Installation Manual

S3031 - 48VDC Emergency Lighting Controller

MANUFACTURED BY

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Installation Manual

S3031 - 48VDC Emergency Lighting Controller

407571041 - S3031-V1 (120/208V, 3Ph, 3W)
407571017 - S3031-V2 (277/480V, 3Ph, 3W)
407571033 - S3031-V3 (120/240V, 1Ph, 2W)
407578764 - S3031-C (NEMA 1 Enclosure)

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Table Of Contents

S3031 48VDC Emergency Lighting Controller

Description:

- The S3031 48V DC, 100A Emergency Lighting Controller is designed for new installations or as a direct replacement for controllers manufactured by the Palmer Electric Division, commonly known as "Palmer Relays".

- The S3031 is assembled on an insulating panel, with a fiberglass back barrier, ready to mount in the existing or a new enclosure.

- Enclosure available for new installations
  S3031-C (Enclosure).

- Connection terminals are in the same location as the existing terminals.

- Sensing available for all common voltages:
  S3031-V1 (120/208 Volt, 3 Phase, 3 Wire)
  S3031-V2 (277/480 Volt, 3 Phase, 3 Wire)
  S3031-V3 (120/240 Volt, 1 Phase, 2Wire)

Application:

- Replaces your failing Palmer Relay type, 48V Emergency Lighting Controller without new cabling. All existing cables and wires will be reconnected in the same physical location.

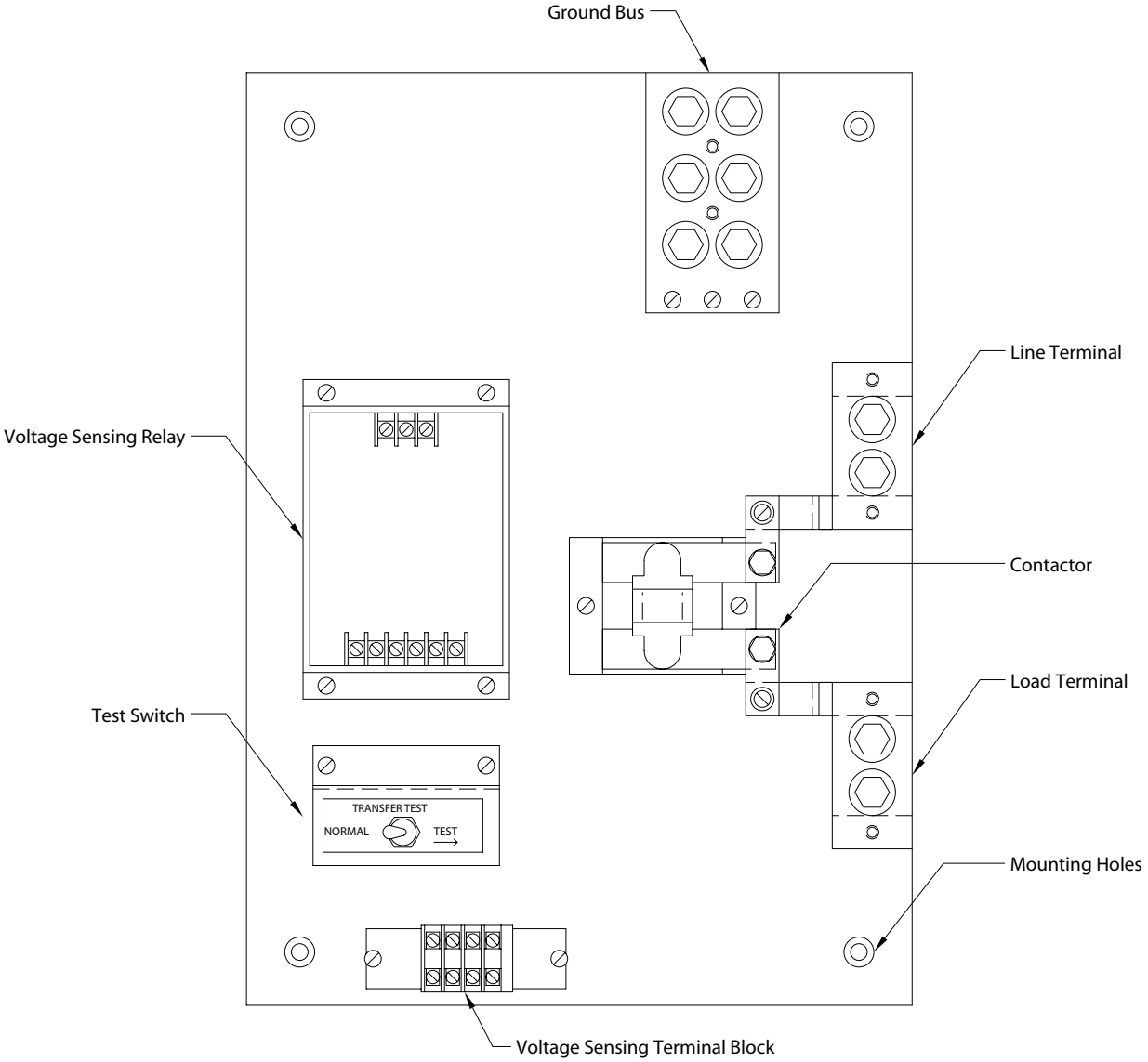
- For new installations, the S3031 can be furnished with an enclosure measuring 20.5" W x 25.5" H x 7" D with a lift off cover.

