

Installation and Operating Instructions

SP Plus SP 100 (120/240-SP, 120/208-3Y, 277/480-3Y)
 SP 200 (120/240-SP, 120/208-3Y, 277/480-3Y, 480-3D)



CAUTION: THE INSTALLATION OF A SURGE PROTECTION DEVICE (SPD) MUST BE DONE BY QUALIFIED ELECTRICAL PERSONNEL. A SPD MUST BE GROUNDED THROUGH THE POWER SYSTEM GROUND FOR PROPER OPERATION.



WARNING: BEFORE INSTALLING THE SUPPRESSOR, AC POWER MUST BE OFF. FAILURE TO DO SO COULD RESULT IN DAMAGE TO THE SUPPRESSOR AND POSES A POTENTIAL ELECTRICAL SHOCK HAZARD TO PERSONNEL.



WARNING: READ SPD LABEL ON SIDE OF THE ENCLOSURE TO VERIFY VOLTAGE CONFIGURATION.



WARNING: DISCONTINUE INSTALLATION IF THE MEASURED VOLTAGE IS NOT IN THE RANGE OF THE MODEL VOLTAGE CONFIGURATION OF THE SPD BEING INSTALLED. CONTACT LEA INTERNATIONAL'S TECHNICAL SUPPORT WITH ANY QUESTIONS CONCERNING THE VOLTAGE CONFIGURATION PRIOR TO INSTALLATION AND APPLICATION OF POWER.

RE-INSTALLATION NOTES

- Please read the entire installation manual before installing this SPD. Unpack unit carefully, removing packing material. Inspect for damages during shipment. If unit seems damaged, contact LEA International and shipping agency. Do not continue to install unit.
- Verify that all nuts and bolts have good tight connections.
- **Electrical Specification for SPD Installation:**
Verify the voltage configuration of the SPD matches actual system voltage configuration of service point. Ground resistance is less than 25 ohms and all wiring conductors are in accordance with the appropriate layout/installation drawing.

INSTALLATION PROCEDURE

- **Length of leads and conductor size:**
Leads must be as short as possible, not exceeding the recommended length of a foot and a half (1.5'); and routed with gradual bends avoiding sharp or 90° bends. The SPD comes with #10 AWG wire pre-cut for installation. Extending existing wire by splicing is not recommended.
- **Mounting:**
The SPD is installed in parallel with the incoming phase conductors. After removing the clear enclosure cover screws mount the SPD using the concealed screw holes located near each outside corner of the enclosure with the included hardware or equivalent. For the SP100, the mounting holes of the enclosure have a distance in length (from top to bottom) of 4.962" and a distance in width (from left to right) of 5.748". And for the SP200, the mounting holes of the enclosure have a distance in length (from top to bottom) of 9.00" and a distance in width (from left to right) of 5.10". The SPD should be mounted as close as possible to the connection of service point; utilizing a ½" knockout in the panel. Secure a conduit locknut onto the ½" nipple before proceeding.
- **Electrical Connection:**
Connect the phase input wires (black) to the terminals marked phase 1, phase 2, or phase 3 inputs as illustrated on the drawings. Connect the neutral input wires (white) to the terminal marked neutral in the service point, as illustrated in drawings (if applicable). Connect the ground leads (green) to the terminal marked ground in the service point, as illustrated in the drawings. It is recommended to use a minimum 30 Amp circuit breaker when connecting the SPD.
- **Final check:**
Check installation of unit as indicated in installation drawings. Apply external AC power to the SPD. The unit is operational. If all green indicator lamps are illuminated. If not, contact LEA International's technical support at 800-654-8087.
- **Visual inspection:**
Operational status of the SPD is verified by observing the phase status indicator LED(s). The LED, illuminated Green indicate normal operation with all protection modes functioning.

