

# HS653 Negative Pressure Ventilation Controller

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## General Installation Notes:

Make sure that power is disconnected from system prior to servicing.

Installation of this equipment and related OEM equipment should be in accordance with these instructions, OEM's installation instructions and local codes (if applicable). Failure to follow specified instructions may cause damage to equipment and/or personal injury or death.

Take special note of any Warnings or Safety Decals on the equipment and in manuals.

Always wear protective clothing and any applicable Personal Protective Equipment (Safety Glasses and/or Ear Plugs) when working with the equipment.

Discarded materials, equipment and boxes should be recycled in accordance with local and national codes.

**Note:** Negative pressure ventilation controller is to be wired in accordance with all applicable local and national electrical wiring codes. All wiring sizes and fuse capacities are to be sized according to applicable electrical code specifications or other regulations.

## Safety Instructions:

Read all safety messages in this manual and on equipment safety decals. Follow recommended precautions and safe operating practices.

Ground all electrical equipment for safety.

Ground all non-current carrying metal parts to guard against electrical shock.

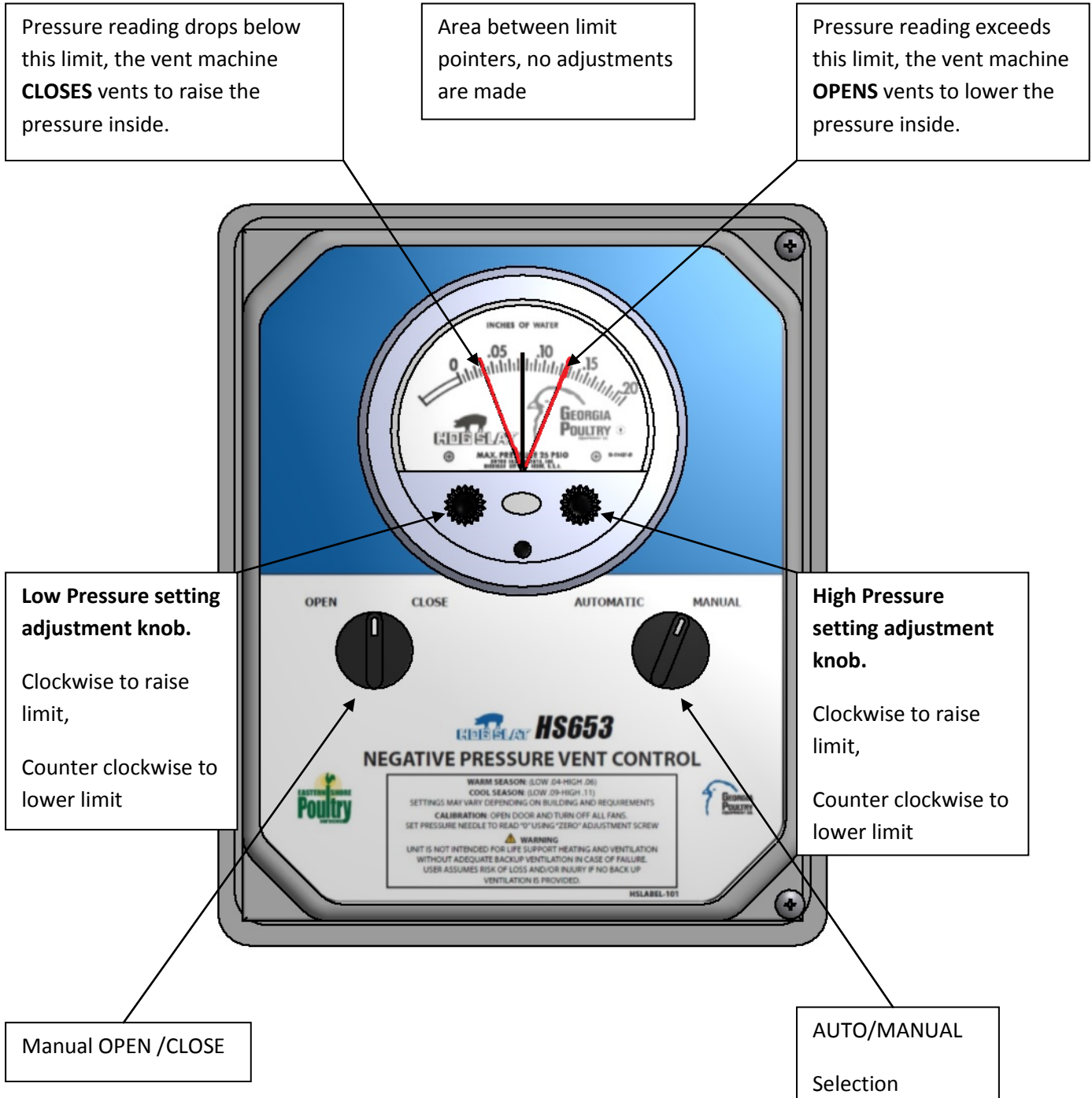
Always keep safety decals in good condition and replace missing or damaged decals.