Electrical Specifications:

- Voltage Rating: 48 Volts DC
- Ampere Rating: 100 Amps
- Sensing Voltages: 120/208V, 3 Phase, 3W
  277/480V, 3 Phase, 3W
  120/240V, 1 Phase, 2W

Features:

- Direct replacement for "Palmer Relay"
- S3031 is assembled on an insulating panel with fiberglass back barrier
- New terminals in the same location as the existing terminals



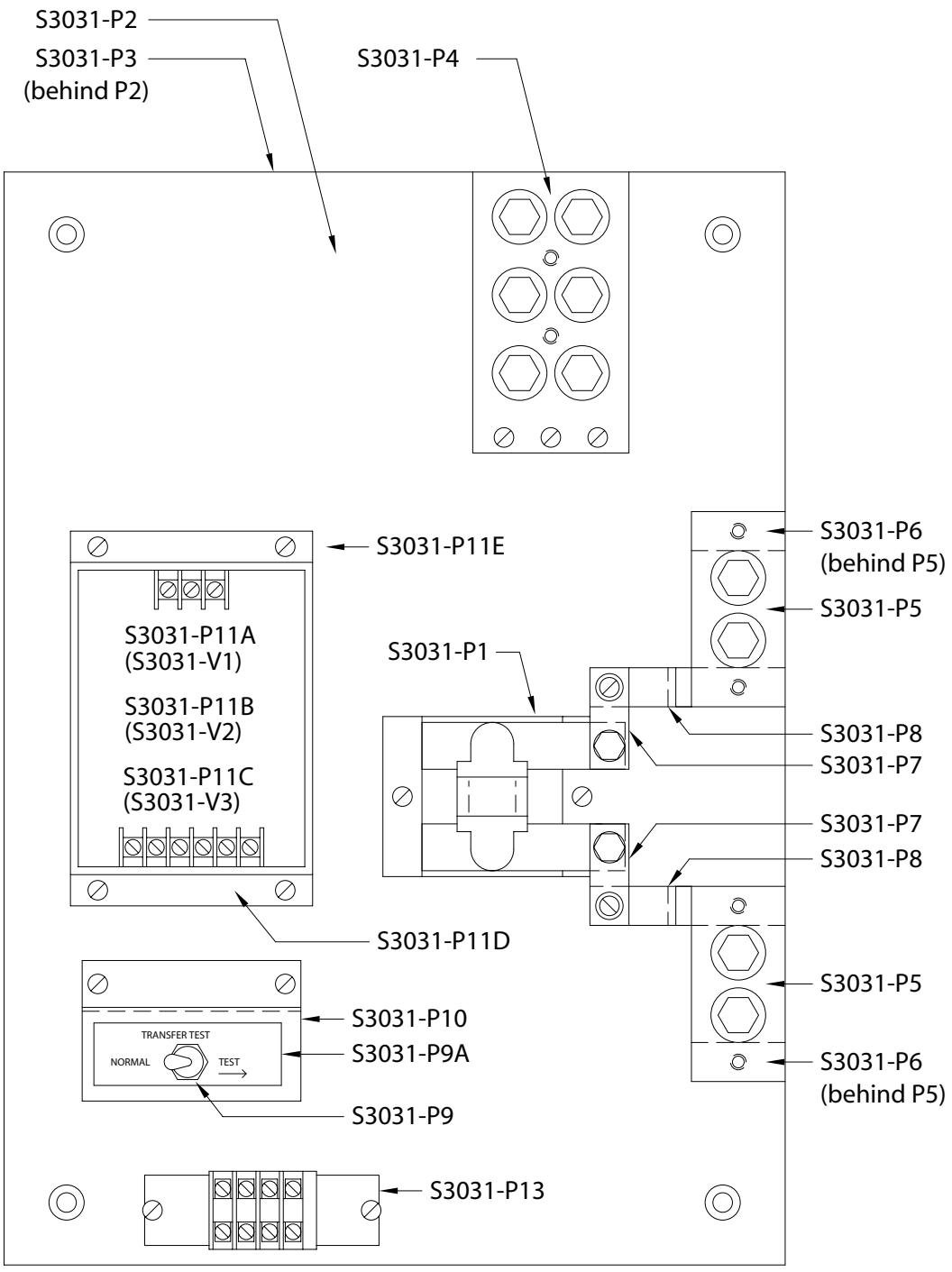
Comcode Numbers:

- 407571041 - S3031-V1 (120/208V, 3Ph, 3W)
- 407571017 - S3031-V2 (277/480V, 3Ph, 3W)
- 407571033 - S3031-V3 (120/240V, 1Ph, 2W)
- 407578764 - S3031-C (NEMA 1 Enclosure)

S3031 Component List

Part No.	Description	Dwg. No.	S3031-V1	S3031-V2	S3031-V3
S3031-P1	Contactor, Joslyn-Clark Cat. No. 7701-1000-63		1	1	1
S3031-P2	Panel	S3031-3	1	1	1
S3031-P3	Barrier	S3031-3	1	1	1
S3031-P4	Ground Bus	S3031-4	1	1	1
S3031-P5	Line/Load Terminal	S3031-4	2	2	2
S3031-P6	Spacer-Line/Load Terminal	S3031-4	2	2	2
S3031-P7	Bus Link	S3031-4	2	2	2
S3031-P8	Zee Bus	S3031-4	2	2	2
S3031-P9	Test Switch - Honneywell INT1-3 (95F5209)		1	1	1
S3031-P9A	Test Switch Nameplate	S3031-4	1	1	1
S3031-P10	Test Switch Bracket	S3031-4	1	1	1
S3031-P11A	Voltage Relay, 208V - Time Mark B2644		1		
S3031-P11B	Voltage Relay, 480V - Time Mark C2644			1	
S3031-P11C	Voltage Relay, 120/240V, 1Ph - Time Mark 160B240				1
S3031-P11D	Auxillary Relay "R" - P&B KUP11D55-48				1
S3031-P11E	Mounting base for 11C and 11D	S3031-4			1
S3031-P12	Diode D1 & D2 - 1N5404		1	1	2
S3031-P13	Terminal Block - Buchannan #		1	1	1
S3031-X1	S3031-V1 and S3031-V2 Schematic Diagram	S3031-X1	1	1	
S3031-X2	S3031-V1 and S3031-V2 Instalation Instructions	S3031-X2	1	1	
S3031-X4	S3031-V3 Schematic Diagram	S3031-X4			1
S3031-X5	S3031-V3 Instalation Instructions	S3031-X5			1
	3/8-16 HHMS (GR5) w/SAE FW and split LW		10	10	10
	1/4" SAE FW		4	4	4

Quantity Required



S-3031-V1, -V2, & -V3
Component Location

S3031-V1 Installation Instructions

Warning: Disconnect all power, both DC and AC, before working on equipment.

A) Existing Installation.

1. Disconnect DC and AC power.

2. Remove the existing panel from the enclosure.

3. Mount the new panel using the existing mounting screws and the flat washers provided. The fiberglass back barrier must be between the panel and the back of the enclosure.

4. Reconnect the DC power and AC sensing leads and re-energize the AC sensing power.

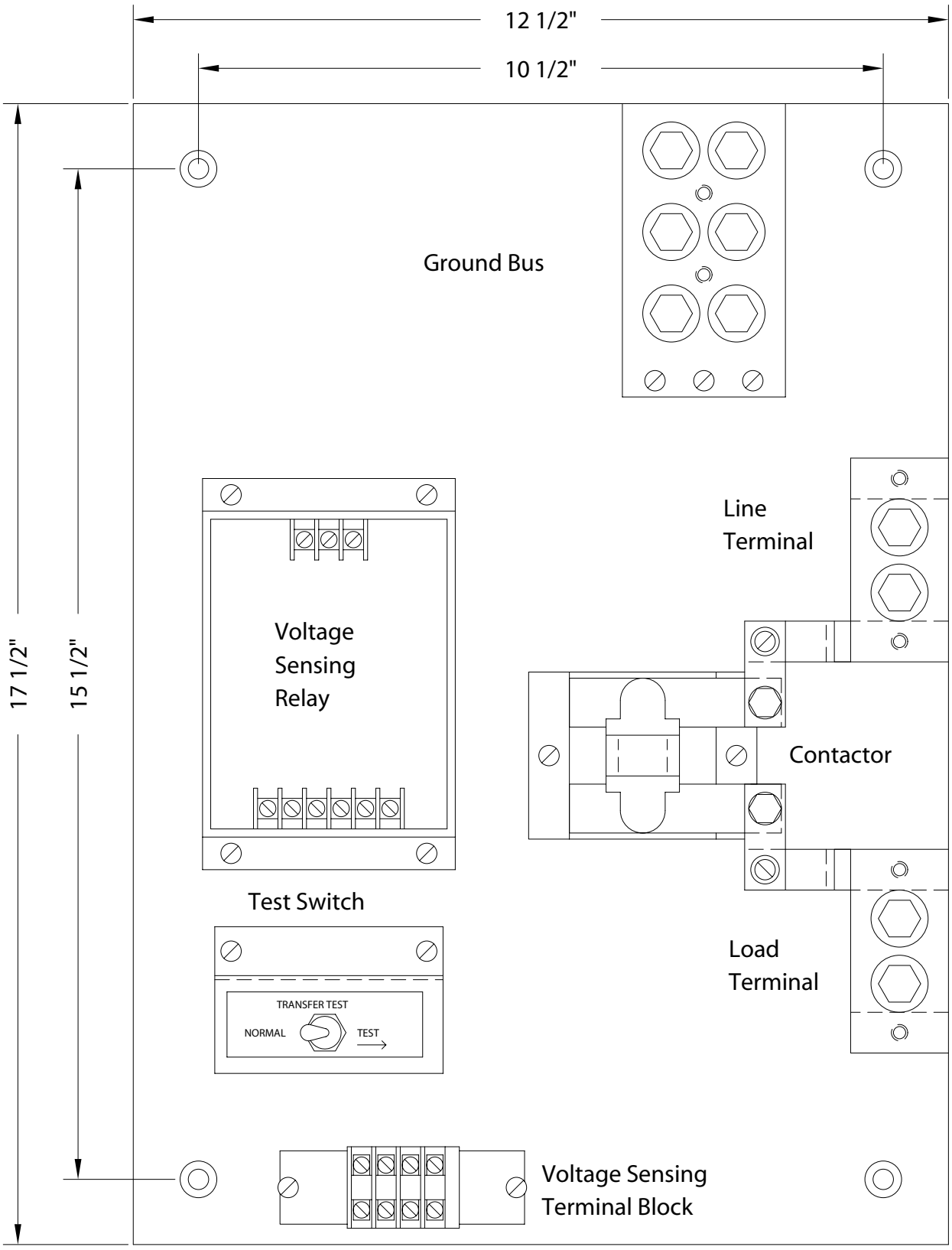
5. With the test switch in the normal position turn the two potentiometers on the face of the Voltage Sensing relay (VR) fully counter clockwise. The green "Normal" LED should be lit and the red "Tripped" LED should be out. Relay VR is phase sequence sensative. If the green LED is not lit, verify that normal voltage is present at the VR terminals A, B and C. If normal voltage is present, de-energize the voltage sensing power and interchange any two phasr leads at the voltage sensing terminal block and re-energize the sensing circuit.

