon is seated into the front panel terminal on the Printed Circuit Board.

Premier Remotes Board (Appendix A)

Boards produced from February 2021 to March 2022

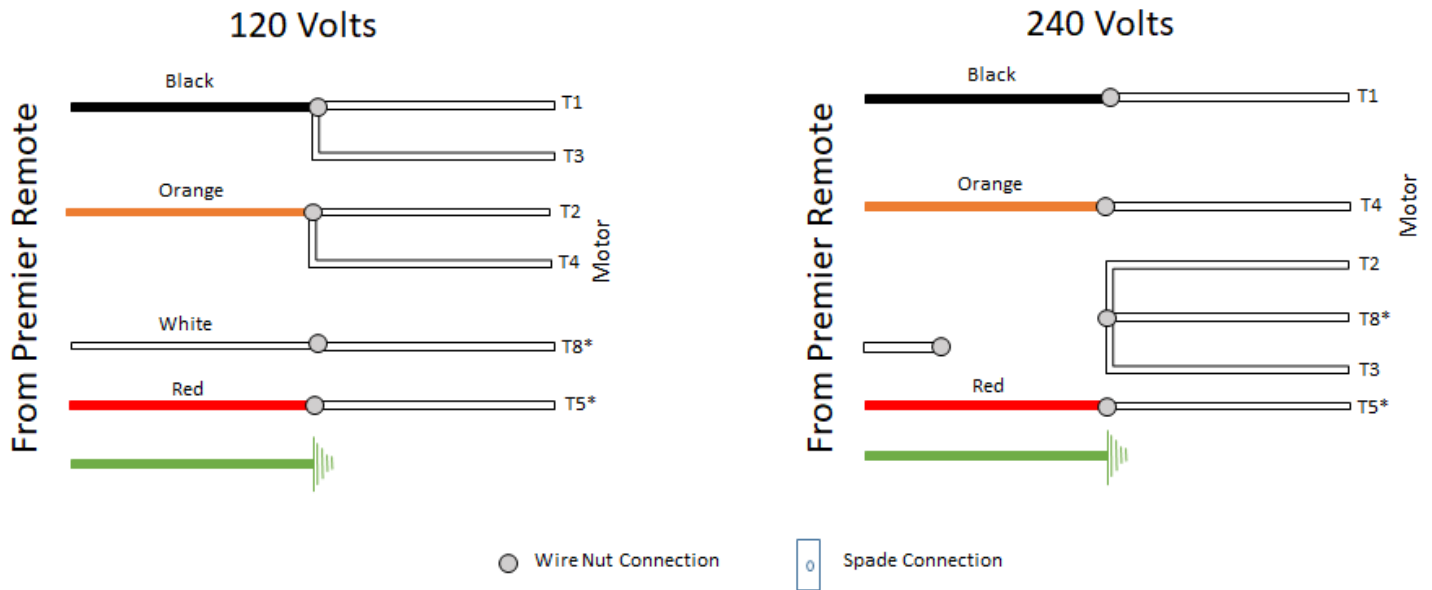


Boards produced from April 2022 to Present

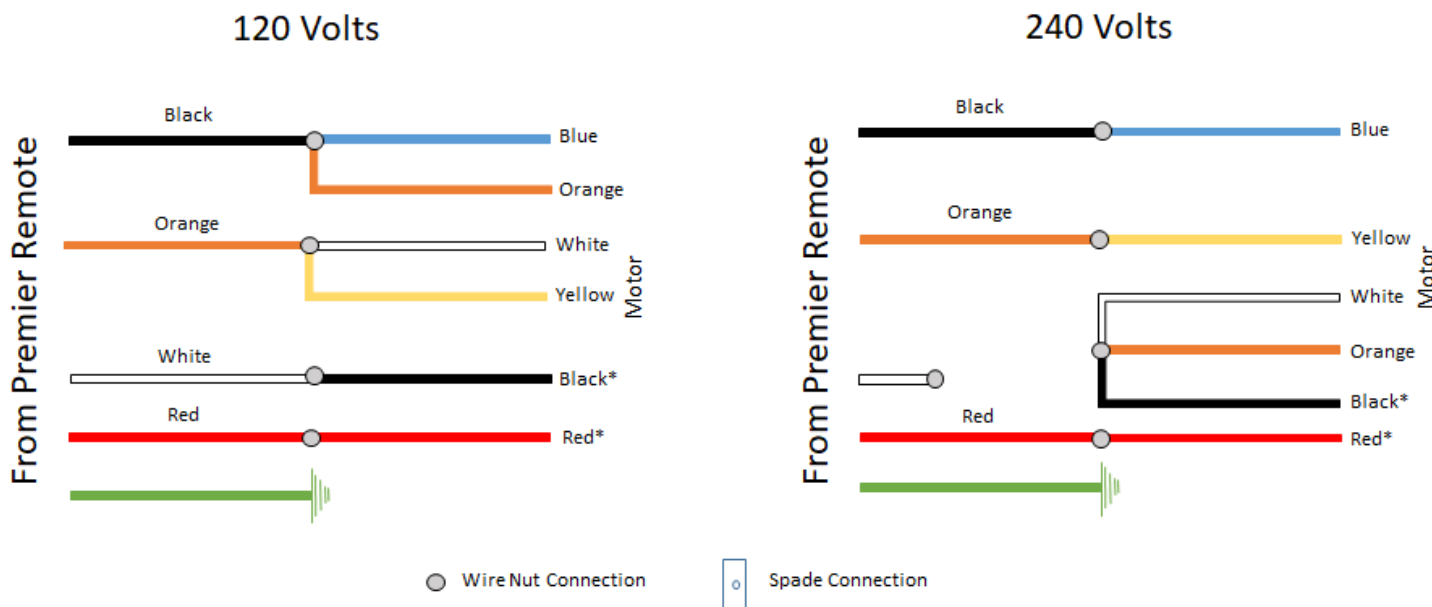


Wiring Diagrams (Appendix B)

