

**INSTALLATION INSTRUCTIONS FOR FLOAT SWITCH KIT (91W69) USED WITH TAA SERIES UNITS**

**RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE**

**⚠ WARNING**

Improper installation, adjustment, alteration, service or maintenance can cause personal injury, loss of life, or damage to property.  
Installation and service must be performed by a licensed professional installer (or equivalent) or a service agency.

**⚠ WARNING**



Electric Shock Hazard. Can cause injury or death.

Line voltage is present at all components on units with single-pole contactors, even when unit is not in operation!

Unit may have multiple power supplies. Disconnect all remote electric power supplies before opening access panel.

Unit must be grounded in accordance with national and local codes.

**Shipping and Packing List**

Check parts for shipping damage; if any damage is found, immediately contact the last shipping carrier.

**Package 1 of 1 contains the following:**

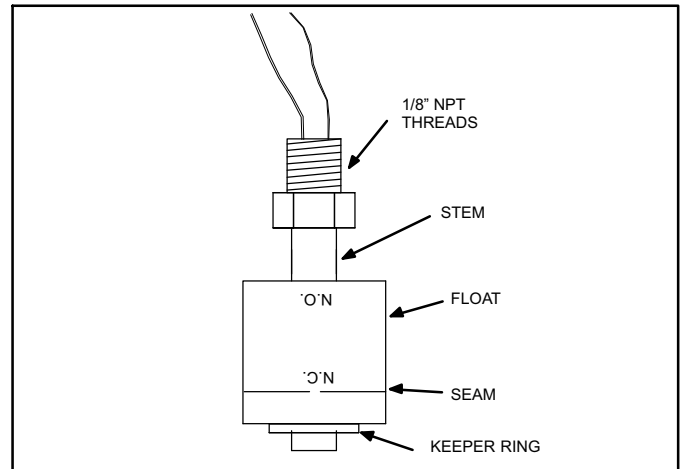
- 1 - Overflow (float) switch (S149)
- 1 - Relay (K220)
- 1 - Locknut (1/8" NPT)
- 2 - Brackets
- 4 - Screws #8-32 x 1/2"
- 2 - Wire Harnesses (short harness only used on old units without the 24VAC terminal on TB1)
- 3 - Wire nuts
- 15 - Wire ties
- 1 - Wiring diagram (only used on old units without the 24VAC terminal on TB1)

**Application**

The float switch, catalog number 91W69 (part number 602799-05) is used to de-energize the system when excessive condensate collects in the drain pan.

**Float Assembly**

The float switch assembly is shipped for normally open operation.



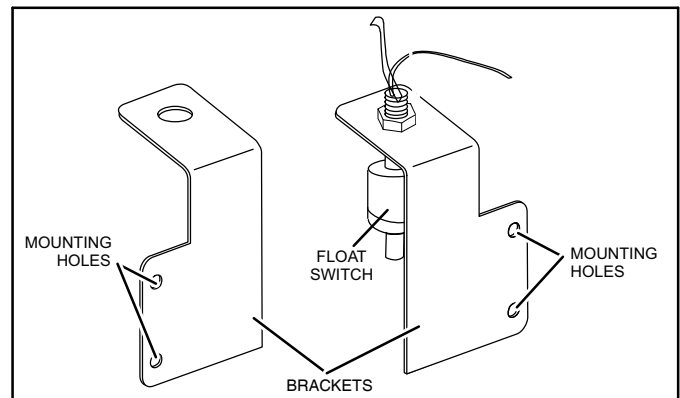
**Figure 1. Float Switch Configuration**

**Hardware Installation**

**⚠ CAUTION**

Physical contact with metal edges and corners while applying excessive force or rapid motion can result in personal injury. Be aware of, and use caution when working near these areas during installation or while servicing this equipment.