   With the green LED lit, slowly turn the "failure level" potentiometer clockwise untill the green LED goes out and the red goes on. Turn the potentiometer counter clockwise until the green LED goes on and then slightly past this point. THis sets the voltage failure level.

6. Operate the test switch tothe test position. The green LED should go out. Return the test switch to the normal position. The green LED should go on.

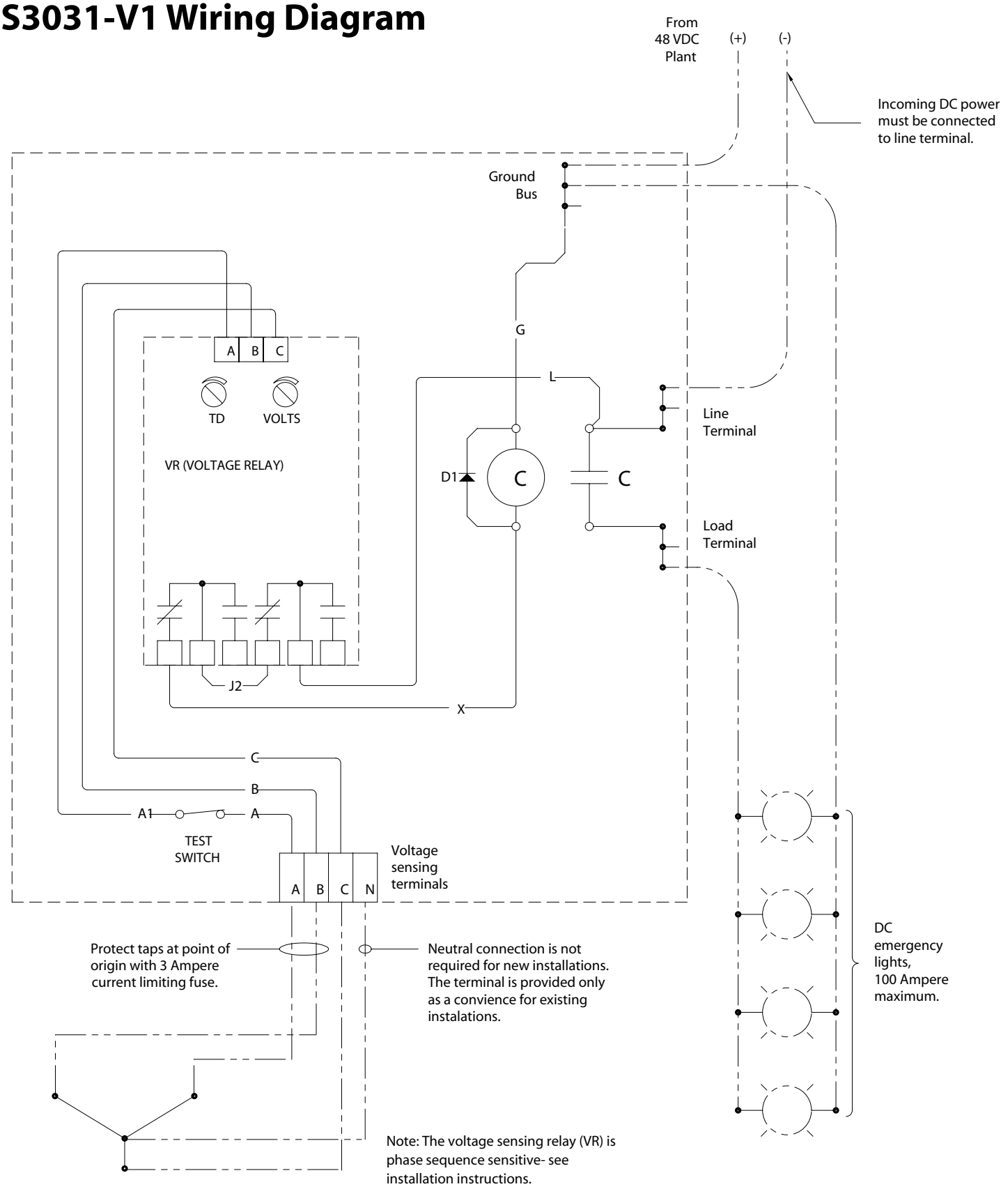
7. Re-energize the DC power.