## Overview:

The Hog Slat Negative Pressure Ventilation Controller utilizes a Photohelic<sup>®</sup> Pressure Switch and gage combination measuring the differential pressure of two monitoring tubes. The gage incorporates an easy to read display and easily adjustable High and Low pressure set point indicators by two control knobs on the front of the unit. The make/break dead band range is the width of a pointer which is sufficient to prevent short cycling operation. The controller is designed to open and close vents as required to maintain house static pressure within the defined range set by the two high and low limit pointers. The controller has onboard relays for direct connection to vent machines to open and close vents in order to regulate the pressure inside the room. Front panel switches provide local control to manually open and close vents.

**Operation:**

The High and Low limit pointers are used to visibly create the desired operating range. When actual pressure drops below the Low limit or exceeds the High limit, onboard relays are activated to either open or close vents.



## Automatic/Manual Mode Setting

The controller has two switches on the front panel. The right side switch selects either Automatic or Manual mode of operation. In Automatic mode, the Photohelic<sup>®</sup> gage controls the vents to maintain pressure within the set-points. In Manual Mode, the vents can be opened or closed manually by the selection of the left side switch either OPEN or CLOSE.

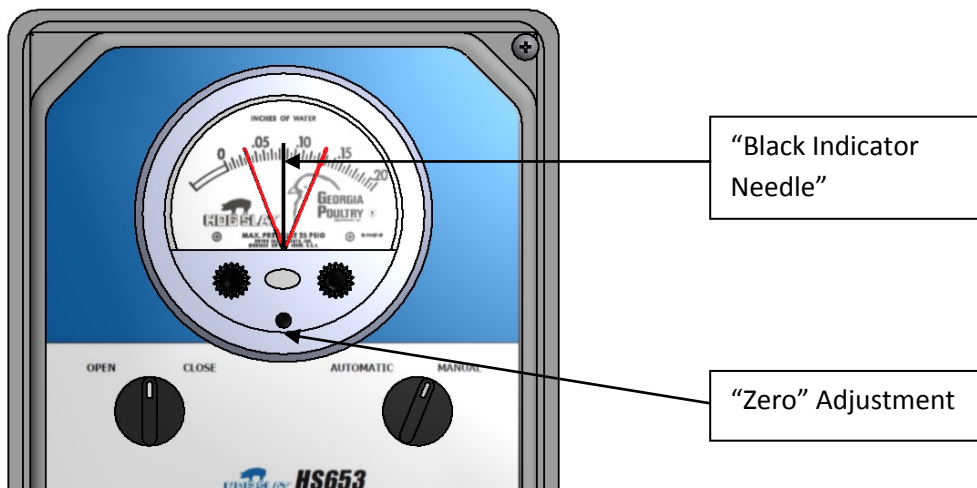
## Electrical Specifications:

Supply Voltage: 120VAC @ 50/60 Hz OR 240VAC @ 50/60 Hz depending on model.

Output Contact Rating: 8A max per Vent machine.

