

Section 1: Description

The following document provides detailed instructions for wiring 50Hz Three Phase Equipment in a commercial setting.

Section 2: Equipment Overview

The three phase equipment includes the Hydraulic Power Unit for the swim current and/or Optional Hydraulic Treadmill and the Heater-Controller. The Hydraulic Power Unit (if purchased) will be pre-wired according to the operating voltage that was ordered.

NOTE: The Circulation Pump and optional equipment is powered by Heater-Controller.

Section 3: Electrical Requirements

The power requirements will be dictated by the equipment ordered and the supplied incoming voltage. The Hydraulic Power Unit(s) MUST be on their own dedicated circuit. An electrical shut off MUST be installed within 5' (1,5m) of the intended location of the equipment.

Refer to the chart below when configuring the incoming electrical supply. Refer to **Equipment Wiring** for detailed wiring instructions.

THREE PHASE HYDRAULIC POWER UNIT	VOLTAGE	MAX AMPS	CIRCUITS REQUIRED
ORIGINAL ENDLESS POOL	220-240/380-415V	15.0/8.7A	1
PERFORMANCE ENDLESS POOL	220-240/380-415V	15.0/8.7A	1
HIGH-PERFORMANCE ENDLESS POOL	220-240/380-415V	29.3/16.9A	1
ELITE ENDLESS POOL	220-240/380-415V	29.3/16.9A	1
DUAL PROPULSION ENDLESS POOL	220-240/380-415V	2x 15.0/8.7A	2
OPTIONAL HYDRAULIC TREADMILL	220-240/380-415V	15.0/8.7A	1

THREE PHASE HEATER MODEL	VOLTAGE	MAX AMPS	CIRCUITS REQUIRED
GECKO HEATER-CONTROLLER IN.YE	240V (+5/-10 %)	16A	1

CIRCULATION PUMP MODEL	CIRCUITS REQUIRED
PENTAIR SUPERFLO	Powered by Gecko Heater-Controller

OPTIONAL EQUIPMENT	CIRCUITS REQUIRED
HYDROTHERAPY JETS	Powered by Gecko Heater-Controller
UNDERWATER LIGHTS	Powered by Gecko Heater-Controller

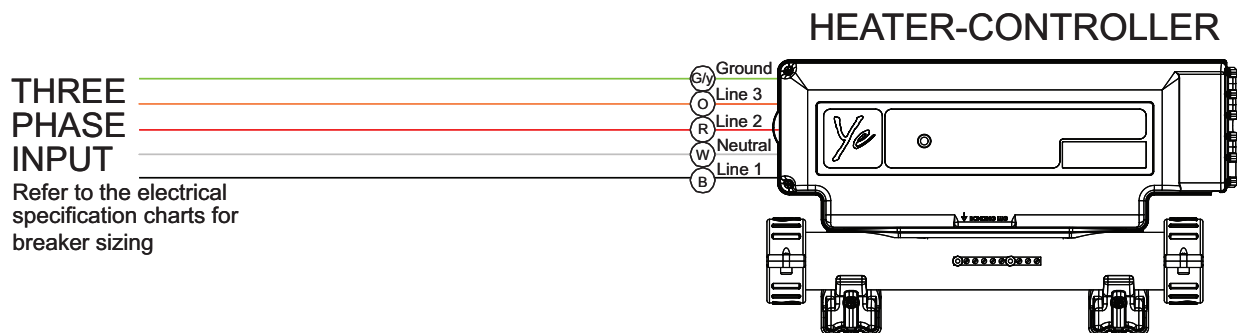
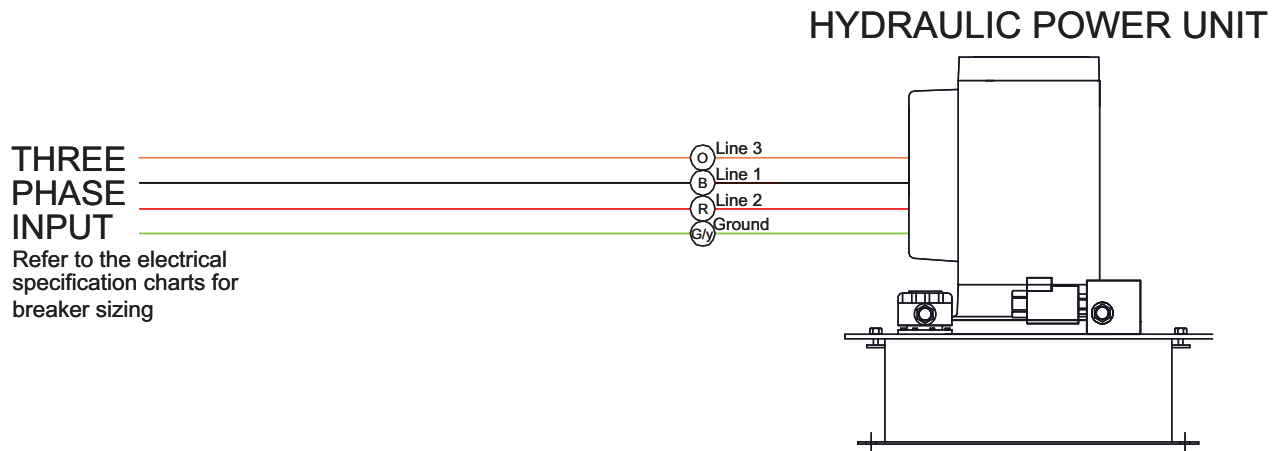
IMPORTANT NOTES:

