

Seven Mode Surge Protective Device (SPD) Panel

For branch and service entrance

Cat. Nos. 37120-7, 47120-7, 47120-4X7, 37277-7, 47277-7, 47277-4X7

LEVITON[®]

PK-93721-10-02-0B

INSTALLATION

English

WARNINGS & CAUTIONS:

- **TO AVOID FIRE, SHOCK, OR DEATH; TURN OFF POWER AT CIRCUIT BREAKER OR FUSE AND TEST THAT THE POWER IS OFF BEFORE WIRING!**
- TO BE INSTALLED AND/OR USED IN ACCORDANCE WITH ELECTRICAL CODES AND REGULATIONS (INCLUDING NEC/CEC, AS APPLICABLE).
- IF YOU ARE NOT SURE ABOUT ANY PART OF THESE INSTRUCTIONS, CONSULT AN ELECTRICIAN.
- SPD MAY NOT SURVIVE SUSTAINED OVERVOLTAGES.
- ELECTROCUTION, FATAL, OR SERIOUS INJURY AND PROPERTY OR EQUIPMENT DAMAGE CAN RESULT FROM FAULTY INSTALLATION AND/OR SERVICING. **ALWAYS TURN POWER OFF BEFORE REPLACING MODULES.**
- A SPD MODULE IN A FEED-THROUGH BRANCH CIRCUIT WILL PROVIDE PROTECTION ONLY FOR LOADS WIRED DIRECTLY TO IT. IT WILL NOT PROVIDE PROTECTION TO ANY OTHER MODULES ON THE SAME BRANCH CIRCUIT.
- THIS DEVICE SHOULD BE INSTALLED ON A LINE THAT IS SERVED BY DISCONNECT MEANS, SUCH AS DEDICATED 30 AMP CIRCUIT BREAKERS, OR 30 AMP FUSED, OR 30 AMP FUSED DISCONNECT SWITCHES.
- IF CONDUIT IS USED, A GREEN GROUND WIRE MUST BE CONNECTED TO GROUND LUG. FAILURE TO DO SO MAY RESULT IN FIRE AND/OR SHOCK.
- USE THIS DEVICE **ONLY WITH COPPER OR COPPER CLAD WIRE.**

INTRODUCTION:

Transient voltage surges are short-term deviations from a desired voltage level or signal that can occur at any time. Such changes can result in an electronic device malfunction, or cause extensive damage. Also termed "spikes", these occurrences take place as a result of magnetic field/inductive coupling or whenever the line current is interrupted. They can originate from either inside a facility, or derive from outside utility lines. Sources within a facility involve loads that are switched, such as electric motors that are turned ON and OFF. Outside transient influences involve utility grid switching.

DESCRIPTION:

Leviton Panel Mounted devices are designed to provide protection for microprocessor-based equipment in industrial and commercial establishments from high voltage transients.

SPECIFICATIONS:

Ratings: 37120-7, 47120-7, 47120-4X7 120/208VAC, 3 Phase
37277-7, 47277-7, 47277-4X7 277/480VAC, 3 Phase

- Listed ANSI/UL 1449 - Type 2
- IEEE C62.41-2002 Category A&B combination wave suppression.
- Provides seven modes of protection: L-N (3), L-G (3), N-G (1).
- High energy solid-state semi-conductor surge suppression circuitry per phase each: Line to Neutral; Line to Ground and Neutral to Ground.
- Each phase provided with independent thermal fuse protection.

GENERAL INFORMATION:

- Green LED diagnostic indicator for each phase.
- Acoustic as well as visual indicators.
- Interior plastic circuit enclosure for added safety and easy servicing.
- Compatible with Decora Home Controls (DHC).
- Provided with Remote Monitoring Dry Contact (Form C rated 5A, 250VAC). For wire range sizes min. 20AWG - max. 12AWG solid or stranded, torque value 3.5 in.-lbs.