8. Turn the "seconds" potentiometer on the VR relay slightly clockwise to add time delay to prevent nuscience operation of the contactor. Operate the test switch and verify that the contactor operates.



S3031-V1
Component Location

S3031-V1 Wiring Diagram



S3031-V1 (120/208V, 3Ph, 3W)

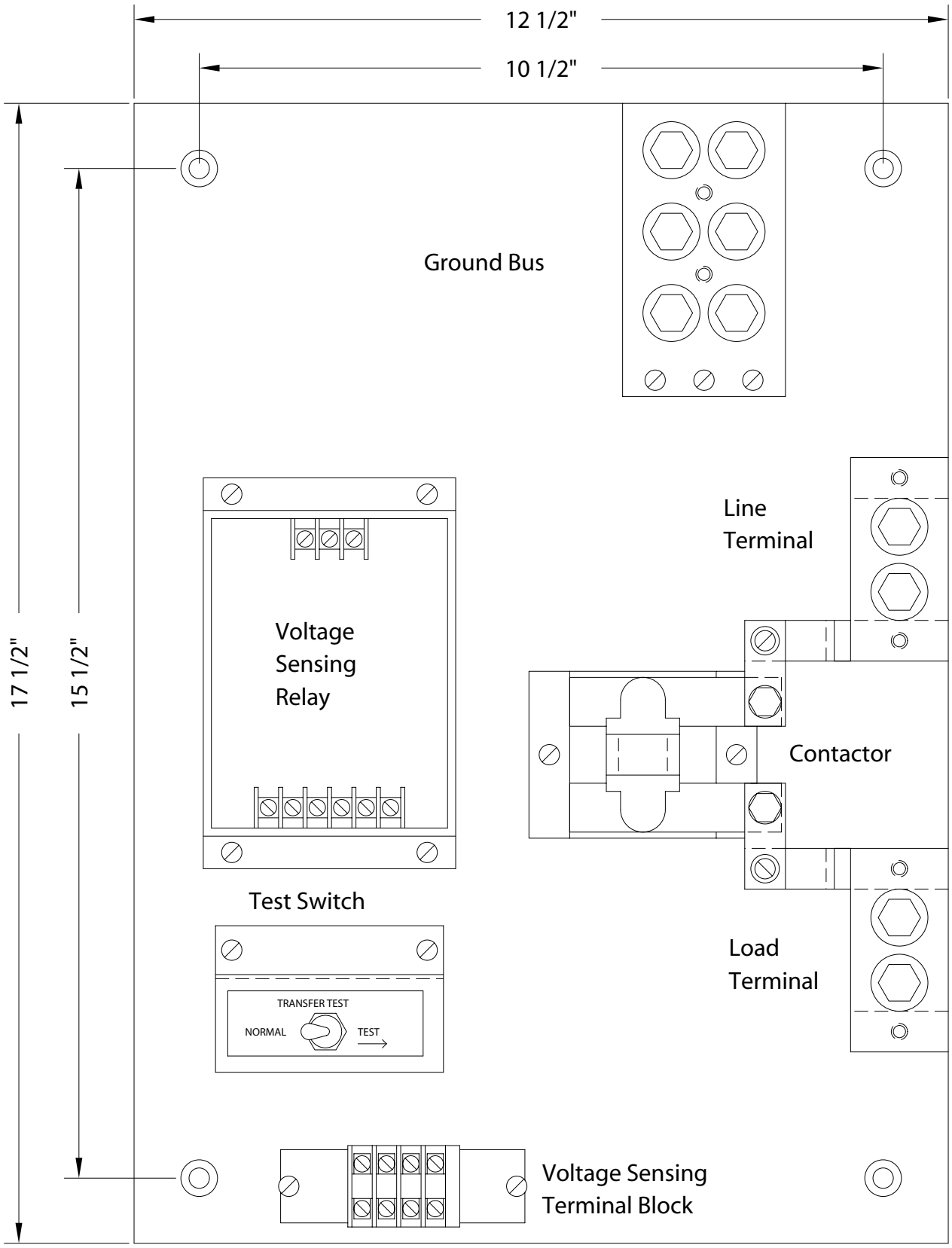
S3031-V2 Installation Instructions

Warning: Disconnect all power, both DC and AC, before working on equipment.