1. If multiple treadmills were ordered, each treadmill MUST have a dedicated circuit.
2. Some Endless Pools models require an additional Gecko Heater-Controller requiring a dedicated circuit.

Section 4: Equipment Wiring

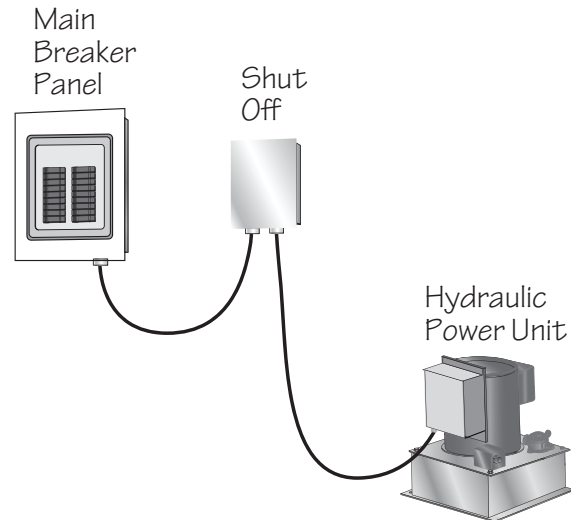
The illustration below provides an overview of the equipment wiring. Refer to the detailed instructions for the Hydraulic Power Unit and Heater-Controller wiring on the following pages.

IMPORTANT NOTE: Three Phase motors require an initial inspection to ensure proper rotation. Once installed, momentarily cycle power on and then off. Note the rotation of motor shaft as it comes to a stop. If wired correctly the motor shaft will match the rotation arrow noted on the pump.



Hydraulic Power Unit Wiring

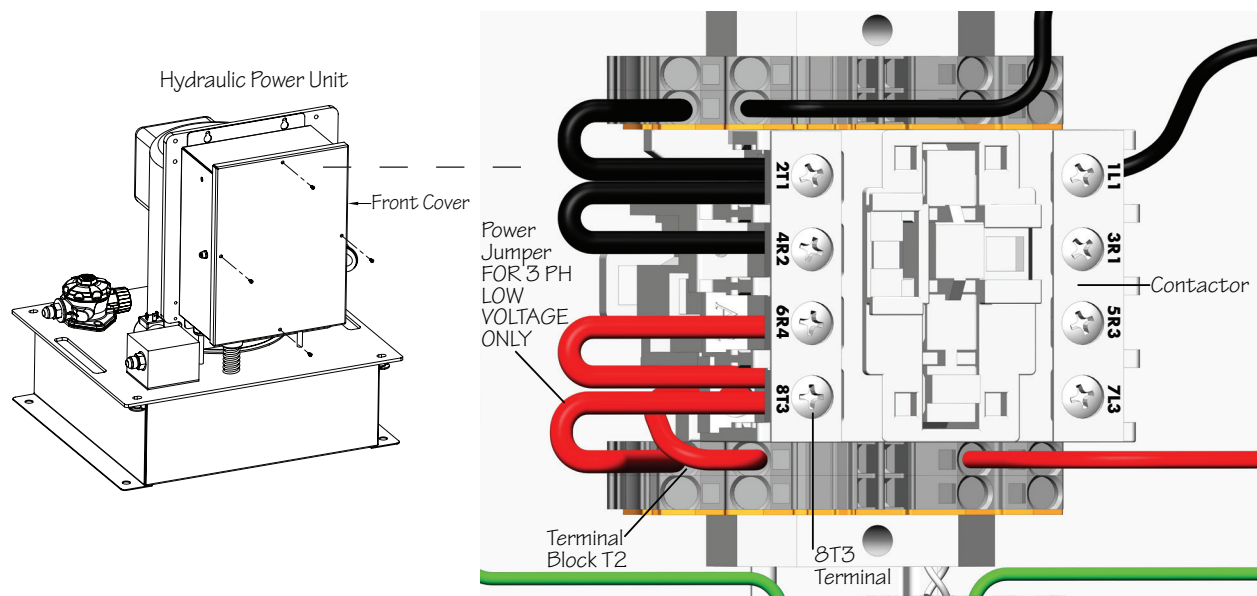
The Hydraulic Power Unit will have a 6' (1,83m) electrical whip factory-installed for the incoming power. Connect the electrical whip to the power supply.

