



Wiremold

PA/PB Series

Hard Wired Surge Protectors

INSTALLATION INSTRUCTIONS

Installation Instruction No.: 1 007 593R1 – Updated November 2009

Legrand/Wiremold electrical systems conform to and should be properly grounded in compliance with requirements of the current National Electrical Code or codes administered by local authorities.

All electrical products may present a possible shock or fire hazard if improperly installed or used. Legrand/Wiremold electrical products may bear the mark of a Nationally Recognized Testing Laboratory (NRTL) and should be installed in conformance with current local and/or the National Electrical Code.



IMPORTANT: Please read all instructions before beginning.

PA and PB Series Surge Protection Devices (SPD) from Legrand/Wiremold are designed for use at the service entrance, distribution or branch panel, or at sensitive equipment. Units with an “-A” suffix include remote monitoring contacts; units with a “-B” suffix include a noise filter. Units with suffix “-AB” include both remote monitoring contacts and noise filter options.

CAUTION

- Installation should be performed by a qualified electrician.
- Read all instructions prior to installing this device.
- **TO AVOID FIRE, SHOCK, SERIOUS INJURY OR DEATH, TURN OFF POWER TO ELECTRICAL PANEL AND EQUIPMENT TO BE PROTECTED PRIOR TO INSTALLATION OF THE SURGE PROTECTOR.**
- PA and PB Series Surge Protection Devices are not lightning arrestors. They are not designed to provide protection against direct lightning strikes or against a sustained overvoltage condition.

PREPARATION

The following tools are required to mount and install the surge protector:

1. Electric Drill
2. Hole Saw (1 1/8" [29mm] typical) or other knockout device. (Or use pre-punched knockout on electrical panel.)
3. Wire cutter stripper for #10 AWG wire.
4. Miscellaneous hand tools.

The following materials are required to mount and install the surge protector:

1. Nipple (1" [25mm]) close metallic nipple for typical installations.
2. Connecting wire: #10 AWG stranded.
3. Fasteners appropriate for the wall type where the SPD is to be mounted. (Unit features built-in mounting holes, 11/64" [4.4mm] diameter.)

1. Test and check system voltage to verify proper surge protector selection. **TURN OFF POWER TO ELECTRICAL PANEL.**
2. Remove the cover from the electrical panel.
3. The SPD must be connected through a dedicated circuit breaker or fused disconnect switch. The breaker (or disconnect switch) will provide a means of removing power to the unit for maintenance.

Use a 30 amp circuit breaker with an interrupt rating of at least 5,000A RMS, or fused disconnect switch (customer supplied).

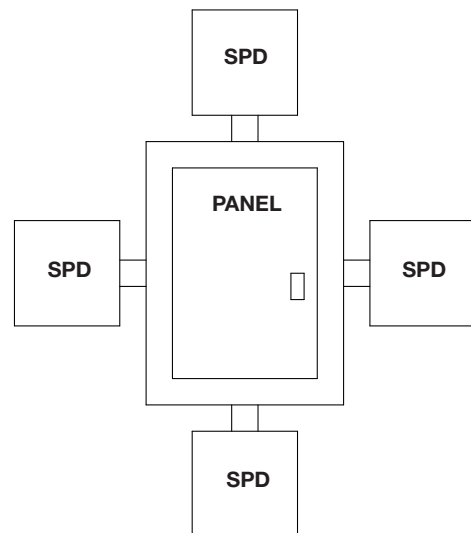
Use a three pole breaker for three phase systems, a two pole breaker for 120/240V systems when configuring for 240V, two phase, and a single pole breaker when configuring a 120/240V unit for 120V single phase.

NOTE: Locate the SPD as close to the breaker as possible in order to minimize the connection length between the panel power lines and the SPD.