A) Existing Installation.

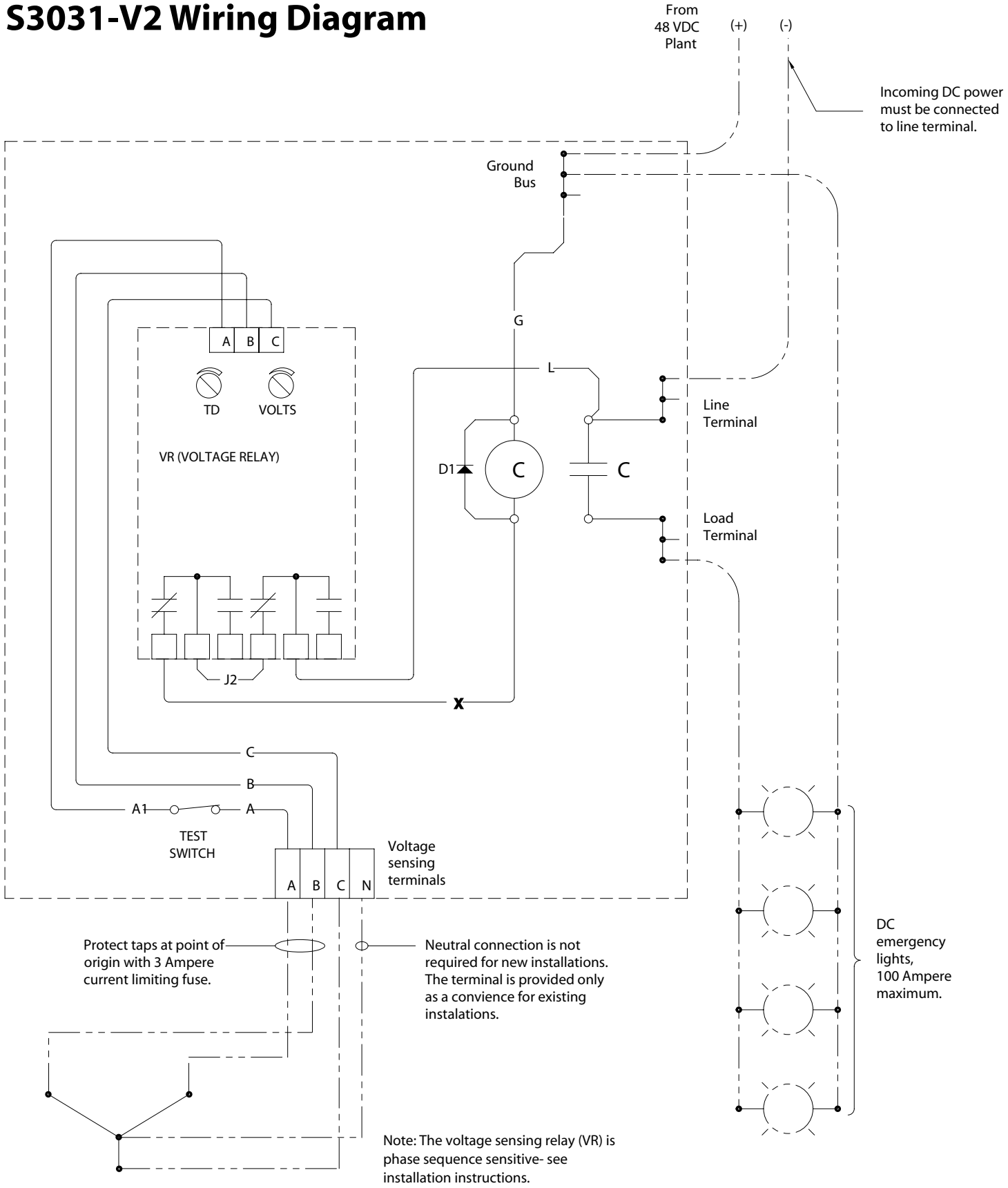
1. Disconnect DC and AC power.
2. Remove the existing panel from the enclosure.
3. Mount the new panel using the existing mounting screws and the flat washers provided. The fiberglass back barrier must be between the panel and the back of the enclosure.
4. Reconnect the DC power and AC sensing leads and re-energize the AC sensing power.
5. With the test switch in the normal position turn the two potentiometers on the face of the Voltage Sensing relay (VR) fully counter clockwise. The green "Normal" LED should be lit and the red "Tripped" LED should be out. Relay VR is phase sequence sensative. If the green LED is not lit, verify that normal voltage is present at the VR terminals A, B and C. If normal voltage is present, de-energize the voltage sensing power and interchange any two phasr leads at the voltage sensing terminal block and re-energize the sensing circuit.