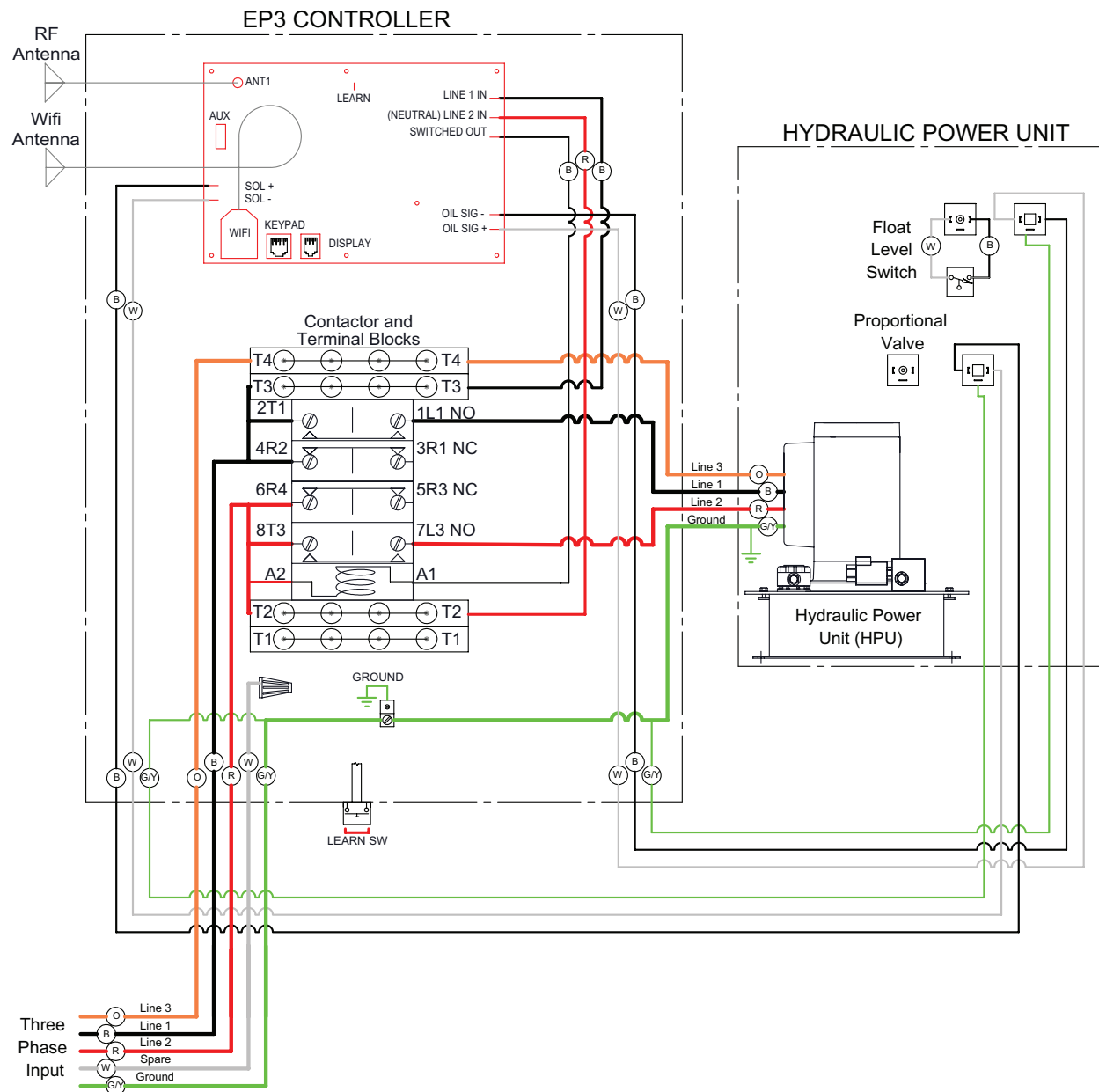


If haven't done so already, remove the Front Cover of the Power Unit Controller and remove the clear bag labeled "Three Phase Power Jumper." **IF WIRING TO THREE PHASE LOW VOLTAGE (220-240V) POWER SUPPLY, this jumper wire MUST be connected between Terminal 8T3 (lower left terminal on the Contactor) and Terminal Block T2 below the Contactor. DO NOT INSTALL JUMPER WIRE IF WIRING TO THREE PHASE HIGH VOLTAGE (380-415V) POWER SUPPLY.**