NOTES:

- Standard J-Box metal NEMA Type 1 (Cat. Nos. 37120-7, 37277-7, 47120-7 and 47277-7) enclosure with pre-punched standard size knockouts simplifies flush mounting in typical frame construction environments, and provides convenient connection means to existing branch panels.
- Cat. Nos. 47120-4X7 and 47277-4X7 are provided with a NEMA 4X enclosure for outdoor installation.
- For superior local SPD protection, use Leviton Surge Suppression Outlets to protect against internally generated transients between the Seven Mode Panel and the point of use.
- SPD device terminal blocks accept up to #6 AWG wire and are rated for 600 Volts. Recommended conductor size is #10 AWG stranded.

TO INSTALL:

1. **RESTORE POWER**, if necessary.
2. Measure panel voltage, L-N, to determine the system voltage. System voltage must not exceed the specified maximum continuous RMS voltage listed on the SPD device label.
3. **WARNING: TO AVOID FIRE, SHOCK OR DEATH, TURN OFF POWER AT CIRCUIT BREAKER OR FUSE AND TEST THAT POWER IS OFF BEFORE WIRING!**
4. Mount the SPD device as close as possible to the circuit breaker panel. Connection lead length between the SPD device and circuit breaker box should be minimal for best protection. The location should also permit good visibility of the SPD device's diagnostic lights.
5. Remove the circuit breaker panel cover and determine the breaker panel wiring entry point relative to chosen location of the SPD device.
NOTE: Since the circuit breaker panel and the -4X7 SPD unit have overlapping covers, installation should allow at least 1 in.(2.54 cm) of clearance from the edge of the circuit breaker panel cover.

NOTES:

- The NEMA 1 (-7) SPD device may be rotated (in 90° increments) inside the outer enclosure to allow connection with the shortest conduit and leads.
- For installation of NEMA 4X enclosure, drill a hole in the top or bottom of the 4X enclosure in line with SPD wire terminals. **DO NOT** drill conduit holes in the sides of this NEMA 4X enclosure, or there will be no room for attaching the wiring. Install weather-proof conduit and seals to maintain the NEMA 4X integrity.
- For installation of NEMA Type 1 enclosure, connect conduit to any knockout, keeping conduit length to a minimum.
- 7. Open SPD cover and connect 3/4 in flexible or rigid conduit between circuit breaker box and the SPD device using the shortest route possible.
- 8. Remove clear plastic terminal cover.