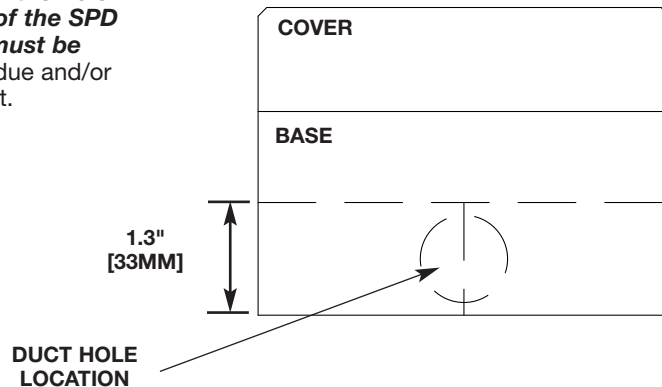
4. Unscrew the four (4) nuts on the front of the unit and set them aside. Carefully remove the lid of the SPD; note that the circuit board is attached. **Place the lid with attached board in a safe location where it will not be exposed to dirt, dust or physical impact.**

- Determine the desired location for the SPD. The figure at right illustrates potential locations for the SPD relative to the panel. Hold the SPD case to the panel box and mark the location of the knockout on the SPD case. Make a knockout in the electrical panel where the SPD is to be installed.

The knockout should be as close to the breaker feeding the SPD as possible.



- Using a hole saw (or knockout device), cut a hole in the SPD enclosure at the entrance location. **The upper edge of the hole must not exceed 1.3" from the mountable bottom of the SPD enclosure (see figure at right). Duct hole location must be centered to the side chosen.** Remove any dust, residue and/or burrs from the SPD housing after making the knockout.



- Put the connecting nipple into the empty SPD enclosure using the appropriate lock nuts and bushing.
- Connect the SPD enclosure to the electrical panel by placing the nipple into the knockout hole in the panel using the appropriate lock nuts and bushing.
- Mount the SPD securely using the pre-punched mounting holes and the necessary hardware based on the composition of the wall.
- Cut the connecting wire to the appropriate lengths. (Reminder: use maximum #10 AWG stranded connecting wire.) Connect the SPD terminals to the load side of the circuit breaker in the panel according to the wiring instructions in this manual. **The circuit breaker must be in the OFF position.** Run the appropriate conductors from the overcurrent device in the panel, through the nipple into the SPD unit.
- Terminate the wires to the appropriate terminal lugs in the SPD. **Be careful to connect the wires to the appropriate standoff following circuit board annotations for phase and reference potentials.** The recommended torque for tightening the terminal lugs to the wire is 25 pounds.

120T MODELS

Connect Line 1 from panel to Phase 1 on SPD.
 Connect Line 2 from panel to Phase 2 on SPD.

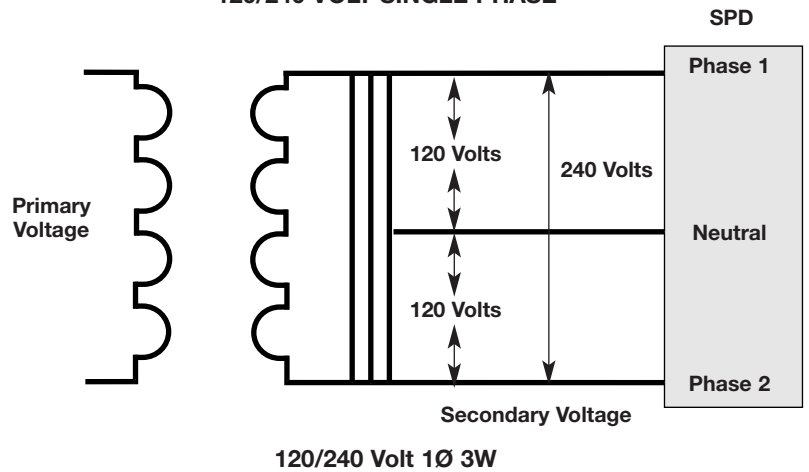
NOTE: When using for 120V only and connecting to only one phase, connect Line 1 from panel to Phase 1 on SPD. Use the supplied jumper wire to connect Phase 1 and Phase 2 on the SPD.

DO NOT USE THE JUMPER WIRE IF YOU ARE CONNECTING 240V.

Connect Ground (green wire) from panel to Ground on SPD.

Connect Neutral (white wire) from panel to Neutral on SPD.