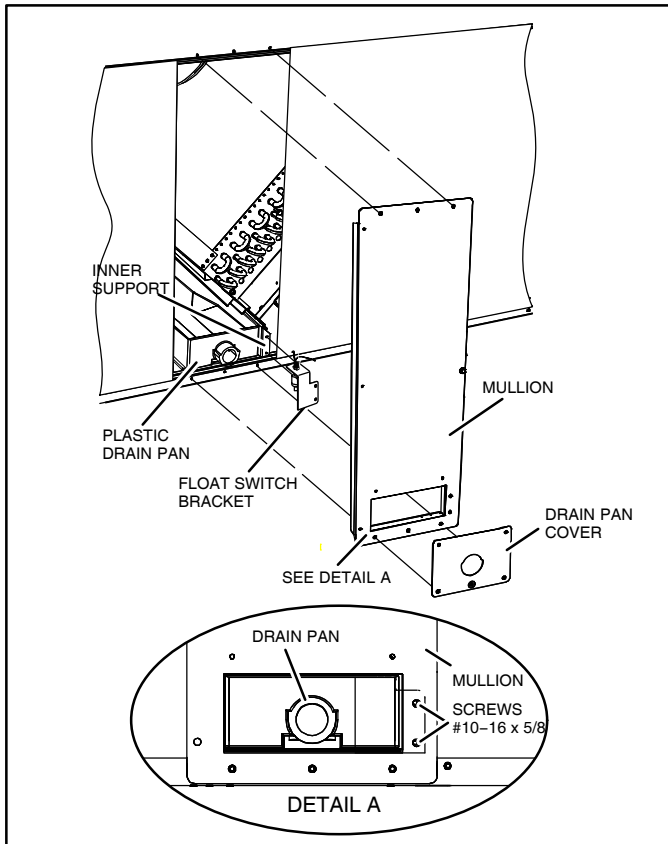
1. Disconnect all power to the unit and open panels to gain access to the control box and to the drain pan.



**Figure 2. Float Switch Mounting**



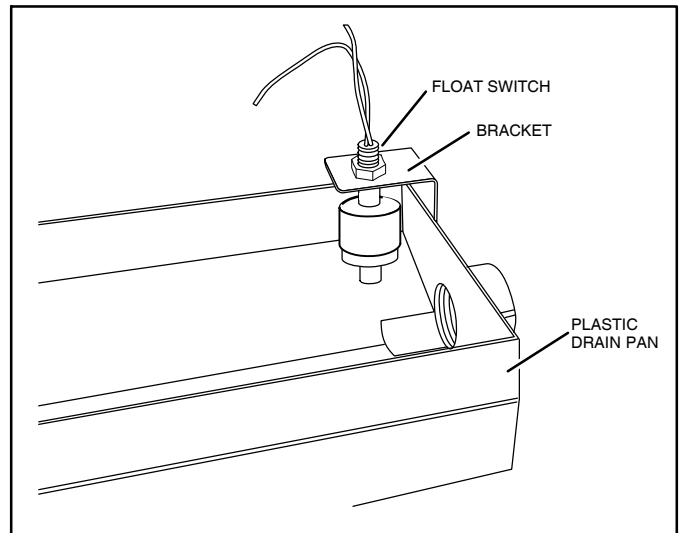
- Secure float switch assembly to L-shaped bracket using the locknut as illustrated in figure 2. Two brackets are included. Use only the bracket with the hole pattern that allows installation as illustrated in figure 3.



**Figure 3. Accessing Location**

- Remove drain pan cover panel by the condensate drain connection as illustrated in figure 3.
- Remove the two screws adjacent to the drain pan that fasten the mullion to the inner support as illustrated in figure 3, detail A.

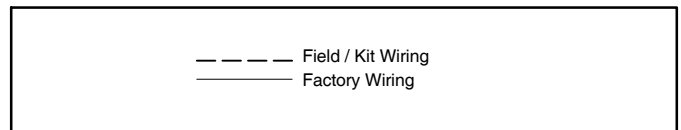
- Install the drain pan switch assembly as illustrated in figure 4. The portion of the bracket with the two holes is positioned between the mullion and the inner support. Be certain that the clearance holes in the bracket align with those of the mullion and inner support.
- Reinstall the two screws removed in step 4.



