Quick Installation Guide

Apex Imax P/N 1101-808's & 1101-809's

Installation personnel must read and fully understand both mechanical and electrical installation procedures contained within this document before installing this device. Serious and/or fatal electrical shock hazards exist if extreme care is not exercised during all phases of mechanical or electrical installation procedures. AC Power to the surge suppressor, at the surge suppressor and vicinity of the surge suppressor MUST be disconnected prior to performing the following mechanical installation procedures. It MUST be verified that AC Power is disabled at the surge suppressor and in all physical areas surrounding the suppressor that are within reach of installation personnel before beginning mechanical installation. Insure that the AC ground system is available and properly installed, 100% intact, and fully operational at electrical distribution where the device is being installed.

Thank you for selecting Transtector Systems to safeguard your equipment from the damaging effects of lightning and transient overvoltage.

The APEX Series surge suppressor models are designed specifically to operate on the following configurations:
120/240 Single Phase 1101-808's
120/208 Three Phase 1101-809's

NOTE: Instructions for the APEX MOV Series are identical for APEX Series suppressors configured with silicon protection.

Mechanical Installation:
Step 1: Select a location along the electrical distribution system as physically close to the critical equipment loads as practical to install the surge suppressor. The suppressor can be installed at distribution panels, equipment AC power inputs, or at secondary windings of insolation transformers. The suppressor must be positioned within four (4) feet (122 cm) of the AC power source. It is recommended that the suppressor be installed within two (2) feet (61 cm) of the AC power source, if possible.

CAUTION: Increasing electrical impedance values to inputs of any transient suppressor, regardless of manufacturer, can increase device's voltage limiting levels. Suppressors should be installed as physically close to the protected electrical distribution panel or critical load as possible using the largest size wiring/conductors as practical.

Step 2: Unpack the surge suppressor from its shipping container and visually inspect for shipping related damage. Open suppressor door and verify that all components, lights, display and electrical connections are secure.
Step 3: Refer to APEX Series enclosures diagram (Figure 1). Note suggested locations on either bottom or left side of suppressor enclosure to drill holes to route conduit from AC power source to suppressor assembly. Apertures intended to provide a path for AC wiring conductors can be bored anywhere into the suppressor enclosure as long as suppression components are not damaged or obstructed in the process.

CAUTION: Transtector's applications engineering department must be contacted prior to installing the APEX Series suppressor when maximum current rating of electrical service to be protected exceeds the specified amperage rating of surge suppressor.

Step 4: Refer to mounting illustration (Figure 1) for APEX Series suppressor. Drill four (4) mounting holes on the mounting surface. Insure mounting holes are spaced 8" (20.38 cm) apart from each other horizontally and are separated 13" (31.7 cm) vertically.
Step 5: Physically position surge suppressor as close as possible to the AC power source and securely mount it to any surface capable of permanently supporting 20 pounds (9.1Kg) of weight. (Mounting hardware is not included).

WARNING: AC Power to the surge suppressor, at the surge suppressor, and in the vicinity of surge suppressor **MUST** be disconnected prior to performing each mechanical and electrical installation procedure.

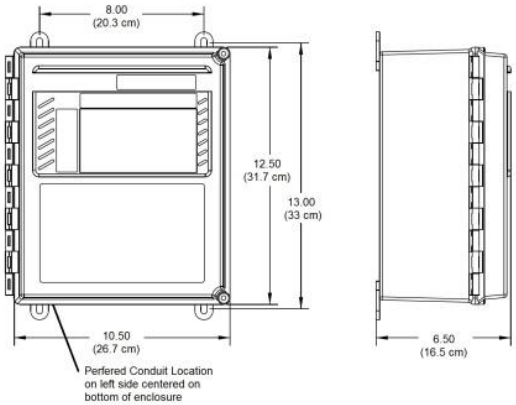

Figure 1

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WARNING: Serious and/or fatal electrical shock hazards exist if extreme care is not exercised during all phases of mechanical and electrical installation procedures, Figure 1: Mounting Details

Electrical Installation:

Note: these instructions are intended to guide the equipment installer through a step-by-step procedure resulting with surge suppressor being electrically connected in parallel with its AC power source.