120/240 VOLT SINGLE PHASE



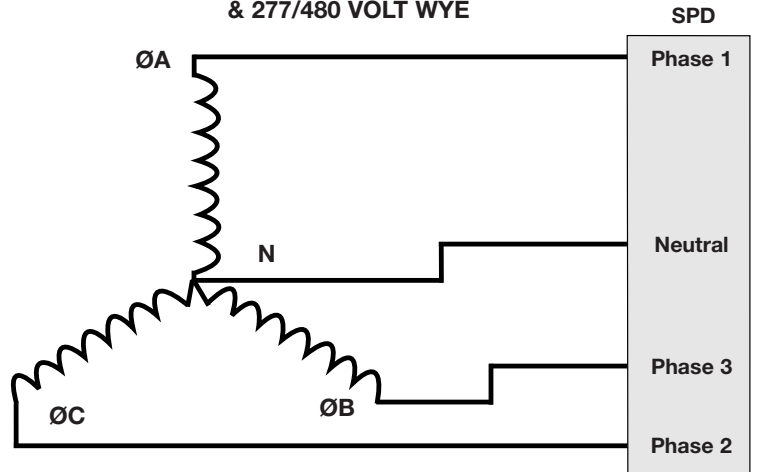
120Y & 277Y MODELS

Lines from panel may be connected without regard to Phase on SPD.

Ground (green wire) from panel to Ground on SPD.

Neutral (white wire) from panel to Neutral on SPD.

120/208 VOLT WYE & 277/480 VOLT WYE



240DCT MODELS

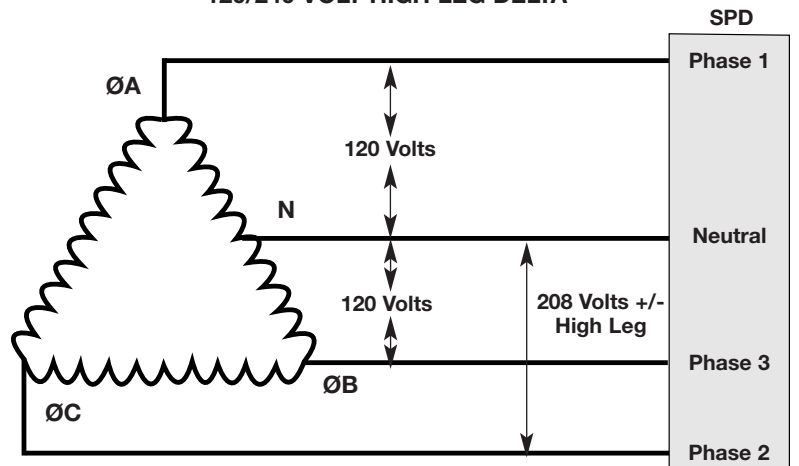
NOTE: Hi-Leg to Ground must be identified and connected to Phase 2 ONLY.

USE EXTREME CAUTION WHILE MAKING VOLTAGE MEASUREMENTS.

Ground (green wire) from panel to Ground on SPD.

Neutral (white wire) from panel to Neutral on SPD.

120/240 VOLT HIGH LEG DELTA



12. Double-check all connections.

13. Reattach cover to unit in appropriate direction, so that Sentrex logo reads straight across the unit.

14. The SPD can now be activated by turning on the circuit breaker. The green indicator lights will illuminate assuming the unit has been installed properly.

READING STATUS OF PA AND PB SERIES DEVICES

Visual Status

Protection is indicated by one (1) LED for each phase. An excessive surge, a lightning strike, or a loss of power can cause one or more LEDs to turn off. If power is provided to the SPD unit and one or more LEDs are not illuminated, the unit has been compromised and should be replaced.

REMOTE MONITORING

For units with remote monitoring contacts option ("-A" suffix), the SPD is equipped with Form C (SPDT) NO/NC dry contacts. The maximum load is 4 amps (resistive) at 120 VAC.

To connect the remote monitoring unit (sold separately), wires properly sized to the load shall be connected to the remote contacts connector (green) located on the SPD board. A minimum of 18 AWG, 600V rated conductors should be used to provide the connection.

IMPORTANT NOTE! During a power failure, the SPD continues to provide full protection, despite the lack of visual status indication. However, if the unit lacks power as a result of the circuit breaker being in the off position, the SPD is off-line and will not provide protection.



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