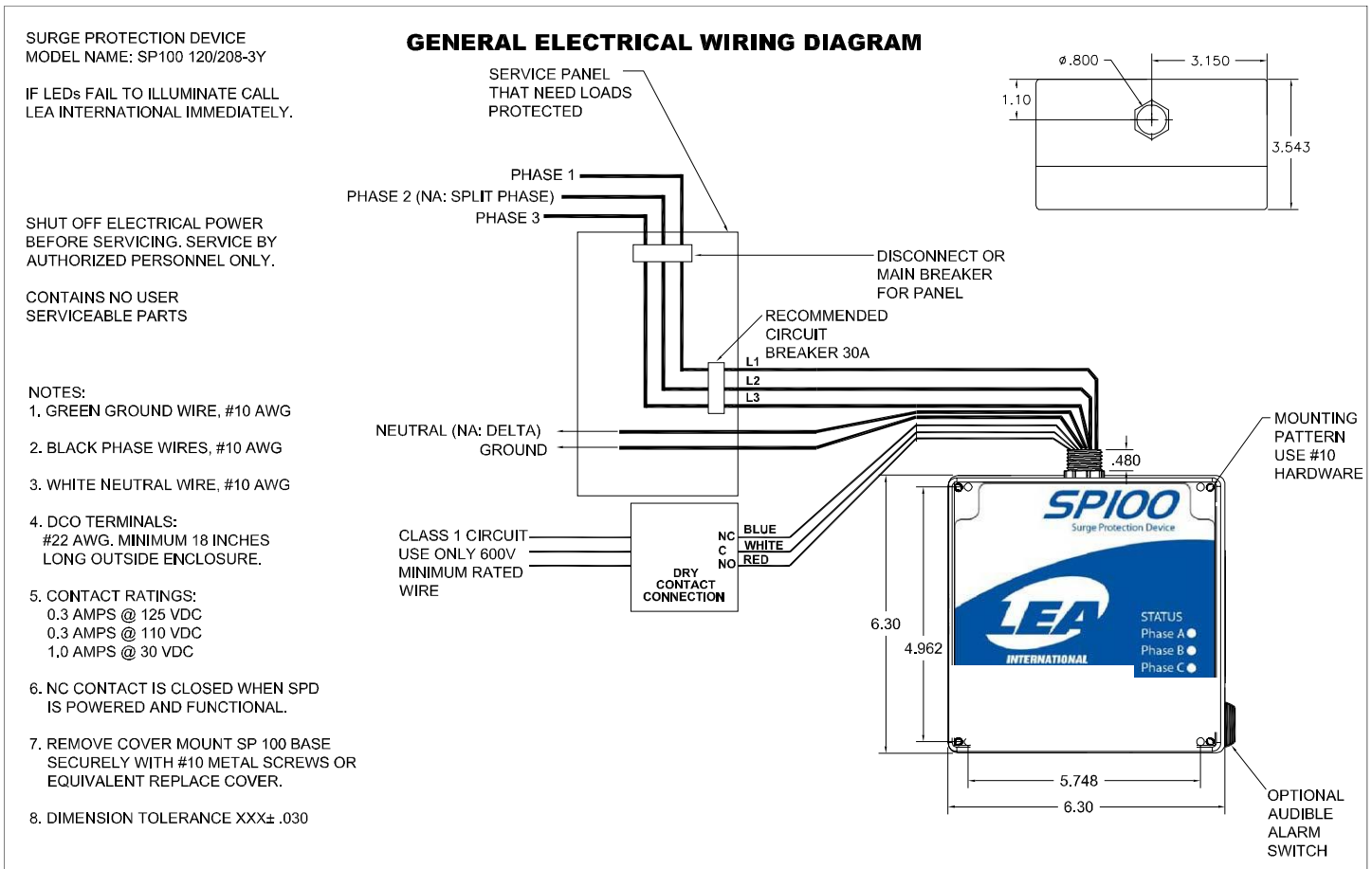
INSTALLATION CHECKLIST:

YES NO

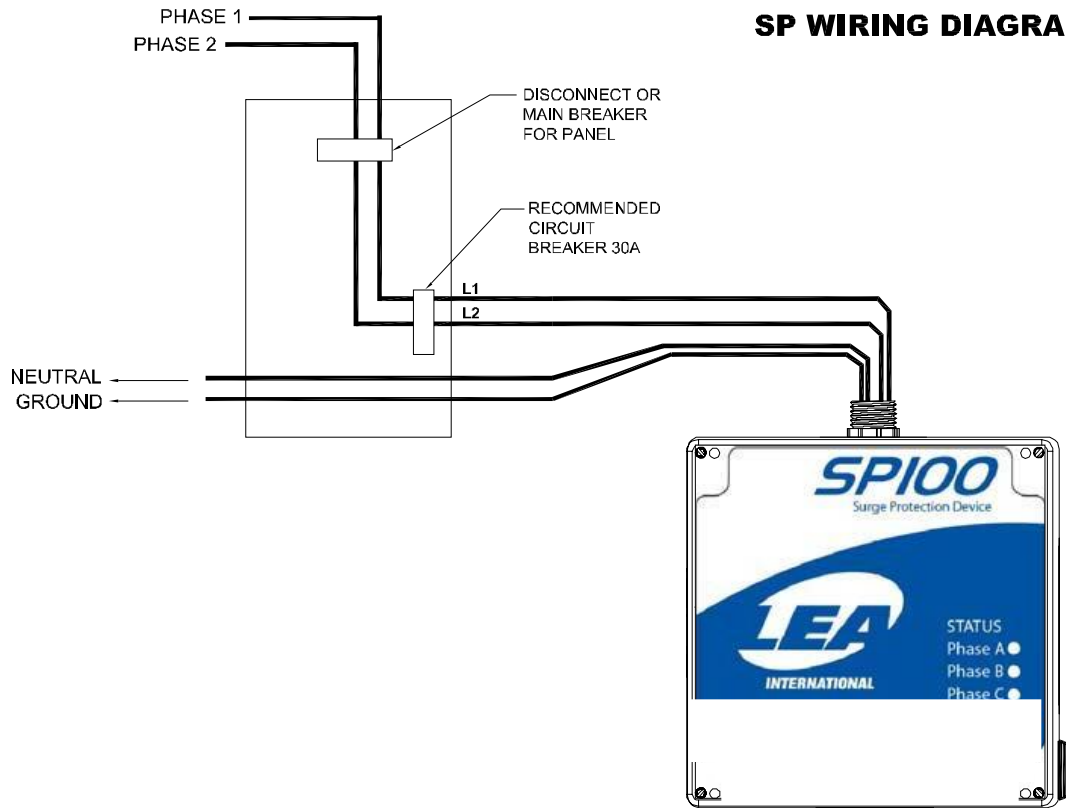
- [] [] The voltage configuration of the SPD matches actual voltage configuration of service point.
- [] [] Ground resistance is less than 25 ohms.
- [] [] All wiring conforms to the national electric code (NEC)
- [] [] All conductors are in accordance with the appropriate layout/installation drawing.
- [] [] All lead lengths are as short as possible.
- [] [] The SPD is installed in parallel with the incoming phase conductors.
- [] [] After installation, all lights are illuminated green.
- [] [] All critical loads are protected by the SPD. If not, additional SPD(s) may be required.

