

BRANCH PANEL MOUNTED SURGE PROTECTIVE DEVICE (SPD)

Cat. Nos. 51120-1 & 51120-3



DI-000-51120-00E

INSTALLATION

WARNINGS & CAUTIONS:

- TO BE INSTALLED AND/OR USED IN ACCORDANCE WITH ELECTRICAL CODES AND REGULATIONS.
- INSTALLATION OF CAT. NOS. 51120-1 AND 51120-3 SPD DEVICES IN A BRANCH CIRCUIT MUST BE DONE BY AN ELECTRICIAN.
- READ ALL INSTRUCTIONS BEFORE INSTALLING.
- CAT. NOS. 51120-1 AND 51120-3 SPD DEVICES MUST BE INSTALLED ON A LINE THAT IS SERVED BY DISCONNECT MEANS, SUCH AS 20-AMP CIRCUIT BREAKERS OR 20-AMP FUSED DISCONNECT SWITCHES.
- SPD MAY NOT SURVIVE SUSTAINED OVERVOLTAGES.
- USE THIS DEVICE **ONLY WITH COPPER OR COPPER CLAD WIRE.**

FEATURES:

- UL 1449 Listed - Type 2 SPD
- IEEE C62.41-1991 category A&B combination wave suppression
- Solid-state semiconductor SPD circuitry for each phase
- Each phase independently fused
- Green LED diagnostic indicator for each phase
- NEMA 1 metal enclosure
- Pre-punched standard knockouts
- Interior plastic circuit enclosure for added safety
- Flush mounting enclosure

For superior local SPD protection, use Leviton Surge Suppression Outlets to protect against internally-generated transients between the branch panel and the point of use.

DESCRIPTION:

Leviton's Catalog Nos. 51120-1 (120/240V, single -phase version) and the 51120-3 (120/208V, 3-phase version) Branch Panel Mounted SPD devices have been designed to protect residential and small commercial establishments from high voltage transients. The standard J-Box metal enclosure with pre-punched standard size knockouts simplifies flush mounting in typical frame construction environments, and provides convenient connection means to existing branch panels.

TO INSTALL:

System Voltage Requirements

1. Measure panel voltage, L-N, to determine the system voltage. System voltage must not exceed the specified maximum continuous RMS voltage on the SPD device label.

Location and Mounting

1. Locate the SPD device as close as possible to the branch 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.
2. 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 SPD unit have overlapping covers, installation should allow at least one inch of clearance from the edge of the circuit breaker panel cover.
3. For surface-mount circuit breaker panels, the SPD device may be connected using rigid conduit to any conduit knockout hole.
4. For non-surface mount installations, secure the SPD to the support stud in the wall by cutting a 6 x 6-inch mounting hole.
5. Remove SPD's cover and connect 3/4-inch flexible or rigid conduit between circuit breaker box and the SPD.
6. Place the SPD device into the 6 x 6-inch mounting hole and secure it to the exposed studs.

Wiring Connections

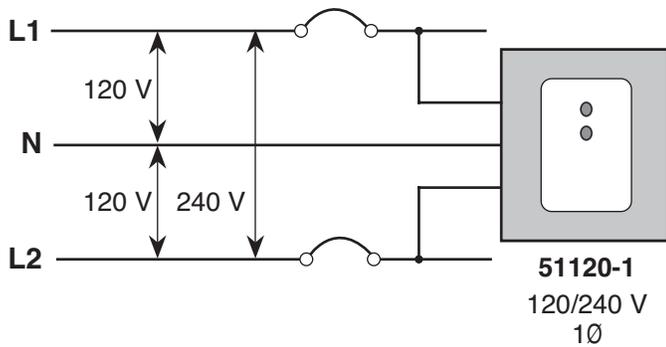
The SPD device terminal block accepts 4 AWG – 12 AWG COPPER WIRE ONLY. For wire range Solid or Stranded 12 AWG to 10 AWG use Torque 25 in-lbs. For 8 AWG Stranded wire use 30 in-lbs. For Stranded 6 AWG – 4 AWG use 35 in-lbs.

1. **WARNING:** TO AVOID FIRE, SHOCK OR DEATH, **TURN OFF POWER** AT CIRCUIT BREAKER OR FUSE AND TEST THAT POWER IS OFF BEFORE WIRING!
2. Connect wire leads to terminal block: BLACK to PHASES, WHITE to NEUTRAL and GREEN to GROUND. See **Figures 1 through 4** on reverse side.
CAUTION: If plastic conduit is used, Green ground wire must be connected to ground lug, and Green wire inside enclosure must also be connected to ground lug. Failure to do so may result in fire or shock. See **Fig. 1, Fig. 2, Fig. 3** and **Fig. 4** on reverse side for installation diagrams.
3. Thread the SPD device's wire leads through the conduit to circuit breaker interior.
4. Secure the SPD cover with the screws removed previously.
5. Select circuit breakers as close as possible to each service entrance lug. Twenty-Amp (20A) circuit breakers are recommended, and may share SPD device and branch circuit leads. 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.
6. 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.
7. Replace the circuit breaker panel cover. Installation is complete.