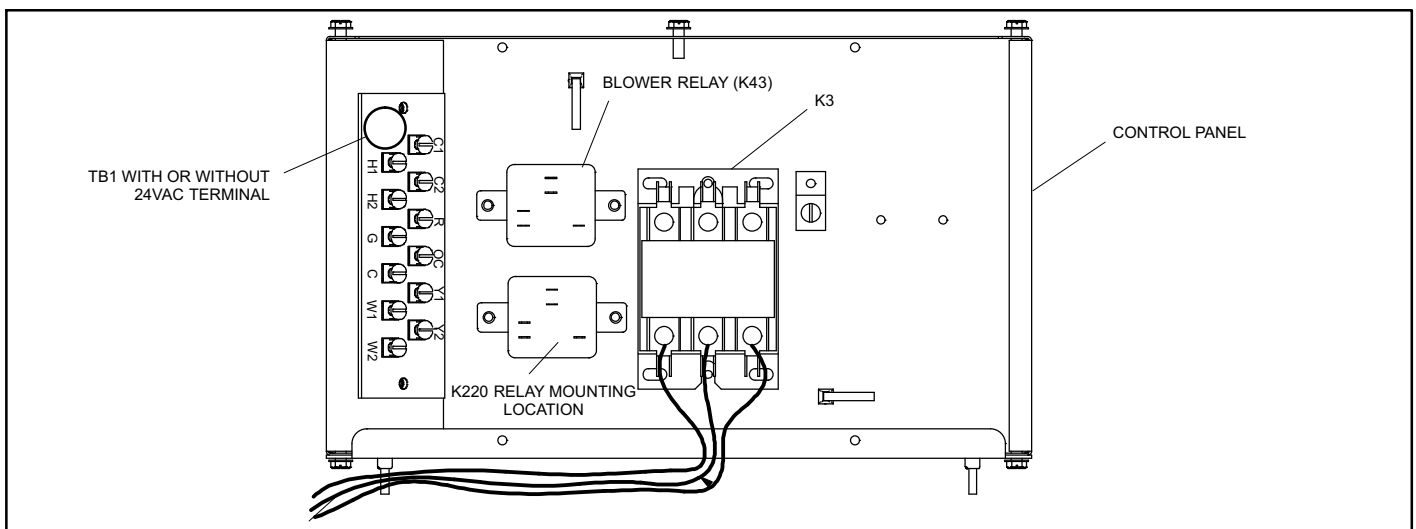
**Figure 4. Float Switch Installation**

### Electrical Installation

Before proceeding it must be determined whether there is a 24VAC terminal on the TB1 terminal board (see figure 3 for location if present). There are two electrical installation sections, one for units with a TB1 24VAC terminal and one without.