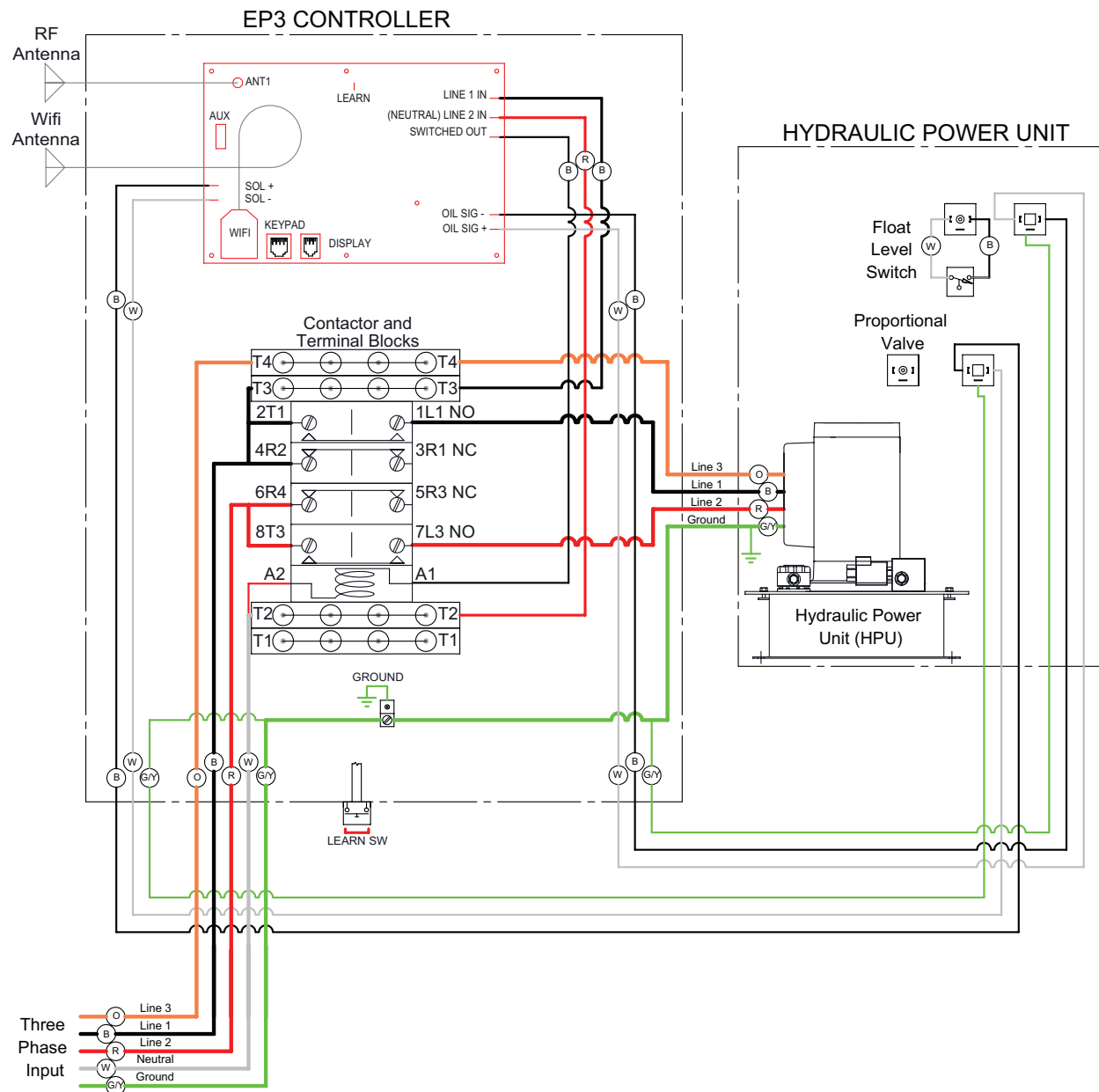
Refer to the wiring diagram on the **following page** for Three Phase Low Voltage 220-240V wiring.

Refer to the wiring diagram on **Page 5** for Three Phase High Voltage 380-415V wiring.



THREE PHASE 50HZ LOW VOLTAGE 220-240VFOR THREE PHASE, THREE WIRE, SERVICE ONLY.

- THREE PHASE, LINE TO LINE VOLTAGE, MUST BE 220-240V
- NO NEUTRAL WIRE IS NECESSARY IN THE THREE PHASE INPUT
- ADD PROVIDED WIRE JUMPER BETWEEN TERMINAL 8T3 OF CONTACTOR AND TERMINAL BLOCK 2.