Figure 2: 120/240 Split Phase
Typical Installation consist of two phase conductors with one neutral

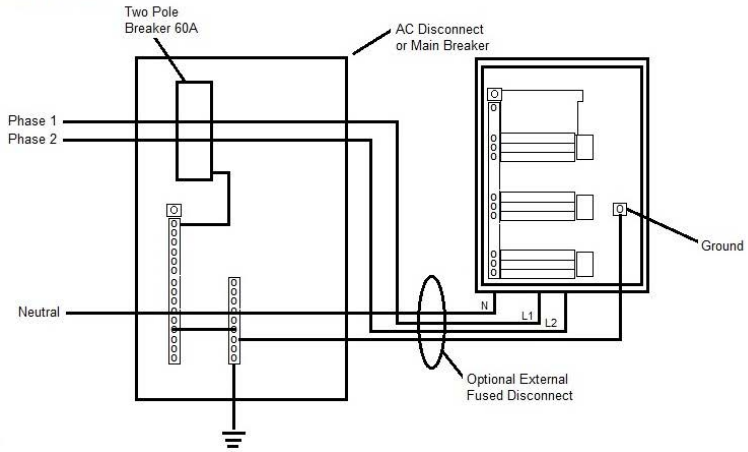
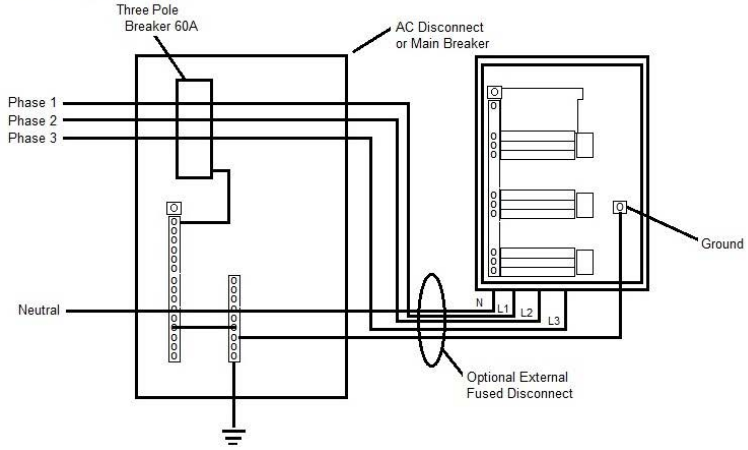


Figure 3: 120/208 Three Phase
Typical Installation consist of Three phase conductors with one neutral



WARNING: All international, national, local, and other applicable electrical codes must be followed and adhered to during all phases of electrical installation. If any electrical installation procedures conflict with applicable electrical codes, suppressor installation must be discontinued and Transtector System's applications engineering department must be contacted for further instructions.

Step 1: Insure that electrical installation is accomplished by qualified personnel that are certified and/or licensed to service and install equipment upon appropriate electrical services.

Step 2: Verify at AC power source, at the point where surge suppressor will be electrically attached, that the surge suppressor is designed to protect upon that specified voltage configuration.

Step 3: Verify that maximum current rating of electrical service to be protected does not exceed the specified amperage of surge suppressor.

Step 4: Measure AC power between phase(s) and neutral and/or between phases as appropriate using an AC voltmeter. Verify that measure RMS voltages between fore mentioned conductors complies with nominal values appropriate for electrical distribution.

Step 5: Disconnect power at AC power source where APEX Series will be connected. Verify that AC power is disabled.

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NOTE: Mechanical and electrical installation illustrations are referenced in Figures 1 through 4 and are applicable with remaining electrical installation procedural steps.

Identify and verify each specific phase, neutral, and ground references at AC power source prior to proceeding with these electrical installation procedures.

WARNING: The disconnect utilized in the current path from electrical distribution and APEX Series must be coordinated to operate properly in conjunction with all other disconnects contained within the same electrical distribution.