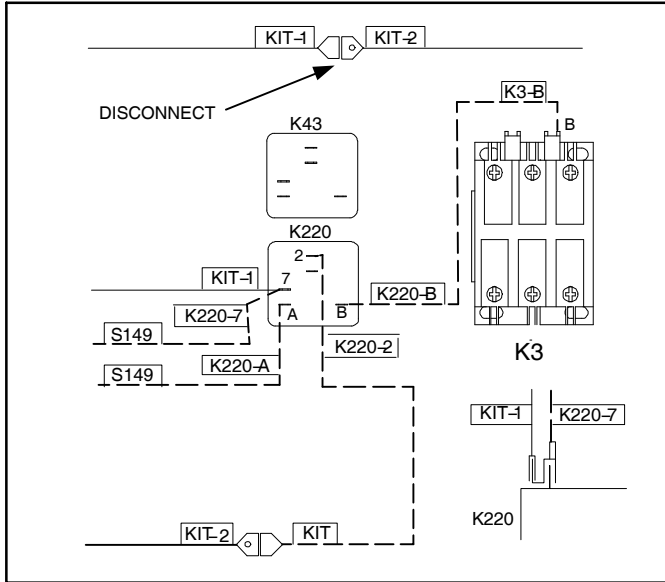
**Figure 5. Wiring Symbols**



**Figure 6. Typical TAA Control Panel (K220 Relay Mounting Position)**

## ELECTRICAL INSTALLATION - UNITS WITH TB1 24VAC TERMINAL

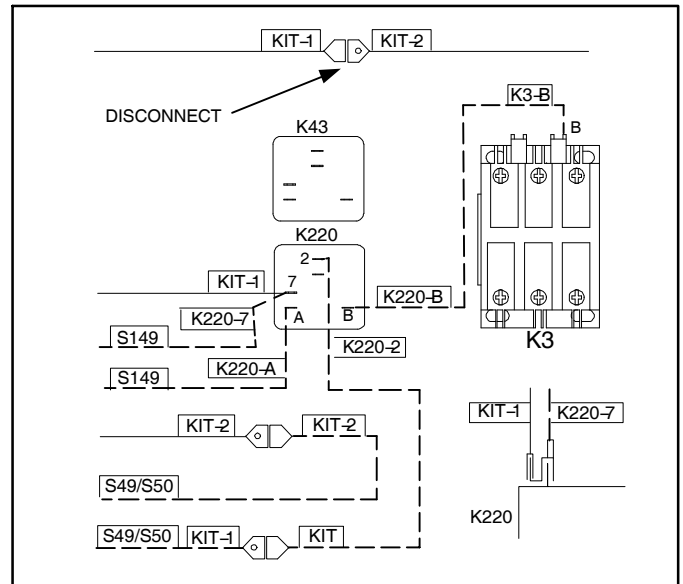
1. Disconnect all power to unit
2. Mount the **K220** relay provided in the TAA control box below the existing relay **K43** using the screws provided.
3. Use the wire harness and wire nuts provided to connect the float switch (S149) to the relay **K220**.
4. Remove excess wire length and use provided wire ties to secure connections above the drain pan.
5. **Installing Float Switch Kit (S149) Only**



**Figure 7. Installing Float Switch Kit Only**

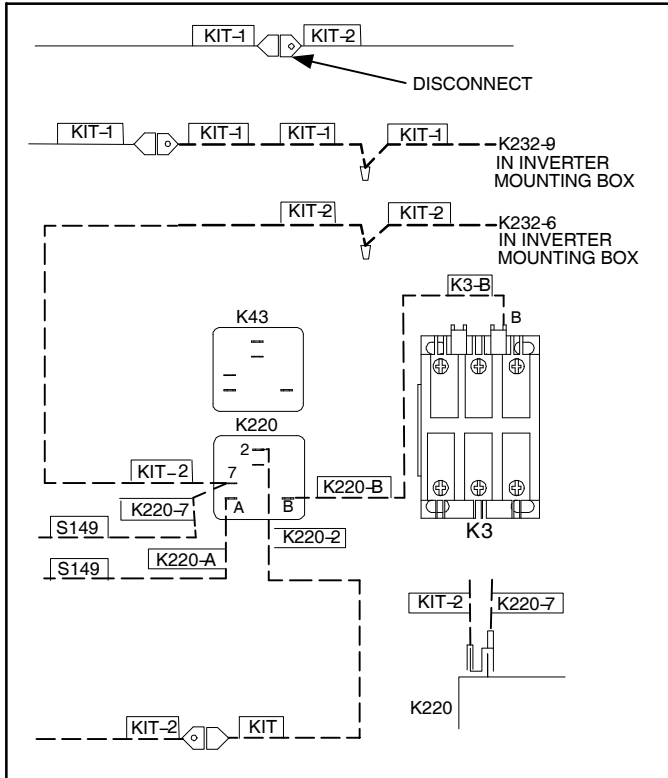
- 5.1. Locate pink wires marked **KIT-1** and **KIT-2** (quick connect) in the control box and disconnect from each other.
- 5.2. Make wiring connections according to figure 7 using harness provided in kit
  - 5.2.1. Connect wire marked **K220-7** from kit harness to relay **K220 terminal -7**.
  - 5.2.2. Connect factory wire marked **KIT-1** to kit harness wire marked **K220-7** receptacle / tab combination that was just connected to relay in step 5.2.1. (see figure 7).
  - 5.2.3. Connect factory wire marked **KIT-2** to kit harness wire marked **KIT**.

- 5.2.4. Make all other wiring connections as illustrated in figure 7 and per wire markings. Also see provided unit wiring diagram.
6. **Installing Float Switch Kit (S149) when using a Freezestat Kit (S49/S50)**
  - 6.1. Locate pink wires marked **KIT-1** and **KIT-2** (quick connect) in the control box and disconnect from each other.
  - 6.2. Make wiring connections according to figure 8 using harnesses provided in kits.
    - 6.2.1. Start with connecting wire marked **K220-7** from the float switch kit harness to relay **K220 terminal -7**.
    - 6.2.2. Connect factory wire marked **KIT-1** to float switch kit harness wire marked **K220-7** receptacle / tab combination that was just connected to the relay in step 6.2.1. (see figure 8).
    - 6.2.3. Connect the float switch kit harness wire marked **KIT** to the freezestat kit harness wire marked **KIT-1**.
    - 6.2.4. Connect the factory wire marked **KIT-2** to the freezestat kit harness wire marked **KIT-2**.
    - 6.2.5. Make all other wiring connections as illustrated in figure 8 and per wire markings. Also see provided unit wiring diagram.