THREE PHASE 50HZ HIGH VOLTAGE 380-415V

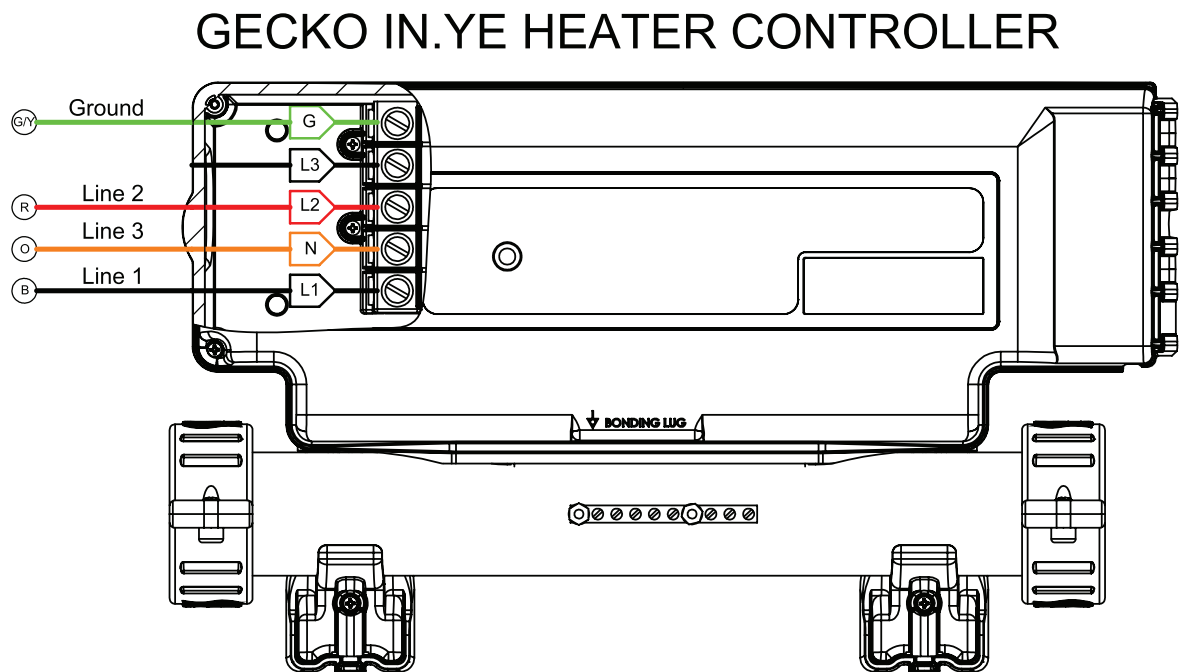
FOR THREE PHASE, FOUR WIRE, SERVICE ONLY.

- THREE PHASE, LINE TO LINE VOLTAGE, MUST BE 380-415V
- THREE PHASE, LINE TO NEUTRAL VOLTAGE, MUST BE 220-240V
- VERIFY THE THREE PHASE JUMPER BETWEEN CONTACTOR TERMINAL 8T3 AND TERMINAL BLOCK 2 IS REMOVED.

Heater-Controller Wiring - LOW VOLTAGE 220-240V

A 10' (3m) electrical whip (containing 5 wires) is provided to supply power to the Heater-Controller. All Heater-Controller Accessories are then hard wired to the Heater-Controller.

Connect the electrical whip to the power supply. **The white wire will not be used in this configuration.** Remove the front cover of the controller by removing the screws. Connect the whip to the opening on the left side of the controller. Connect the black wire to the L1 terminal. Connect the red wire to the L2 terminal. Connect the orange wire to the N terminal. Connect the green wire to the G terminal. Proceed to **Heater-Controller Accessory Wiring: Low Voltage 220-240V** on **Page 8**.



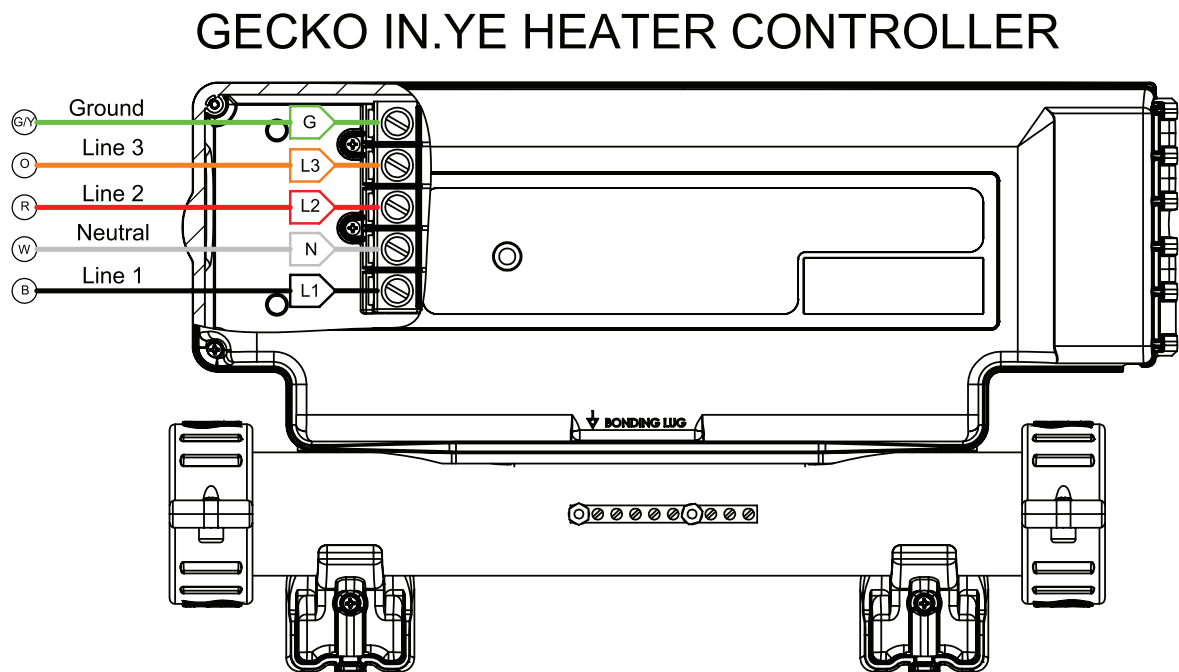
FOR THREE PHASE, THREE WIRE, SERVICE ONLY.