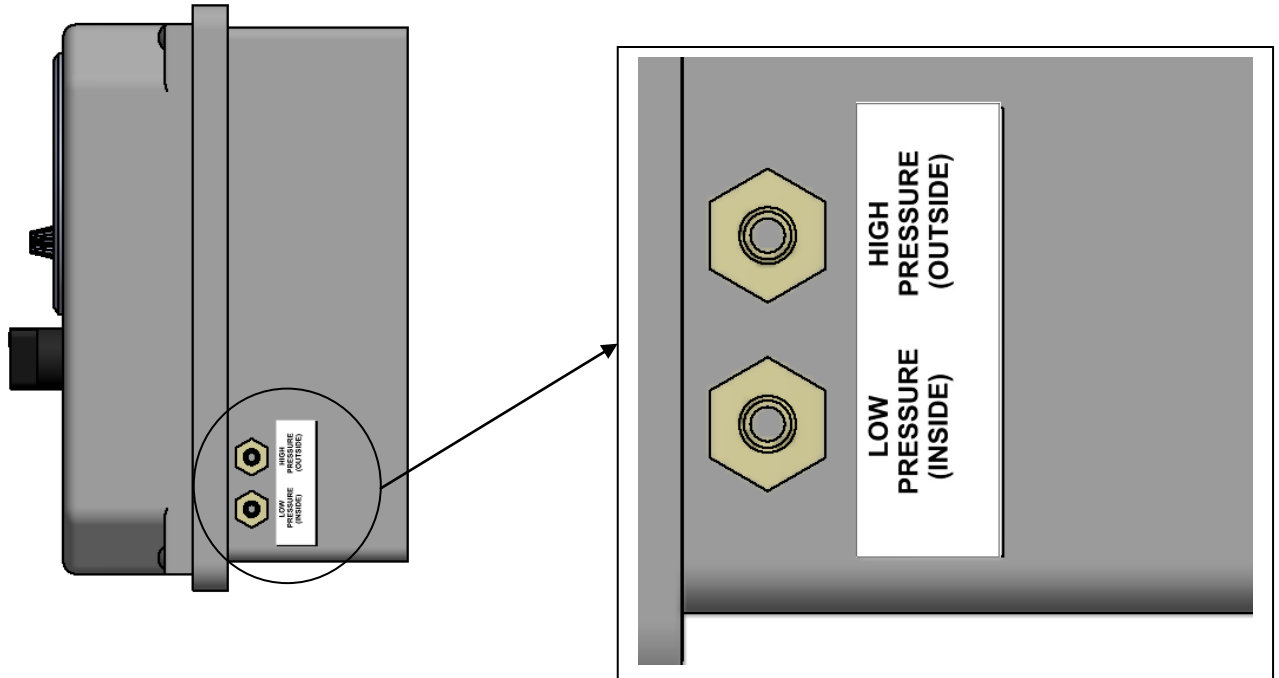
## Installation Instructions:

1. Select location to mount controller. Location should provide adequate ventilation, and safe and easy access.
2. The controller must be mounted vertically.
3. Mount controller using the four mounting holes found on the outside corners of the enclosure. Ensure the controller unit is level and plumb.
4. Wire controller per wiring instructions on page 5.
5. Before the unit can be used, the gage must be zeroed. Open all doors and turn off all fans such that inside pressure of the building is equal to the outside pressure. Set gage to “Zero” by using the “Zero” adjustment screw found on the front of the gage. **(Figure 1)**. Rotate adjustment screw slowly until the “Black” indicator needle aligns with “0” on the gage scale.



**Figure 1**

6. Install inside (low pressure) and outside (high pressure) tubing. Connect tubing to controller to corresponding connection port found on lower right side of enclosure. (Figure 2)



**Figure 2**

7. Install inside (low pressure) tubing inside building where low pressure is created by the fans. Install supplied dust filter to end of tube to protect controller from foreign objects and dust.
8. Install outside (high pressure) tubing outside of room to be controlled either outside of building or in attic space. Place supplied dust filter to end of the tube to protect controller from foreign objects and dust.
9. Ensure tubing is not kinked, cut or damaged during the installation process as this will cause false readings from the pressure gage.
10. Once installation is complete, verify operation.
  - a. Verify vent operation in MANUAL MODE by manually open and close vents with front control switches.
  - b. Verify vent operation in AUTOMATIC MODE by starting fans to produce a negative pressure inside the room. Switch controller to AUTOMATIC . Using limit adjusting knobs on gage, adjust range of each limit setting above and below actual reading and verify proper vent operation.
  - c. Finally, set upper and lower limits to create desired operating range.