ALL T# Motors Leeson

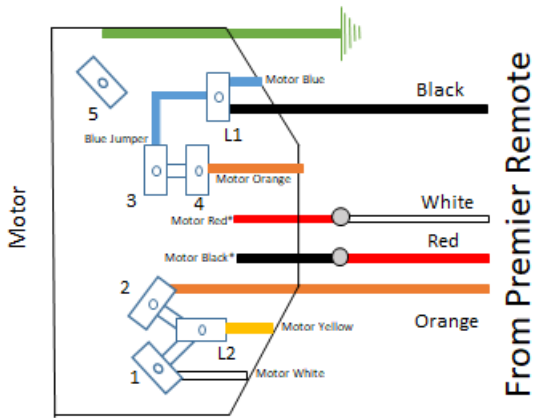


Electra Gear

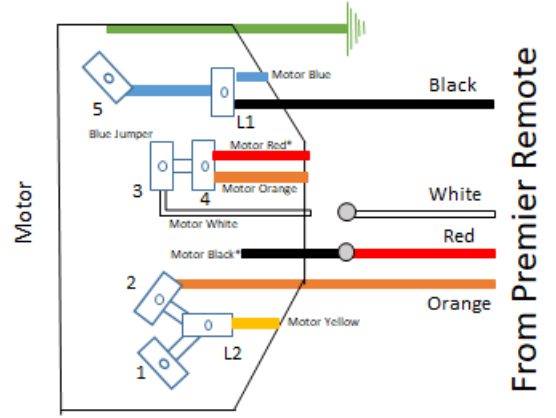


A.O. Smith

120 Volts



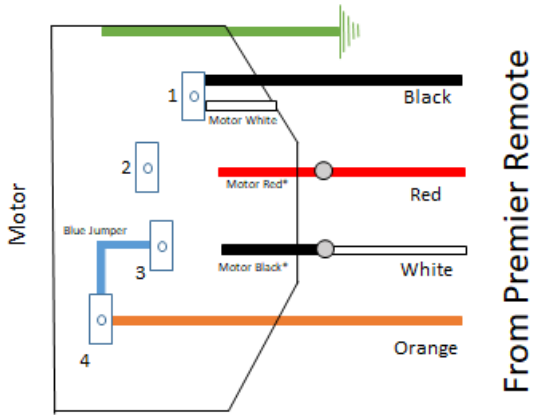
240 Volts



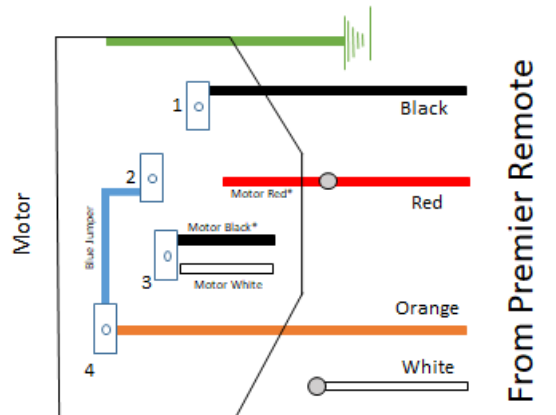
● Wire Nut Connection □ Spade Connection

Elite Motors

120 Volts



240 Volts



● Wire Nut Connection □ Spade Connection

Chart 1

Recommended Copper Wire Size AWG 75C for Premier Remote Controller - This is a guide only. Installation should be performed by a qualified electrician and adhere to the National Electric Code. **When using the lighting functions you must calculate the correct size wiring for your application.**

# of Motors	Motor HP	120 Volt AC Feeder							240 Volt AC Feeder						
		Motor Amps	Breaker Size	50 Feet	100 Feet	200 Feet	300 Feet	400 Feet	Motor Amps	Breaker Size	50 Feet	100 Feet	200 Feet	300 Feet	400 Feet
1	1/2	9.4	15	12	12	8	6	6	4.7	5	14	14	12	12	12
	3/4	11.3	15	12	10	8	6	4	5.7	10	14	12	12	12	10
	1	15.6	20	12	10	6	4	4	7.8	10	12	12	12	10	10
	1-1/2	17.7	20	12	8	6	4	3	8.9	10	12	12	12	10	8
2	1/2	18.8	20	10	8	6	4	3	9.4	10	12	12	10	10	8
	3/4	22.6	25	10	8	4	3	2	11.3	15	12	12	10	10	8
	1	31.2	35	8	6	4	2	1/0	15.6	20	12	12	10	8	6
	1-1/2	35.4	40	8	6	3	1	2/0	17.7	20	12	10	8	6	6
4	1/2								18.8	20	12	10	8	6	6
	3/4								22.6	25	10	10	10	6	4
	1								31.2	35	8	8	6	4	4
	1-1/2								35.4	40	8	8	6	4	3
	2								41.8	45	6	6	4	4	2

Chart 2

**This Chart assumes 240V Connection. This chart provides examples of approximate lighting circuit loads maximums given size of motors used in a 4 motor application.

	3/4 HP	1 HP	1.5 HP	2 HP
Motor 1 Amps	5.7	7.8	8.9	12.4
Motor 2 Amps	5.7	7.8	8.9	12.4
Motor 3 Amps	5.7	7.8	8.9	12.4
Motor 4 Amps	5.7	7.8	8.9	12.4
Motors Sub Total Amps	22.8	31.2	35.6	49.6
Light 1 Amps	6.66	5.5	3.33	x
Light 2 Amps	6.66	5.5	x	x
Light 3 Amps	6.66	x	x	x
Light Sub Total Amps	19.98	11	3.33	0
TOTAL AMPS	42.78	42.2	38.93	49.6