- THREE PHASE, LINE TO LINE VOLTAGE, MUST BE 220-240V
- NO NEUTRAL WIRE IS NECESSARY IN THE THREE PHASE INPUT

Heater-Controller Wiring - HIGH VOLTAGE 380-415V

A 10' (3m) electrical whip (containing 5 wires) is provided to supply power to the Heater-Controller. All Heater-Controller Accessories are then hard wired to the Heater-Controller.

Connect the electrical whip to the power supply. Remove the front cover of the controller by removing the screws. Connect the whip to the opening on the left side of the controller. Connect the black wire to the L1 terminal. Connect the red wire to the L2 terminal. Connect the orange wire to the L3 terminal. Connect the white wire to the N terminal. Connect the green wire to the G terminal. Proceed to **Heater-Controller Accessory Wiring: High Voltage 380-415V** on Page 9.



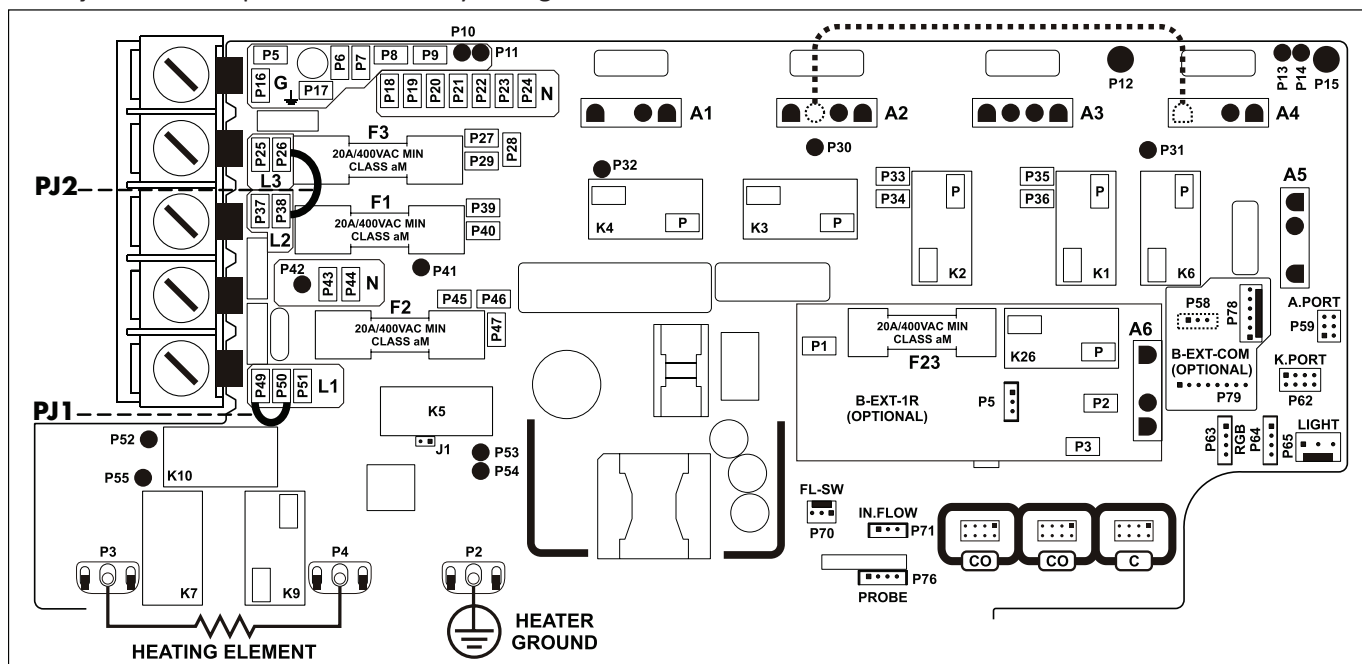
FOR THREE PHASE, FOUR WIRE, SERVICE ONLY.

