



Installation Instructions for DC Voltage Parallel TVSS Device (positive, negative and ground)

WARNING - HAZARDOUS VOLTAGES ARE PRESENT. Improper installation may result in serious injury to the installer and/or damage to the electrical system or related equipment. Read all instructions before beginning the installation. Safety equipment must be used as prescribed by OSHA, whenever working around hazardous voltages.

Failure of unit and/or consequential equipment damage due to improper installation or misapplication is not covered by the product warranty.

Voltage measurements and installation must be completed by a licensed/qualified electrician in accordance with the National and/or Canadian Electric Code, State, and Local codes. These requirements supersede this instruction.

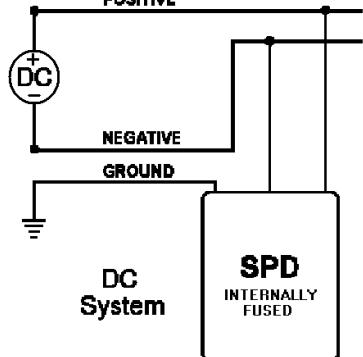
POWER MUST BE REMOVED FROM THE ELECTRICAL SYSTEM BEFORE INSTALLING THE UNIT.

INSTALLATION MATERIALS REQUIRED

The following is a list of materials that may be needed for proper installation of this surge suppression device. This list is intended to help the installer anticipate materials needed for a successful installation. The installer should become familiar with the scope of work to avoid lost time and improper installation. Failure to use fittings that are UL Listed will void the UL Listing and the Manufacturer's warranty.

- For Splices: 3 (or more) cable taps; such as: NSI IPCS- 2001 or 7501 (per Code).
- Attachment Hardware: Use (four) screws or anchor toggle bolts, flat washers and lock washers.
- $\frac{3}{4}$ " hub (included with most models).
- Tools: Drill & bits, conduit knockouts, Channel Locks, Level, Screwdrivers, Appropriate Safety Equipment.

INSTALLATION DIAGRAM



BEFORE INSTALLATION

For proper performance, the units must be installed with the shortest lead length possible.

Sharp bends should be avoided.

There are no position-oriented components in this unit; therefore, the device can be mounted upside down or sideways to allow for the shortest possible lead length.

Table of Maximum Suggested Operating Voltages and Unit's Wire Colors

Nominal System Voltage DC Applications	Positive To Negative	Positive To Ground	Negative To Ground	Positive Wire Color	Negative Wire Color	Ground Wire Color
1000	1,120 V	1,120 V	1,120 V	Red	Black	Green
800	840 V	840 V	840 V	Red	Black	Green
600	745 V	745 V	745 V	Red	Black	Green
500	560 V	560 V	560 V	-	-	-
400	420 V	420 V	420 V	-	-	-
300	370 V	370 V	370 V	-	-	-
150	200 V	200 V	200 V	-	-	-
125	200 V	200 V	200 V	-	-	-
48	102 V	102 V	102 V	-	-	-
24	31 V	31 V	31 V	-	-	-
12	31 V	31 V	31 V	-	-	-

INSTALLATION STEPS

STEP 1: Check Voltages

- Confirm that the system voltage does not exceed the maximum suggested operating voltage. All voltage measurements should be completed with a voltmeter. DO NOT INSTALL THE UNIT IF THE MEASURED VOLTAGE EXCEEDS THE MAXIMUM SUGGESTED OPERATING VOLTAGE OF THE DEVICE.

CAUTION: Do not proceed further until power has been removed from the electrical system.

STEP 2: Mounting the Unit

The units are provided with 18-24 inches of #10 THHN Stranded wire. For best performance, mount the unit so that all wires can be cut and connected in the shortest and most direct path possible.

- No sharp bends should be made in the installation. If bends are unavoidable, make them smooth and flowing. The device contains no position-oriented components; therefore, the device can be mounted upside down or sideways.
- Do not cut any wires until suppressor has been mounted. Units with plastic hubs must be installed with the non-metallic flexible conduit and extra hub.
- While holding suppressor on wall, determine the shortest distance between the hub on suppressor and hub to be installed on panel. Cut conduit to shortest length possible to fit securely over both hubs.
- Twist conduit onto the extra hub. Slide conduit and hub over wires of suppressor; twist onto hub of suppressor.
- Mount suppressor to wall and install hub on panel.

STEP 3: Wire the Suppressor into the Electrical System

- Carefully layout the wires keeping as short and straight as possible. After a satisfactory layout has been made to the appropriated termination points as described below, cut the wires and connect them as instructed. Cut all wires as short as possible.
- Connect the GREEN ground wire from the surge suppressor to the system ground.
- Connect the BLACK negative wire from the surge suppressor to the system negative.
- Connect the RED positive wire from the surge suppressor to the positive conductor or buss of the electrical system (through a circuit interrupt (fuse, breaker, disconnect switch), if desired).

*Before energizing, measure the voltage again to insure it is within the levels in the table above.
Immediate failure of the surge suppressor will occur if installed on voltages higher than these.*

STEP 4: Apply Power to the Surge Suppressor

- The LED indicator lights should be illuminated. If they are not, remove power from the surge suppressor and contact supplier or Energy Control Systems +1.817.483.8497 or info@sinetamer.com.