TROUBLESHOOTING

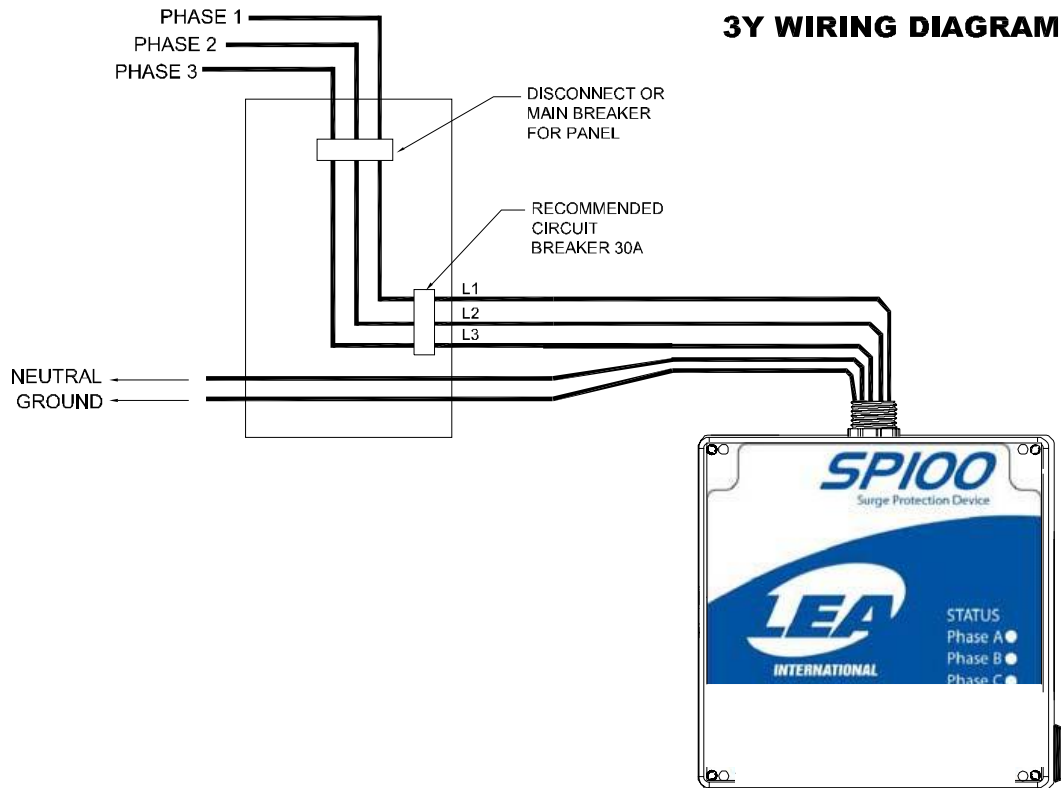
Problem	Solution
Alarm sound is audible	If disable switch is available. Silence alarm by using disable switch; otherwise use the circuit breaker to disconnect power and silence the alarm.
Status LED(s) are red	This indicates loss of protection in phase(s), unit may need replacement. Please call LEA technical support to check warranty.
Status LED(s) are not illuminated	This indicates a loss of power. Please verify power is being supplied to service point; if problem persists, call LEA technical support.



SP WIRING DIAGRAM



3Y WIRING DIAGRAM



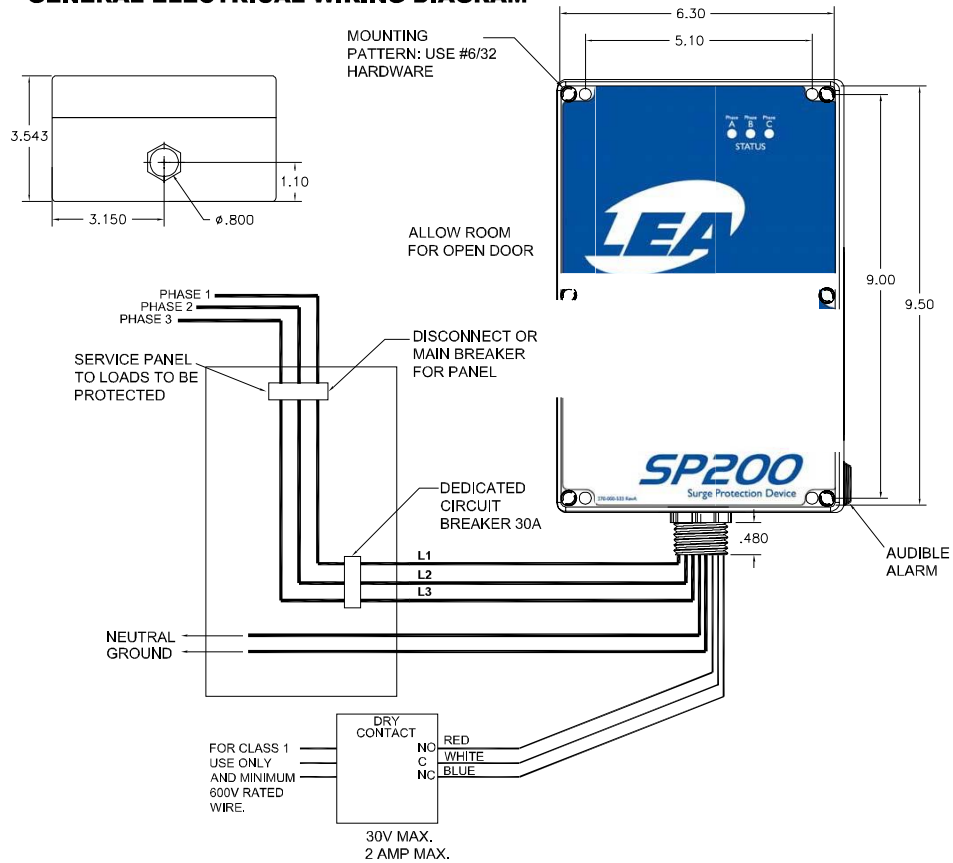
SURGE PROTECTION DEVICE
 MODEL NAME: SP200 120/208-3Y