- THREE PHASE, LINE TO LINE VOLTAGE, MUST BE 380-415V
- THREE PHASE, LINE TO NEUTRAL VOLTAGE, MUST BE 220-240V

Heater-Controller Accessory Wiring: LOW VOLTAGE 220-240V

Power Jumper Wires (PJ1 & PJ2) MUST be removed and connected to the appropriate terminals. Each high voltage accessory wired into the Heater-Controller has an electrical cord with connectors that correspond with the quick connect terminals OR the AMP connectors inside the Heater-Controller. Route the cords from the accessories to the controller. The cords for the Keypad and Optional LED Light Controller should be routed through the strain relief channel on the bottom right side of the controller. Refer to the printed circuit of the controller and the appropriate accessory table below to determine the location of each connection. **NOTE:** If the Optional EZ50 has been ordered (and has an AMP connector), both the Circulation Pump and EZ50 plug into the A4 AMP connection via splitter cable. Plug the splitter into the A4 connector. Then, plug the Circulation Pump and EZ50 into the ends of the splitter.

The Heater-Controller features a cable clamp system (in.claw). Proceed to **Heater-Controller Cable Clamp System** to complete the accessory wiring.



POWER JUMPERS (PJ) BROWN WIRES

Connect PJ1 between P49 & P50
Connect PJ2 between P38 & P26

CIRCULATION PUMP

Quick Connect Terminals	AMP Connector
Green Wire/Ground	P6 A4
Black Wire	K6-P
White Wire	P18

OPTIONAL EZ50

Quick Connect Terminals	AMP Connector
Green Wire/Ground	P7 A4(splitter required)
Black Wire	K1-P
White Wire	P19

OPTIONAL HYDROTHERAPY JETS

Quick Connect Terminals	AMP Connector
Green Wire/Ground	P8 A1
Black Wire	K4-P
White Wire	P20

KEYPAD/KEYPAD EXTENSION (IN.XTEND)

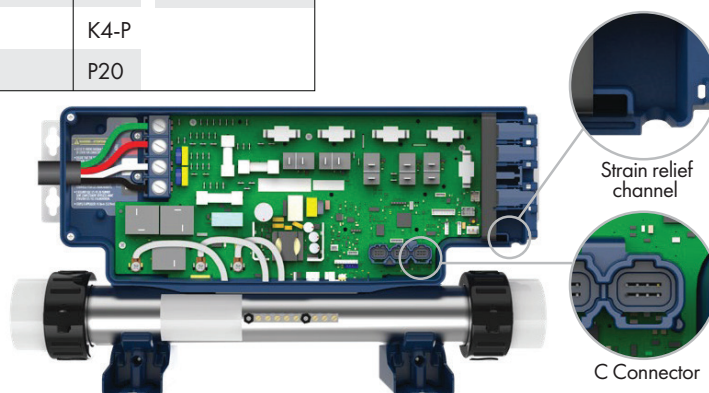
C Connector

OPTIONAL INTERIOR LED LIGHT CONTROLLER

P65 Light Connector

OPTIONAL REMOTE POOL MONITORING (IN.TOUCH)

