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LEVITON CAT. NOS. 51120-1 AND 51120-3 BRANCH PANEL MOUNTED SURGE SUPPRESSORS (TVSS)

WARNING: INSTALLATION OF THE CAT. NOS. 51120-1 AND 51120-3 TVSS DEVICES IN A BRANCH CIRCUIT MUST BE DONE BY A QUALIFIED ELECTRICIAN.

DESCRIPTION

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

- Meets UL 1449.
- IEEE C62.41-1991 category A&B combination wave suppression.
- Solid-state semiconductor TVSS circuitry for each phase.
- Each phase independently fused.
- Green LED diagnostic indicator for each phase.
- Standard J-Box metal enclosure.
- Prepunched standard knockouts.
- Interior plastic circuit enclosure for added safety.
- Flush mounting enclosure.

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

SAFETY NOTES AND WARNINGS

- **READ ALL INSTRUCTIONS BEFORE INSTALLING.**
- **TO BE INSTALLED AND/OR USED IN ACCORDANCE WITH APPROPRIATE ELECTRICAL CODES AND REGULATIONS.**
- **WARNING: TO AVOID FIRE, SHOCK, OR DEATH; TURN OFF POWER AT CIRCUIT BREAKER OR FUSE. TEST THAT POWER IS OFF BEFORE WIRING!**

• **CAUTION: USE THIS DEVICE ONLY WITH COPPER OR COPPER CLAD WIRE. WITH ALUMINUM WIRE USE ONLY DEVICES MARKED CO/ALR.**

• **WARNING: CAT. NOS. 51120-1 AND 51120-3 TVSS DEVICES ARE NOT LIGHTNING ARRESTORS AND WILL NOT SURVIVE LIGHTNING STRIKES IN CLOSE PROXIMITY TO THE PREMISES OR SUSTAINED OVERVOLTAGES.**

• **WARNING: THE CAT. NOS. 51120-1 AND 51120-3 TVSS 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.**

INSTALLATION INSTRUCTIONS - 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 TVSS device label.
2. Turn power OFF at circuit breaker panel.

Location and Mounting

1. Locate the TVSS device as close as possible to the branch circuit breaker panel. Connection lead length between the TVSS device and circuit breaker box should be minimal for best protection. The location should also permit good visibility of the TVSS 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 TVSS device.

NOTE: Since the circuit breaker panel and the TVSS 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 TVSS device may be connected using rigid conduit to any conduit knockout hole.
4. For non-surface mount installations, secure the TVSS to the support stud in the wall by cutting a 6 x 6-inch mounting hole.
5. Remove TVSS's cover and connect 3/4-inch flexible or rigid conduit between circuit breaker box and the TVSS.
6. Place the TVSS device into the 6 x 6-inch mounting hole and secure it to the exposed studs.

Wiring Connections

The TVSS device terminal block accepts up to #12 AWG copper wire ONLY.

1. Connect wire leads to terminal block: BLACK to PHASES, WHITE to NEUTRAL and GREEN to GROUND. See Figures 1 through 4.

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 the other side of this sheet for installation diagrams.

2. Thread the TVSS device's wire leads through the conduit to circuit breaker interior.
3. Secure the TVSS cover with the screws removed previously.
4. Select circuit breakers as close as possible to each service entrance lug. Twenty-Amp (20A) circuit breakers are recommended, and may share TVSS device and branch circuit leads. The breakers provide additional failure protection as well as a TVSS connection and servicing disconnect.

NOTE: Do not connect TVSS leads directly to service entrance lugs. This may result in fire or shock.

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 the circuit breaker panel cover. Installation is complete.

Power ON

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