**Wiring Instructions:**

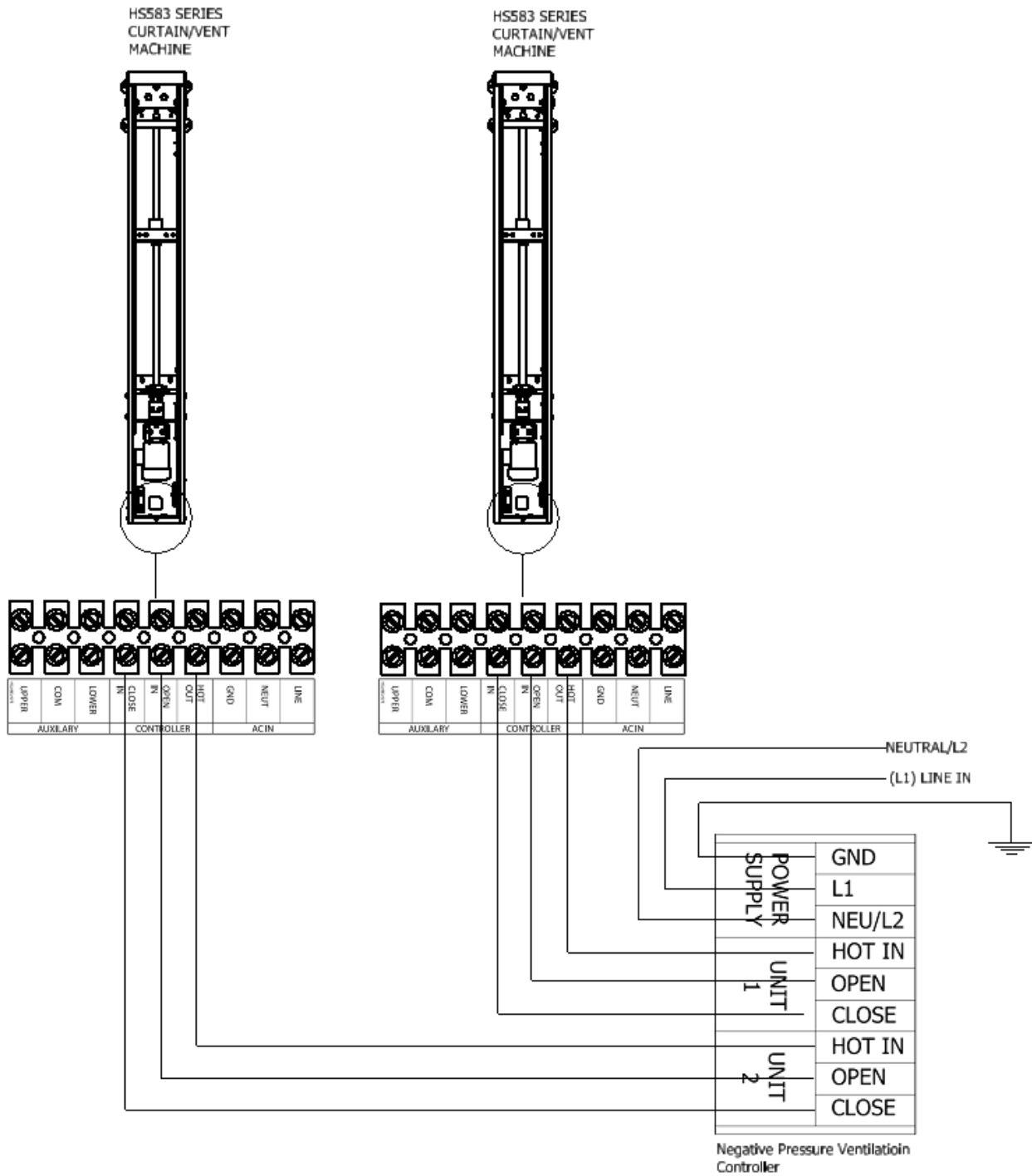


Figure 3

### Connection to RollSeal® Tube Motors

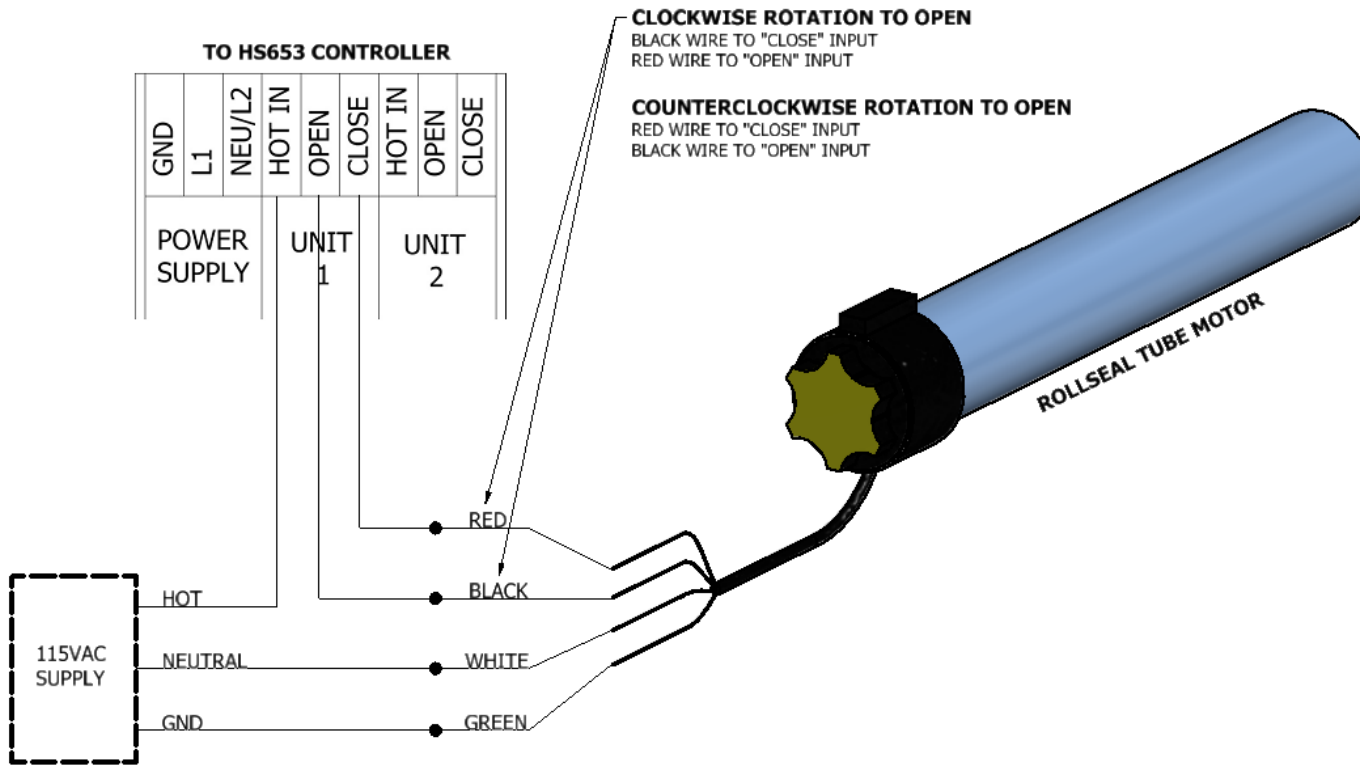
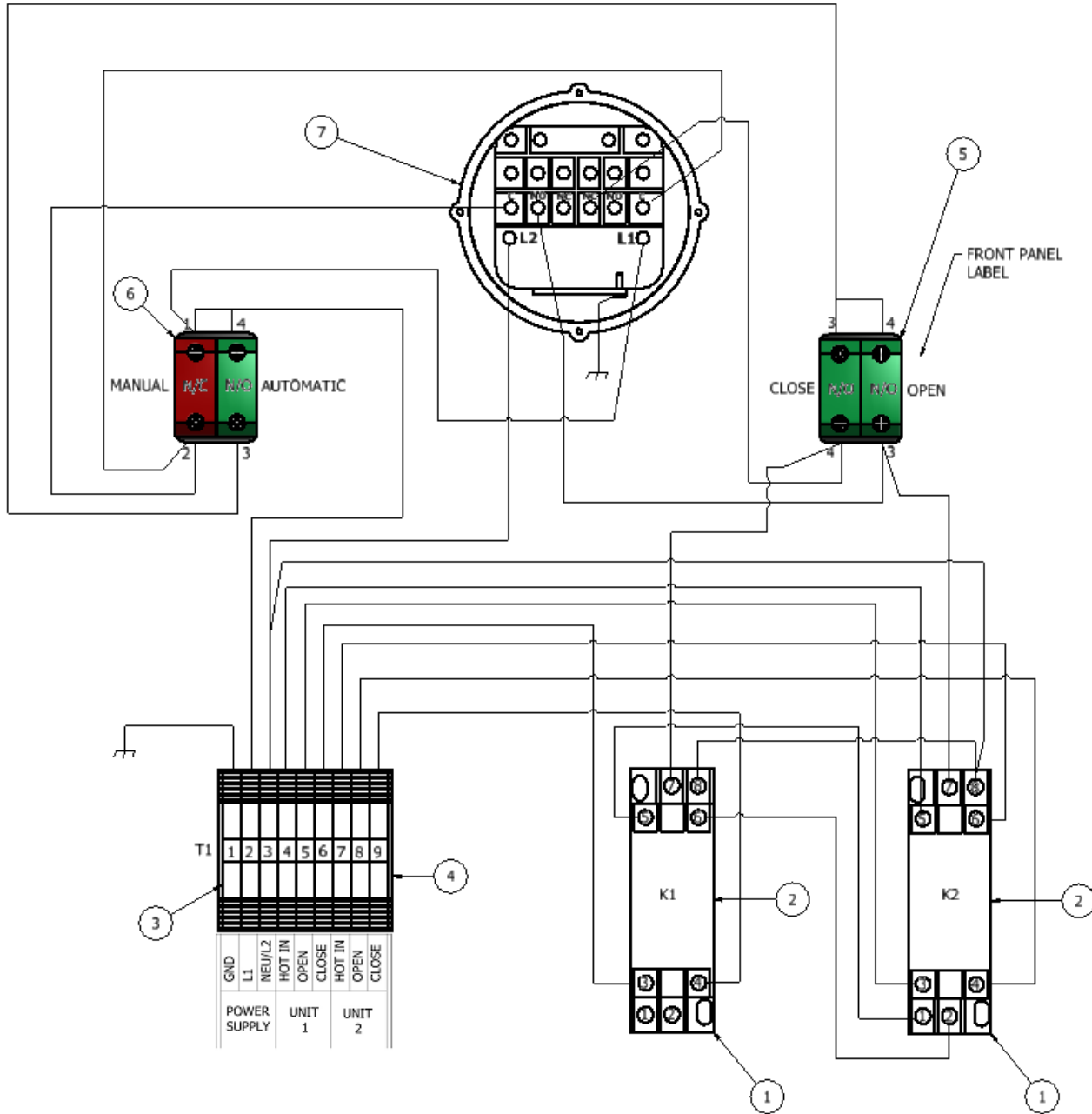


Figure 4

Internal Wiring Diagram / Parts List:



| PARTS LIST |     |              |                                    |
|------------|-----|--------------|------------------------------------|
| ITEM       | QTY | PART NUMBER  | DESCRIPTION                        |
| 1          | 1   | ADSQL08D     | RELAY SOCKET FOR QL2 SERIES        |
| 2          | 2   | EL1015       | RELAY PLUG IN DPDT ,120VAC COIL    |
| 3          | 9   | ADKN-T12GRY  | DIN MOUNT TERMINAL BLOCK           |
| 4          | 1   | ADKN-ECT6GRY | TERMINAL BLOCK END CAP             |
| 5          | 1   | ADGCX3300    | 3 POSITION, 22MM SWITCH,N/0+N/C    |
| 6          | 1   | ADGCX3320-22 | 2 POSITIOIN, 22MM SWITCH, 2X N/0   |
| 7          | 1   | HS650        | GAGE PHOTOHELIC, 120V RELAY OUTPUT |

This equipment must be installed in accordance with all State and Local Codes and applicable Regulations which should be followed in all cases. Authorities having jurisdiction should be consulted before installations are made.



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