   With the green LED lit, slowly turn the "failure level" potentiometer clockwise untill the green LED goes out and the red goes on. Turn the potentiometer counter clockwise until the green LED goes on and then slightly past this point. THis sets the voltage failure level.
6. Operate the test switch tothe test position. The green LED should go out. Return the test switch to the normal position. The green LED should go on.
7. Re-energize the DC power.
8. Turn the "seconds" potentiometer on the VR relay slightly clockwise to add time delay to prevent nuscience operation of the contactor. Operate the test switch and verify that the contactor operates.



S3031-V2
Component Location

S3031-V2 Wiring Diagram



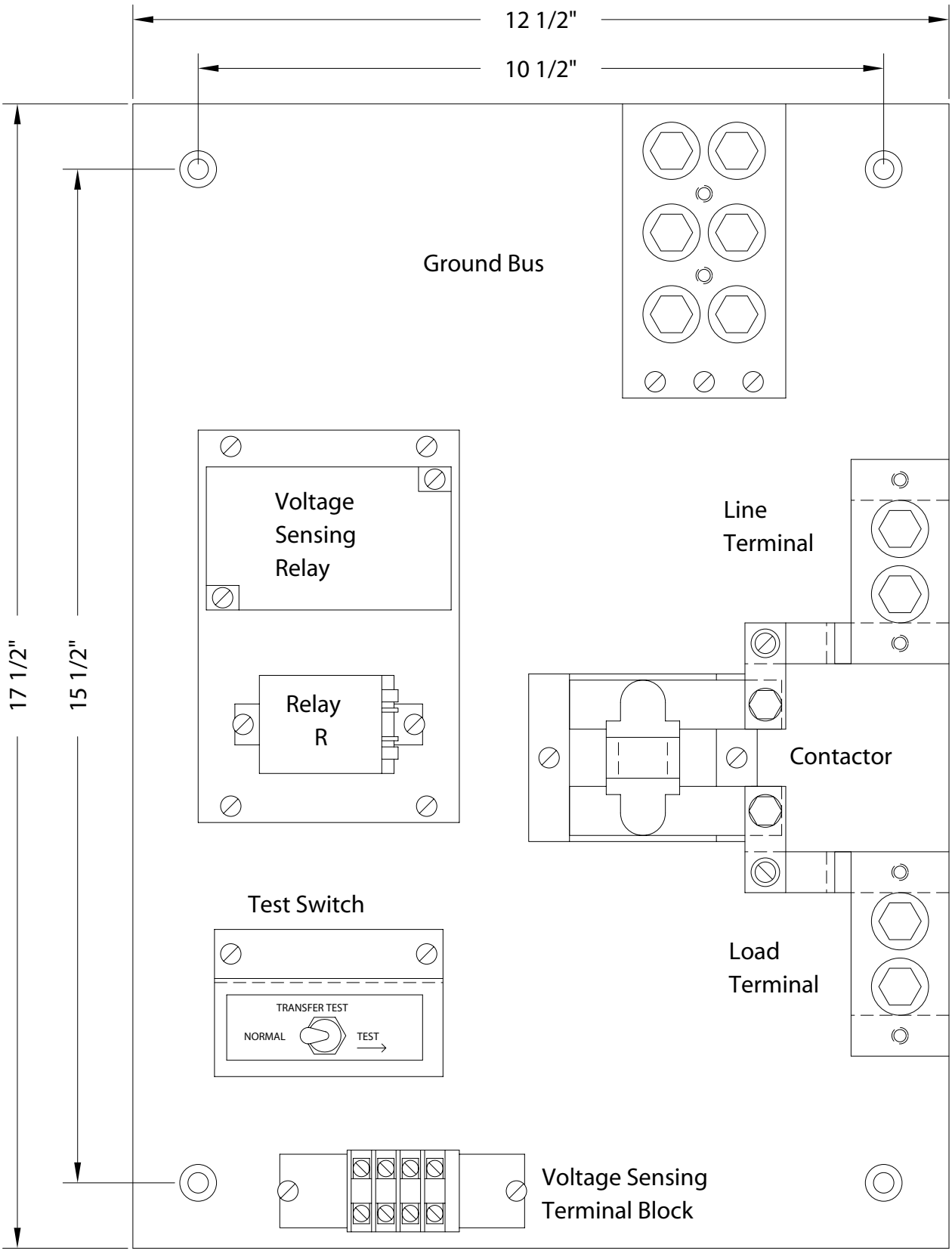
S3031-V2 (277/480V, 3Ph, 3W)

S3031-V3 Installation Instructions

Warning: Disconnect all power, both DC and AC, before working on equipment.