Step 6: Tap into three (3) phase conductors via an approved disconnect, i.e. circuit breaker that is sized appropriately (typically 60 Amps) on load side of main circuit breaker of the AC power service requiring surge suppression. If neutral is required for the system, tap into the neutral/bus wire. These wiring conductors must be sized accordingly dependent upon the following parameters:

- If APEX Series suppressor is positioned within two (2) feet (61 cm) from AC power source, then a minimum of #6 (4.1 mm) sized wiring conductors are recommended.
- If APEX Series suppressor is positioned within four (4) feet (122 cm) from AC power source, then a minimum of #4 (5.2 mm) sized wiring conductors are recommended.

CAUTION: Contact Transtector's application engineering department (+1 208 772 8515) before proceeding with the installation if the suppressor cannot be installed within four (4) feet of AC power source requiring protection from the transient overvoltages.

Step 7: If a breaker cannot be supplied in the protected panelboard, Install either three (3) external fuses or an external three pole thermal/magnetic circuit breaker to be used as a disconnect in series with the surge suppressor and the AC power source. Fuses should be rated at ten (10) Amps less than service disconnect to a maximum of 100 Amps (Typically BUSSMAN LPN Series fuse). A 60 Amp circuit breaker can be used in conjunction with #6Awg. (4.1 mm) sized wire if surge suppressor is installed within two (2) feet (61 cm) of AC power source. Insure disconnect is installed initially in its "OPEN" state so that AC power cannot pass through it until it is reset.

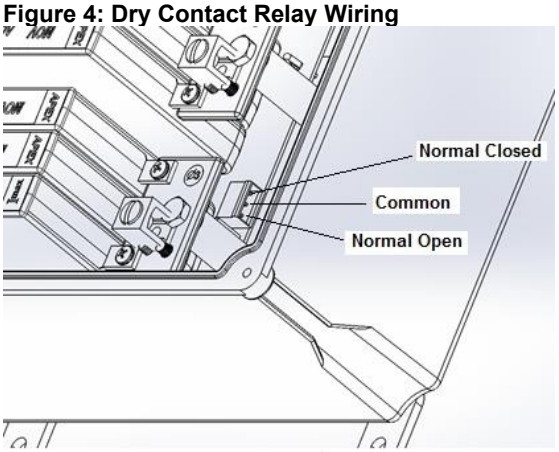
Step 8: Route wiring conductors through metal conduit from the disconnect installed in previous step at AC power source to the suppressor enclosure. Mate conduit to suppressor enclosure. Insure that the conduit is properly grounded at AC power source.

Step 9: Open the front door of suppressor enclosure and insure that conduit and/or external grounding conductors are securely fastened to ground lug designated with letter G on terminal block at left side of back panel assembly where the three suppressor modules attach. Locate the labeled terminal block providing the means to attach the electrical wiring conductors from AC power source, APEX Series suppressor. The designated labels on terminal block correspond to specific phase and/or neutral conductors from AC power wiring positions on terminal block.

WARNING: In wye configuration verify that neutral conductor from AC power source is connected properly to the "N" designated position on terminal block identified in Step 9. If any phase conductor should accidentally be connected to that "N" designated connection point severe suppressor damage will result and human safety will be compromised as AC power is applied to the APEX Series suppressor.

STEP 10: The remote annunciation circuits can be wired to dry contact relay connection plugs along the edge of main board. Contacts are made to be de-pluggable, "Euro-Style" 3-pin plugs. Refer to Figure 4 for proper contact wiring arrangements with reference to Common (C), Normally Closed (NC) AND Normally Open (NO) relay contact positions.

Figure 4: Dry Contact Relay Wiring



Step 11: Insure power is disconnected from customer supplied alarm circuit wiring before attaching the 3-pin alarm plug. Unplug the alarm plug and attach alarm wire (customer supplied) in customers preferred orientation (i.e. NO or NC). Plug the connector back into the card and energize the alarm circuit.

Step 12: Verify that all electrical and ground connections are secure and correct. Close and secure suppressor enclosure door. The enclosure door is provided with a pad-lock-able, quick release clasp and screw fastener.

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Step 13: Close and secure the front door of the suppressor enclosure. Energize power to the suppressor's AC power source. Reset disconnect in-line between the surge suppressor and the AC power source. Verify that AC power indicators on the suppressor enclosure illuminate and functional status indicators verify proper suppressor operations.