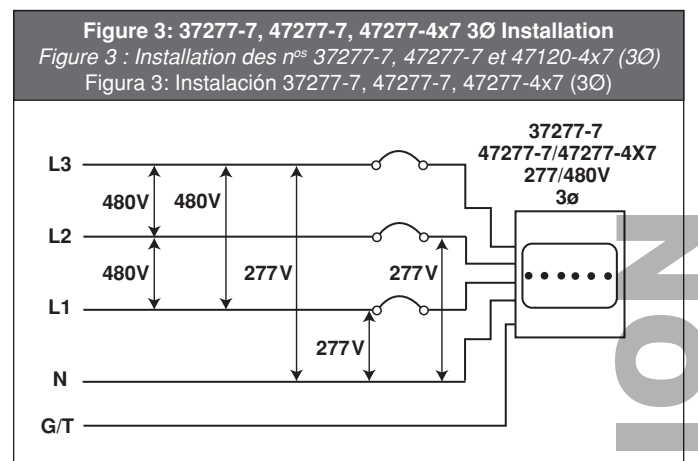
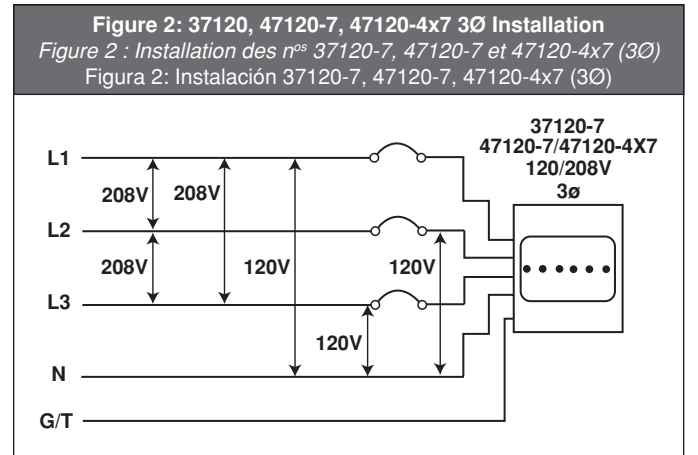
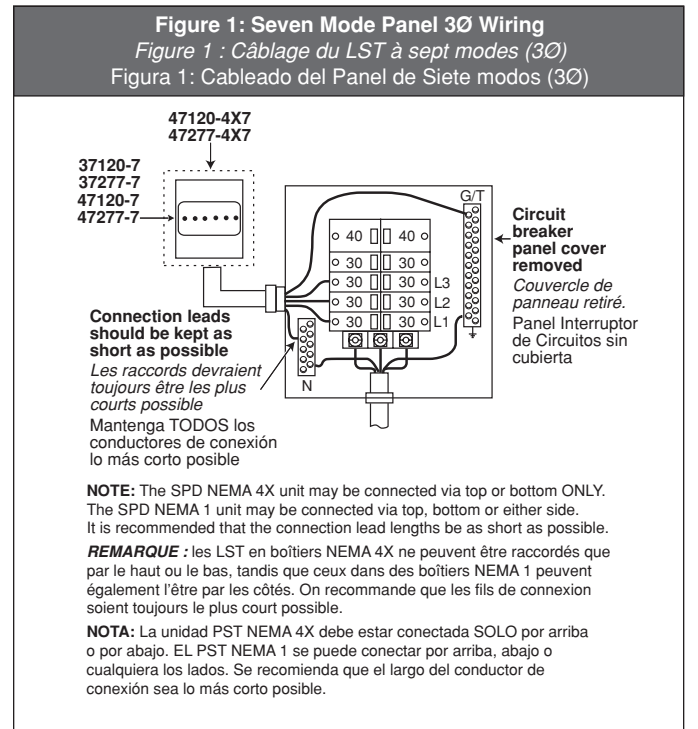
WIRING PROCEDURE:

1. Thread wire leads through conduit to the SPD enclosure.
2. Connect wires per appropriate wiring diagram as follows: Black to Phase (Line 1, Line 2, Line 3). White to Neutral. Green to Ground.
Screw terminal torque requirements: For wire 10 AWG solid/ stranded torque 35 in.-lbs. For wire 8 AWG stranded torque 40 in.-lbs. For wire 6 AWG stranded torque 45 in.-lbs.
3. Replace the clear plastic terminal cover. For -7 version, ensure ground wire is connected to outer metal enclosure with 3.5 in.-lbs. of torque. Close or fasten enclosure door.
4. Select circuit breakers as close as possible to each service entrance lug. 30A circuit breakers are recommended, and may share SPD device and branch circuit leads, but only if permitted by Local Code. The breakers provide additional failure protection as well as a SPD connection and servicing disconnect.
NOTE: Do not connect SPD leads directly to service entrance lugs. This may result in fire, shock or death.
5. Lead lengths should be as short as possible. Connect the Black leads to each Phase through the selected circuit breakers. Connect the White lead to Neutral as close as possible to Neutral entrance service lug.
NOTE: Avoid long loops and do not coil extra lead wire.
6. Replace circuit breaker panel cover.
7. Restore power at circuit breaker or fuse. **INSTALLATION IS COMPLETE.**

NOTE: (Remote Connection) Alarm circuit/relay status contacts are rated for 5A, 250 VAC. Contacts accommodate #20 - #12 AWG wire secured to terminals using 3.5 in.-lbs of torque. If surge protection fails, continuity will be between the "NO" and "C" contacts.

TO OPERATE:

1. The Green LEDs on the SPD device should be ON.
2. If during normal operation the LEDs turn OFF, contact an electrician to determine if Phase power is applied. If power is present, then a transient surge has exceeded the SPD device rating. The unit should be replaced and/or upgraded as soon as possible.



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For Technical Assistance Call: 1-800-824-3005 (USA Only) or 1-800-405-5320 (Canada Only) www.leviton.com

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