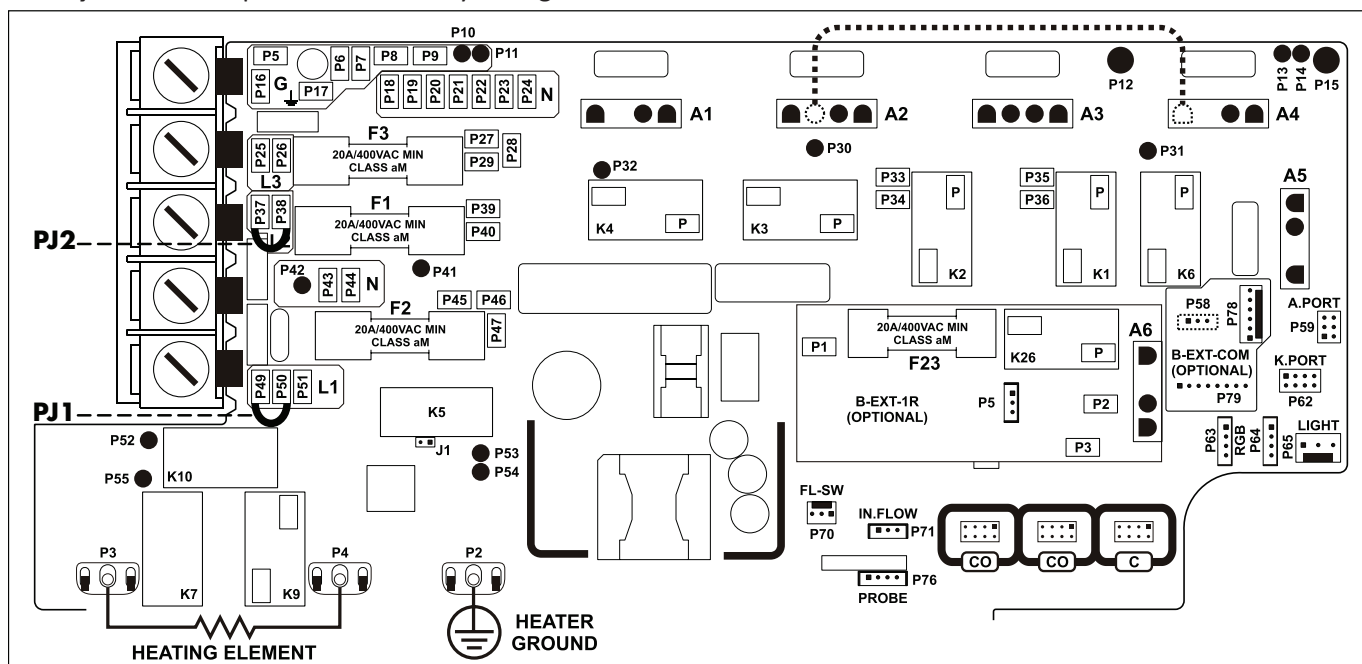
CO Connector



Heater-Controller Accessory Wiring: HIGH VOLTAGE 380-415V

Power Jumper Wires (PJ1 & PJ2) MUST be removed and connected to the appropriate terminals. Each high voltage accessory wired into the Heater-Controller has an electrical cord with connectors that correspond with the quick connect terminals OR the AMP connectors inside the Heater-Controller. Route the cords from the accessories to the controller. The cords for the Keypad and Optional LED Light Controller should be routed through the strain relief channel on the bottom right side of the controller. Refer to the printed circuit of the controller and the appropriate accessory table below to determine the location of each connection. **NOTE:** If the Optional EZ50 has been ordered (and has an AMP connector), both the Circulation Pump and EZ50 plug into the A4 AMP connection via splitter cable. Plug the splitter into the A4 connector. Then, plug the Circulation Pump and EZ50 into the ends of the splitter.

The Heater-Controller features a cable clamp system (in.claw). Proceed to **Heater-Controller Cable Clamp System** to complete the accessory wiring.



POWER JUMPERS (PJ) BROWN WIRES

Connect PJ1 between P49 & P50
Connect PJ2 between P37 & P38

CIRCULATION PUMP

Quick Connect Terminals	AMP Connector
Green Wire/Ground	P6 A4
Black Wire	K6-P
White Wire	P18

OPTIONAL EZ50

Quick Connect Terminals	AMP Connector
Green Wire/Ground	P7 A4(splitter required)
Black Wire	K1-P
White Wire	P19

OPTIONAL HYDROTHERAPY JETS

Quick Connect Terminals	AMP Connector
Green Wire/Ground	P8 A1
Black Wire	K4-P
White Wire	P20

KEYPAD/KEYPAD EXTENSION (IN.XTEND)

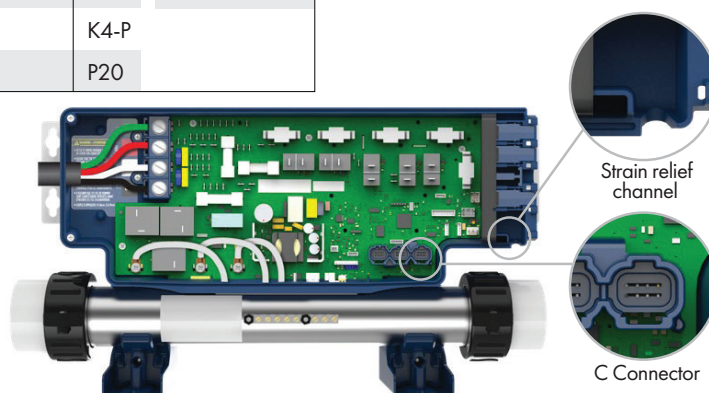
C Connector

OPTIONAL INTERIOR LED LIGHT CONTROLLER

P65 Light Connector

OPTIONAL REMOTE POOL MONITORING (IN.TOUCH)

CO Connector



Section 5: Heater-Controller Cable Clamp System (in.claw)

Remove the empty in.claw from the enclosure (Fig. 1).



Fig. 1

Reinsert the in.claw in its original position, pressing down on either side of the cord (Fig. 4).



Fig. 4

Open the in.claw and place the wire inside. Each in.claw can accept up to 2 cords (Fig. 2)



Fig. 2

Once all in.claws are installed, reinstall the front cover of the Heater-Controller. The cover screws should be tightened to a max of 8lb.in (0.9 N.m).

Close the in.claw on the wire (Fig. 3)



Fig. 3