**Figure 8. Installing both Float Switch with Freezestat Kits**

**7. Installing Float Switch Kit (S149) when using a Variable Frequency Drive (VFD) Kit**

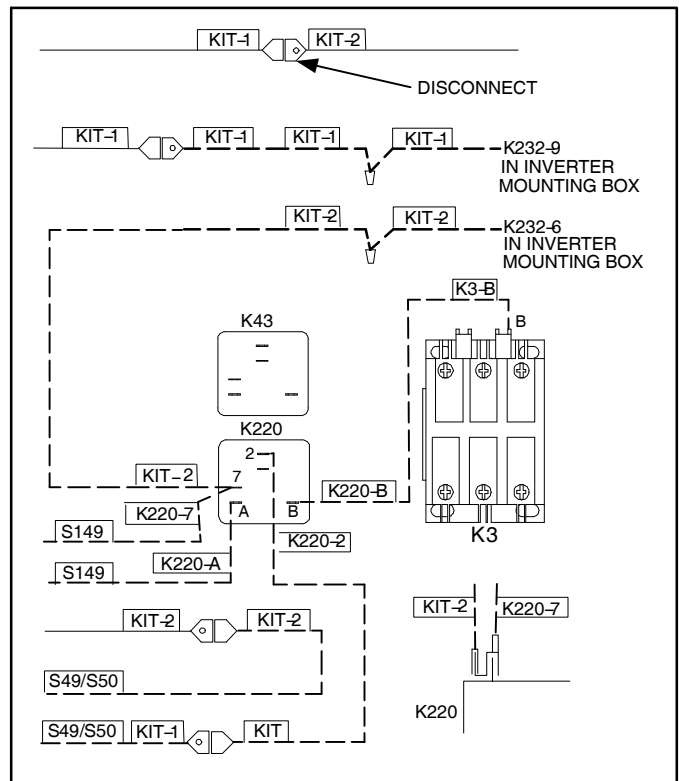


**Figure 9. Installing both Float Switch with VFD Kits**

- 7.1. Locate pink wires marked **KIT-1** and **KIT-2** (quick connect) in the control box and disconnect from each other.
- 7.2. Make wiring connections according to figure 9 using harnesses provided in kits
  - 7.2.1. Connect wire from VFD kit marked **KIT-1** to factory wire marked **KIT-1**.
  - 7.2.2. Connect wire marked **K220-7** from the float switch kit harness to relay **K220 terminal -7**.
  - 7.2.3. Connect wire from VFD kit marked **KIT-2** to float switch kit harness wire marked **K220-7** receptacle / tab combination that was just connected to the relay in step 7.2.2. (see figure 9 detail).
  - 7.2.4. Connect the float switch kit harness wire marked **KIT** to the the factory wire marked **KIT-2**.
  - 7.2.5. Make all other wiring connections as illustrated in figure 9 and per wire markings. Also see provided unit wiring diagram.

**8. Installing Float Switch Kit (S149) when using both Freezestat (S49/S50) and VFD Kits**

- 8.1. Locate pink wires marked **KIT-1** and **KIT-2** (quick connect) in the control box and disconnect from each other.
- 8.2. Make wiring connections as illustrated in figure 10 using harnesses provided in kits.
  - 8.2.1. Connect wire from VFD kit marked **KIT-1** to factory wire marked **KIT-1**.
  - 8.2.2. Connect wire marked **K220-7** from the float switch kit harness to relay **K220 terminal -7**.
  - 8.2.3. Connect wire from VFD kit marked **KIT-2** to float switch kit harness wire marked **K220-7** receptacle/tab combination that was just connected to the relay in step 8.2.2. (see figure 10).
  - 8.2.4. Connect the float switch kit harness wire marked **KIT** to the freestat kit harness wire marked **KIT-1**.
  - 8.2.5. Connect the freestat kit harness wire marked **KIT-2** to the factory wire marked **KIT-2**.
  - 8.2.6. Make all other wiring connections as illustrated in figure 10 and per wire markings. In addition, see wiring diagram provided with VFD kit.



**Figure 10. Installing Float Switch, VFD and Freezestat Kits**

## ELECTRICAL INSTALLATION - UNITS WITHOUT TB1 24VAC TERMINAL

Older units that are not equipped with a 24VAC terminal on the TB1 terminal board require the addition of a harness in order to connect the accessory kit. In addition to the new harness a change to the 24VAC power supply wiring connection must be made. Use the following procedure and figure 11 to make the necessary changes.