A) Existing Installation.

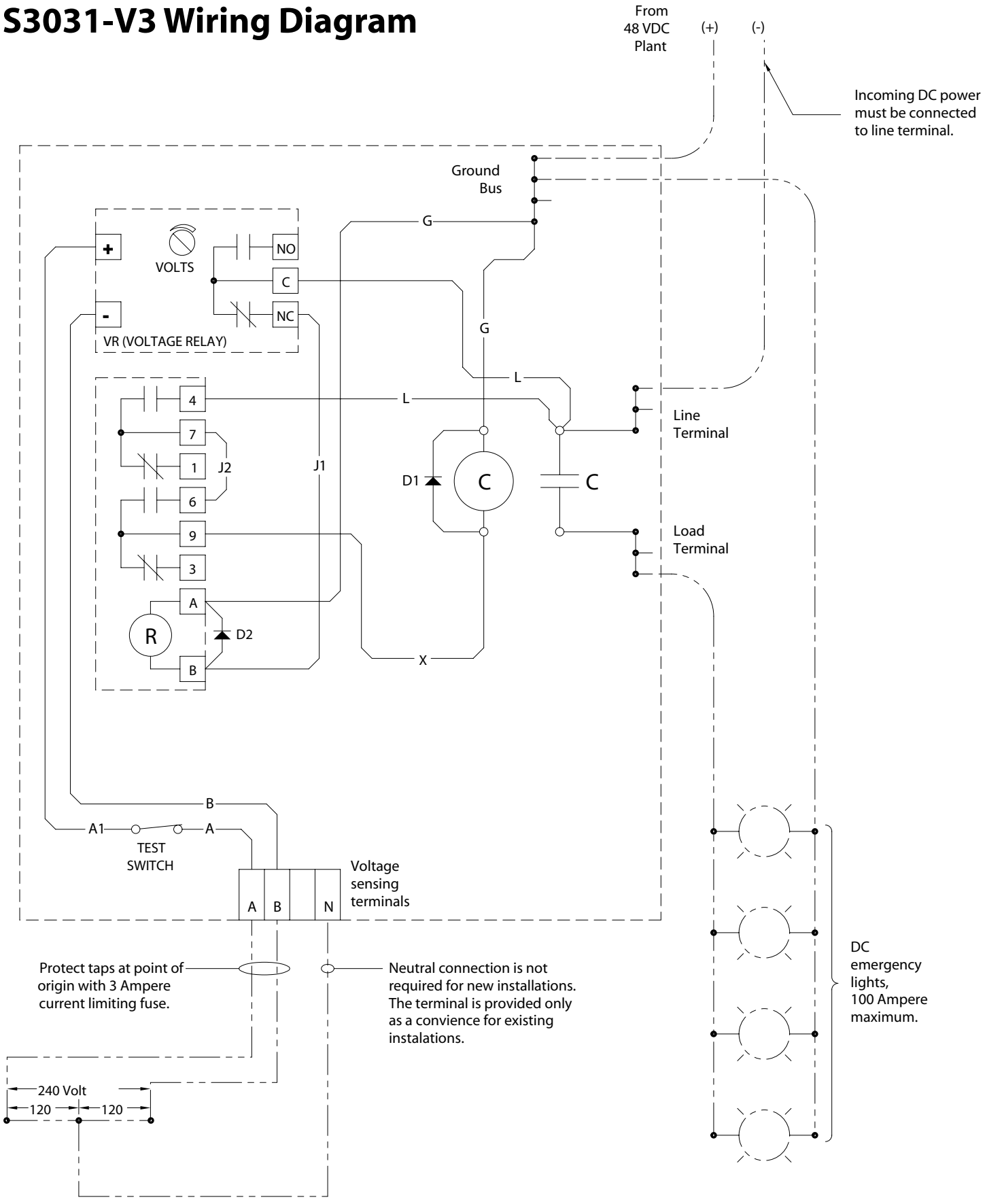
1. Disconnect DC and AC power.
2. Remove the existing panel from the enclosure.
3. Mount the new panel using the existing mounting screws and the flat washers provided. The fiberglass back barrier must be between the panel and the back of the enclosure.
4. Reconnect the DC power and AC sensing leads and re-energize the AC sensing power.
5. With the test switch in the normal position turn the potentiometer on the face of the Voltage Sensing relay (VR) fully counter clockwise. The red "Tripped" LED should be out.
   Slowly turn the "volts" potentiometer clockwise untill the red LED goes on. Turn the potentiometer counter clockwise until the red LED goes out and then slightly past this point. This sets the voltage failure level.
6. Operate the test switch tothe test position. The red LED should go on. Return the test switch to the normal position. The red LED should go out.
7. Re-energize the DC power.
8. Operate the test switch to the test position and verify that the contactor operates.



S-3031-V3

Component Location

S3031-V3 Wiring Diagram



S3031-V3 (120/240V, 1Ph, 2W)

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