IF LEDS FAIL TO ILLUMINATE CALL
 LEA INTERNATIONAL IMMEDIATELY.
 800-654-8087 USA
 813-621-1324 INTERNATIONAL
 10701 AIRPORT DRIVE
 HAYDEN, ID 83835

SHUT OFF ELECTRICAL POWER
 BEFORE SERVICING. SERVICE BY
 AUTHORIZED PERSONNEL ONLY.

CONTAINS NO USER
 SERVICEABLE PARTS

GENERAL ELECTRICAL WIRING DIAGRAM



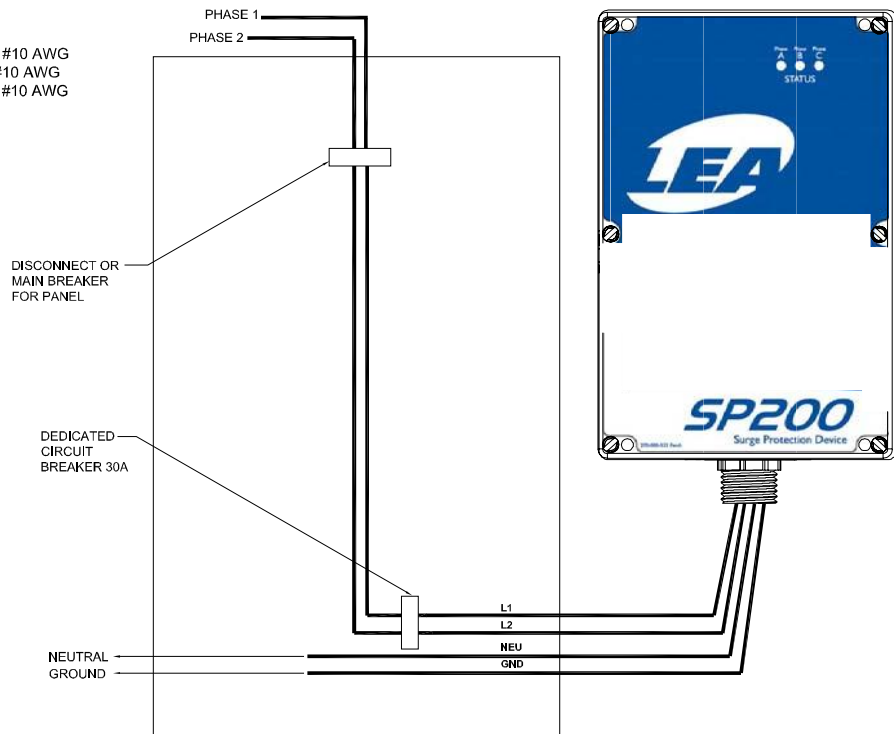
NOTES:

1. GREEN GROUND WIRE, #10 AWG
2. BLACK PHASE WIRES, #10 AWG
3. WHITE NEUTRAL WIRE, #10 AWG
4. DCO TERMINALS:
 #22 AWG. MINIMUM 18 INCHES
 LONG OUTSIDE ENCLOSURE.
5. CONTACT RATINGS:
 0.3 AMPS @ 125 VDC
 0.3 AMPS @ 110 VDC
 1.0 AMPS @ 30 VDC
6. NC CONTACT IS CLOSED WHEN SPD
 IS POWERED AND FUNCTIONAL.
7. REMOVE COVER MOUNT SP 200 BASE
 SECURELY WITH #10 METAL SCREWS OR
 EQUIVALENT REPLACE COVER
8. DIMENSION TOLERANCE XXX± .030

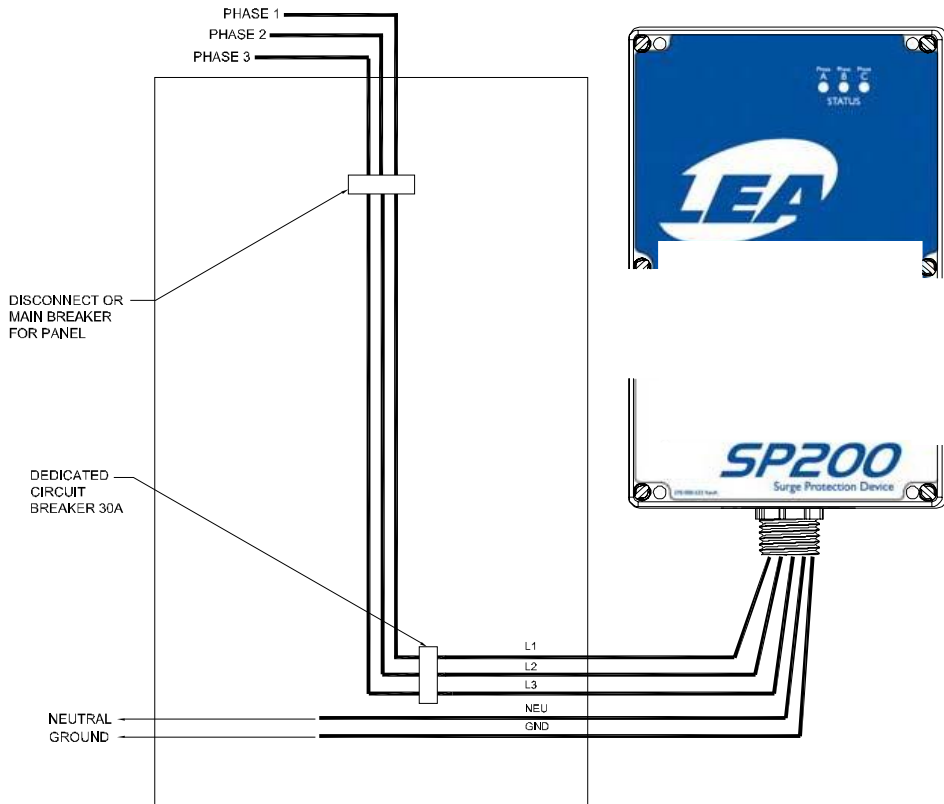
SP WIRING DIAGRAM

NOTES:

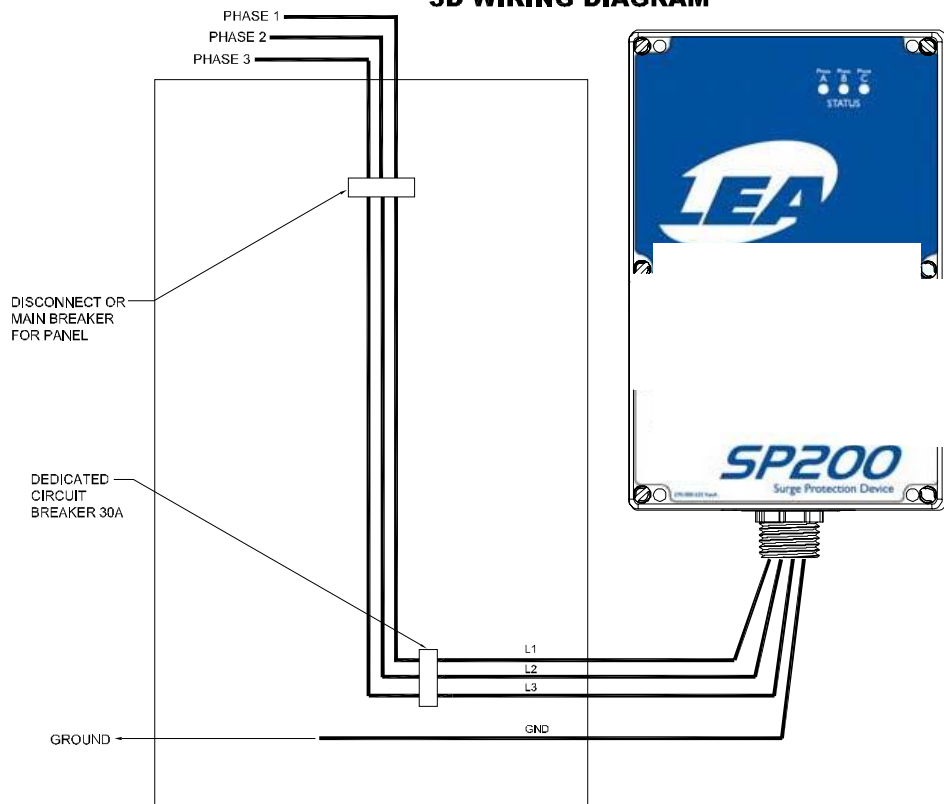
1. GREEN GROUND WIRE, #10 AWG
2. BLACK PHASE WIRES, #10 AWG
3. WHITE NEUTRAL WIRE, #10 AWG



3Y WIRING DIAGRAM



3D WIRING DIAGRAM



WARRANTY INFORMATION

LEA International's **SP Plus** Surge Protection Devices are warranted for ten (10) years as follows:

LEA International hereby extends, to the Customer of its products for use, LEA International's current limited warranty. LEA International warrants that its products are free from defects in material and/or factory workmanship. This warranty is effective after delivery of the product to the Customer. This warranty is not transferable. This warranty does not cover defects caused by or damages resulting from improper installation, misuse or alterations made to the product. Operation of the product under conditions exceeding LEA International's specifications or negligence in use of the product, or removal of the LEA International nameplate or serial number (where applicable) from the product will void this warranty in its entirety. Overhaul or modification of the product by other than LEA International or its authorized service center will void this warranty in its entirety.

There are no other warranties which extend beyond the description of the face of this limited warranty, and to the full extent permitted by law, and any and all implied warranties, including implied warranties of merchantability or fitness for a particular purpose or arising from any course of dealing or usage of trade, are hereby expressly disclaimed and excluded, as well as all other obligations or liabilities on the part of LEA International, its agents, representatives, distributors or designates not otherwise expressly covered under this limited warranty.

LIMITATION OF LIABILITY

LEA International's sole liability and the Customer's sole remedy for a failure of this product to perform as warranted shall be limited to the repair or replacement thereof upon return to LEA International's factory at 10701 Airport Drive, Hayden, ID 83835 USA, or its authorized service center, transportation prepaid.

NOTICE OF CLAIM

All claims under this warranty must be brought to the attention of LEA International's or its designated service center, in writing, within thirty (30) days after discovery of any defect in material or factory workmanship.

MATERIAL RETURN POLICY

No product may be returned without the seller's prior written approval. Transportation charges are to be prepaid by the buyer. Returned item(s) are subject to the seller's inspection and acceptance. Seller may, at its discretion, replace any or all return items within a reasonable time after seller determines that returned item(s) are not in accordance here within; and in such an event, seller shall not be liable for any damage arising from the defective delivery or delay caused thereby. When authorized by the seller in writing, unused products may be returned to the seller, subject to service handling, restocking, and if necessary rebuilding charges to "as new" condition.

Please have the following information on hand when calling for an RMA number:

MODEL NUMBER
PART NUMBER
PURCHASE DATE
INSTALLATION DATE
FAILURE DESCRIPTION
SYSTEM OPERATING VOLTAGE
LEA JOB NUMBER