1. Disconnect all power to unit.
2. **Adding the Accessory Connection Harness**
  - 2.1. Remove the **TB1** terminal board and disconnect the pink wire attached to the **R** terminal on the rear side of the terminal board. Cut the terminal off the wire and strip wire.
  - 2.2. Connect the 24VAC power supply wire coming from the outdoor unit to the pink wire marked **TB1-R** that was just removed using wire nut provided in kit. Secure wire nut connection with electrical tape (not provided).
  - 2.3. Disconnect the factory wire marked **K43-5** from the **K43** relay and connect to the short kit harness wire marked **K43-5**.
  - 2.4. Connect the other short kit harness wires marked **K43-5** to the **K43** relay.

- 2.5. Connect the short kit harness wire marked **TB1-R** to the TB1 terminal board.
- 2.6. Re-attach the TB1 terminal board to the control panel.
- 2.7. Replace existing wiring diagram with diagram provided in kit.
- 2.8. Refer to the procedures listed under **Electrical Installation - Units with TB1 24VAC Terminal** section, paragraphs 5, 6, 7 and 8 depending on the accessories being installed to continue the installation process.

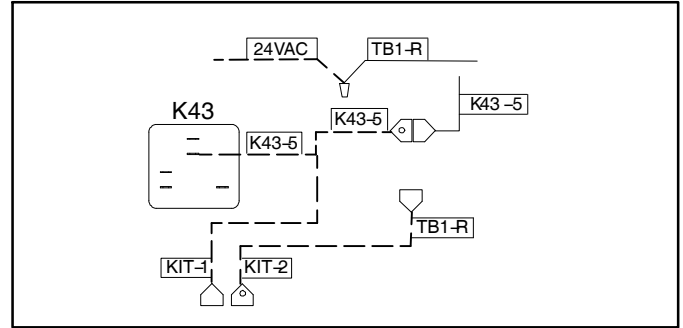
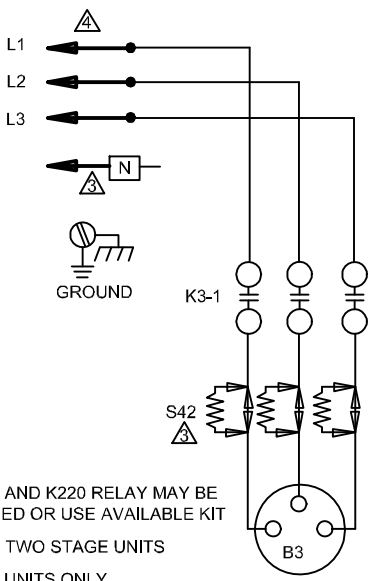
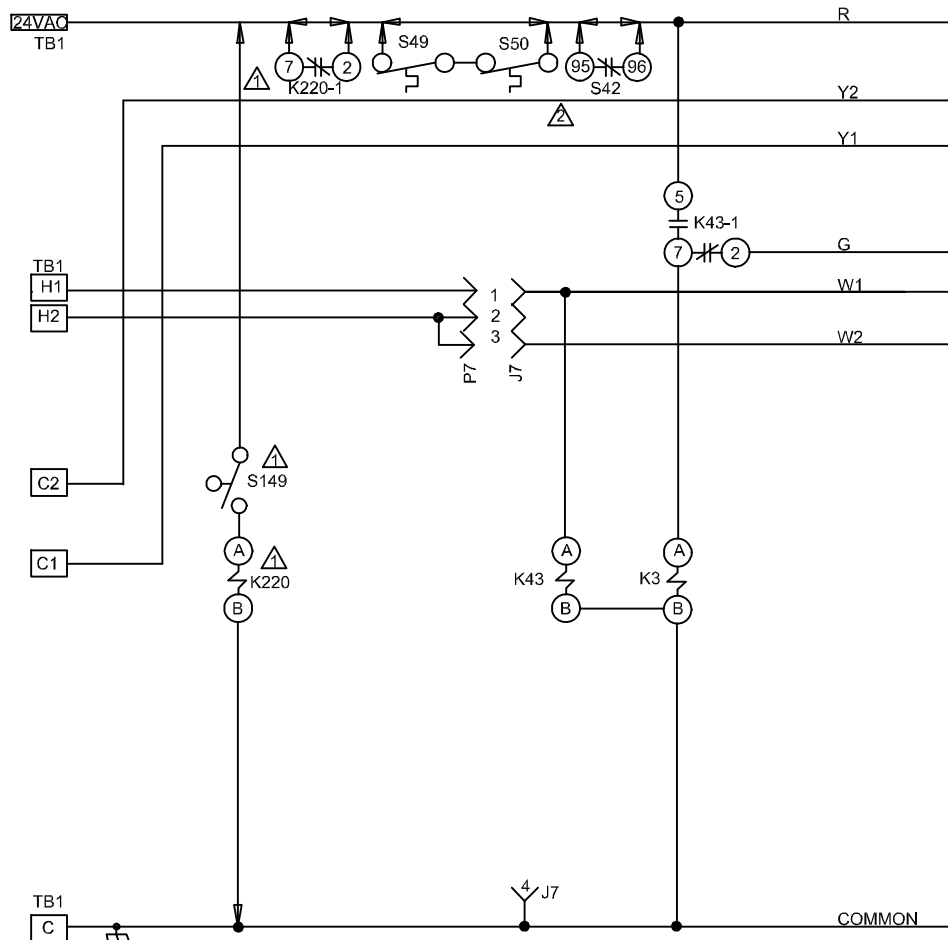