Power ON

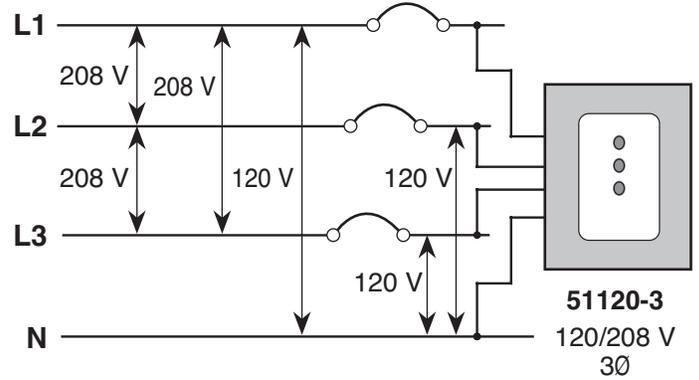
1. Restore power to circuit breaker panel. The green diagnostic lights on the SPD device should turn ON.
2. If during normal operation a diagnostic light shuts off, have an electrician determine if phase power is applied. If power is present, then a transient surge has exceeded the SPD device's rating. The unit should be replaced and/or upgraded as soon as possible.

FIGURE 1 - SINGLE-PHASE INSTALLATION



Suitable for use on a circuit capable of delivering no more than 10,000 rms symmetrical amperes, 120 volts maximum when protected by a 20 ampere circuit breaker rated 120 volts minimum. The interrupting rating of the fuse or circuit breaker shall not be less than the available fault current.

FIGURE 2 - THREE-PHASE INSTALLATION



Suitable for use on a circuit capable of delivering no more than 10,000 rms symmetrical amperes, 120 volts maximum when protected by a 20 ampere circuit breaker rated 120 volts minimum. The interrupting rating of the fuse or circuit breaker shall not be less than the available fault current.

FIGURE 3 - SINGLE-PHASE WIRING

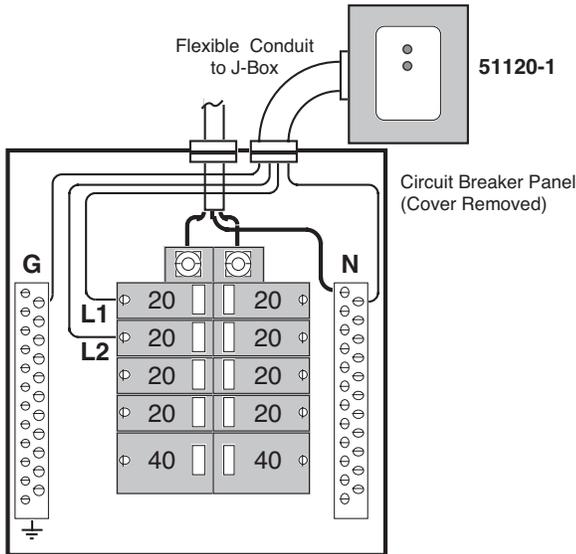
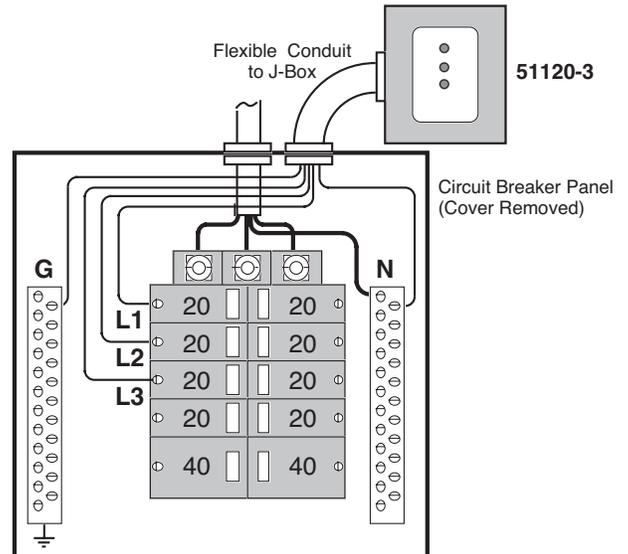


FIGURE 4 - THREE-PHASE WIRING



LIMITED LIFETIME WARRANTY AND EXCLUSIONS

Leviton warrants to the original consumer purchaser and not for the benefit of anyone else that this product at the time of its sale by Leviton is free of defects in materials and workmanship under normal and proper use during the lifetime of the product. Leviton's only obligation is to correct such defects by repair or replacement, at its option, if the product is returned prepaid, with proof of purchase date, and a description of the problem to **Leviton Manufacturing Co., Inc., Att: Quality Assurance Department, 201 North Service Road, Melville, N.Y. 11747**. This warranty excludes and there is disclaimed liability for labor for removal of this product or reinstallation. This warranty is void if this product is installed improperly or in an improper environment, overloaded, misused, opened, abused, or altered in any manner, or is not used under normal operating conditions or not in accordance with any labels or instructions. There are no other or implied warranties of any kind, including merchantability and fitness for a particular purpose. Leviton is not liable for incidental, indirect, special, or consequential damages, including without limitation, damage to, or loss of use of, any equipment, lost sales or profits or delay or failure to perform this warranty obligation. The remedies provided herein are the exclusive remedies under this warranty, whether based on contract, tort or otherwise.

For Technical Assistance Call:
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