Figure 11. Units without TB1 24VAC Terminal



- ⚠ S149 SWITCH AND K220 RELAY MAY BE FIELD SUPPLIED OR USE AVAILABLE KIT
- ⚠ S50 USED ON TWO STAGE UNITS
- ⚠ "M" VOLTAGE UNITS ONLY
- ⚠ FOR USE WITH COPPER CONDUCTORS ONLY

KEY	COMPONENT
B3	MOTOR-BLOWER
J7	JACK-ELECT HT SUB-BASE KIT
K3,-1	RELAY-BLOWER
K43,-1	RELAY-ECONOMIZER BLOWER
K220,-1	RELAY-OVERFLOW
P7	PLUG -ELECT HT SUB-BASE KIT
S42	RELAY-OVERLOAD,BLOWER MTR
S49	SWITCH-FREEZESTAT COMPRESSOR 1
S50	SWITCH-FREEZESTAT COMPRESSOR 2
S149	SWITCH-OVERFLOW
TB1	TERMINAL STRIP-CLASS II VOLT

IF ANY WIRE IN THIS APPLIANCE IS REPLACED, IT MUST BE REPLACED WITH WIRE OF LIKE SIZE, RATING, INSULATION THICKNESS AND TERMINATION

WARNING-ELECTRIC SHOCK HAZARD, CAN CAUSE INJURY OR DEATH. UNIT MUST BE GROUNDED IN ACCORDANCE WITH NATIONAL AND LOCAL CODES

DISCONNECT ALL POWER BEFORE SERVICING

← DENOTES OPTIONAL COMPONENTS


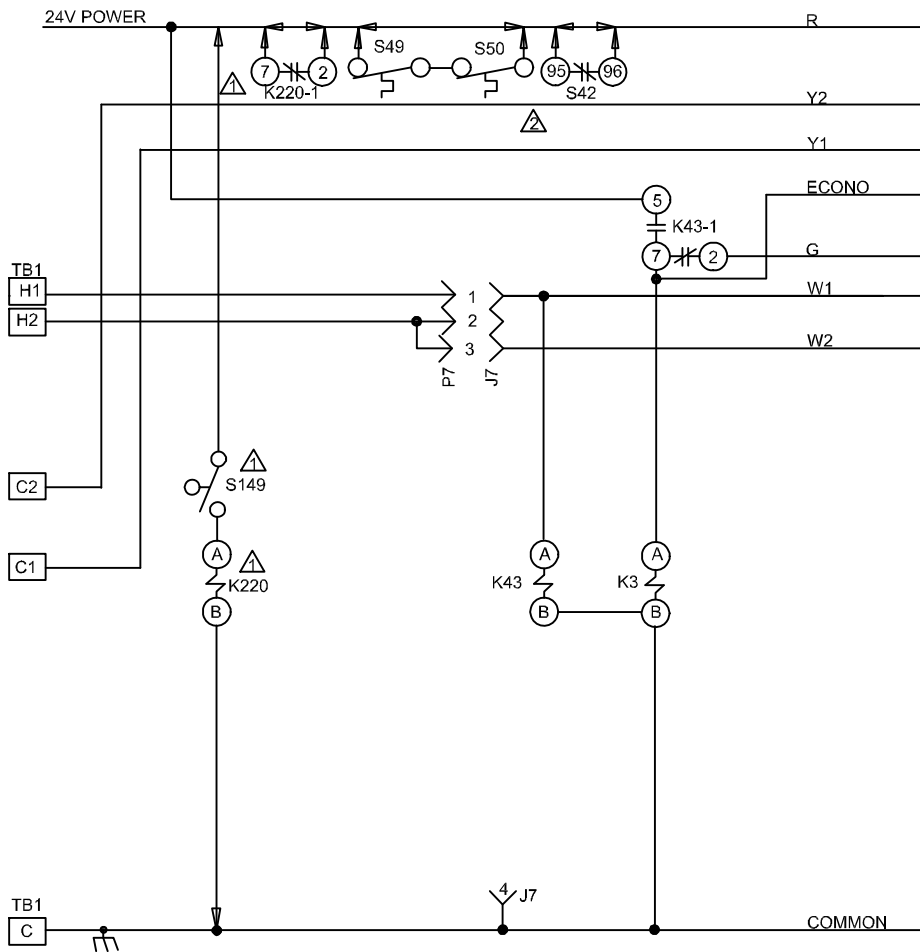
WIRING DIAGRAM		01/12
01/12		537529-01
BLOWER		
TAA 072 - 240 - G,J,M,Y		
SECTION B1		REV 0
Supersedes	New Form No.	
535,769W	537529-01	

Figure 12. Units with 24VAC Terminal on TB1



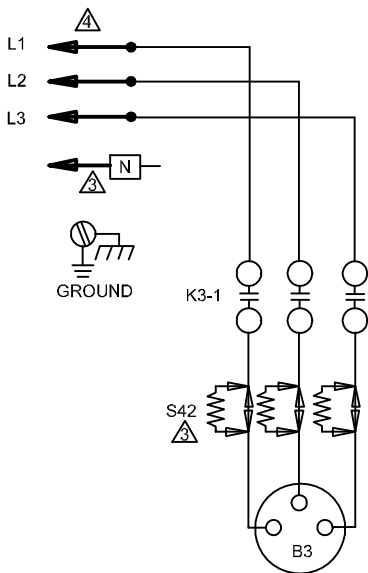
KEY	COMPONENT
B3	MOTOR-BLOWER
J7	JACK-ELECT HT SUB-BASE KIT
K3,-1	RELAY-BLOWER
K43,-1	RELAY-ECONOMIZER BLOWER
K220,-1	RELAY-OVERFLOW
P7	PLUG - ELECT HT SUB BASE KIT
S42	RELAY-OVERLOAD, BLOWER MTR
S49	SWITCH-FREEZESTAT COMPRESSOR 1
S50	SWITCH-FREEZESTAT COMPRESSOR 2
S149	SWITCH-OVERFLOW
TB1	TERMINAL STRIP-CLASS II VOLT

IF ANY WIRE IN THIS APPLIANCE IS REPLACED, IT MUST BE REPLACED WITH WIRE OF LIKE SIZE, RATING, INSULATION THICKNESS AND TERMINATION

WARNING-ELECTRIC SHOCK HAZARD, CAN CAUSE INJURY OR DEATH. UNIT MUST BE GROUNDED IN ACCORDANCE WITH NATIONAL AND LOCAL CODES

DISCONNECT ALL POWER BEFORE SERVICING

← DENOTES OPTIONAL COMPONENTS



- ⚠ S149 SWITCH AND K220 RELAY MAY BE FIELD SUPPLIED OR USE AVAILABLE KIT
- ⚠ S50 USED ON TWO STAGE UNITS
- ⚠ "M" VOLTAGE UNITS ONLY
- ⚠ FOR USE WITH COPPER CONDUCTORS ONLY

01/12	WIRING DIAGRAM	01/12
537530-01		
BLOWER		
TAA 072 - 240 - G,J,M,Y		
SECTION B1		REV 0
Supersedes	New Form No.	
	537530-01	

© 2012

Lennox Commercial

Figure 13. Units without 24VAC Terminal on TB1

