

ZONESENTINEL[®] SERIES

AC Panel Transient Voltage Surge Suppressors

Installation Instructions & User Manual

INTRODUCTION

This document explains how to install the *ZoneSentinel*[®] Series of AC Panel Surge Protective Devices.

INSTALLATION INSTRUCTIONS

Warning: Terminals marked L1, L2, L3, N, GND (where relevant) must be connected respectively to phase(s) neutral and ground. Failure to comply may result in danger or damage. See corresponding diagrams for proper connections.

INSTALLATION DESCRIPTION

ZoneSentinel[®] units are connected in parallel (or in “shunt” across) the supply to be protected. The connecting cable does not carry the supply current, only the current associated with suppressing the transient overvoltage.

MOUNTING

The units should be mounted as close as possible to the panel to be protected. See Connecting Lead lengths on page 4. Conduit, preferably metallic, is to be installed from the suppressor to the panel. Drill holes in the *ZoneSentinel*[®] enclosure only in the designated areas as shown in recommended cable dressing illustrations (page 5). Mount the unit in the appropriate location using the mounting holes provided on the enclosure.

OVERCURRENT PROTECTION

The *ZoneSentinel*[®] can be installed on electrical services without overcurrent protection if the available SCCR is 100k AIC or less. If the SCCR is greater than 100k AIC, coordinated overcurrent protection (30-60A) must be installed.

FLUSH MOUNT

The flush mount *ZoneSentinel*[®] is installed into a suitably sized hole in the wall. Remove the four snap-in screw covers and remove the cover, temporarily disconnect the cover ground wire. Choose a location such that the recessed part of the *ZoneSentinel*[®] enclosure can be fixed to a wall stud or suitable upper or lower support. Be sure that the *ZoneSentinel*[®] enclosure is flush with the wall. Follow the standard instructions for location and connecting leads. Reconnect the cover ground wire and install the cover plate. Replace the four snap-in screw covers.

INCORRECT INSTALLATION WILL IMPAIR THE EFFECTIVENESS OF THE AC PANEL PROTECTORS. Particularly important is the length of the connecting leads (page 4).

CONNECTING LEADS

Connect the suppressor as shown in the installation diagram. Refer to page 5 for recommended cable dressing. Connect the terminals within the suppressor to the load side of 30A breakers within the panel.

RECOMMENDED WIRE GAUGE

Minimum of 10 AWG

Maximum of 4 AWG (for ease of dressing)

LENGTH OF CONNECTING LEADS

The longer the connecting leads between the *ZoneSentinel*[®] and power panel, the higher the residual transient voltage.

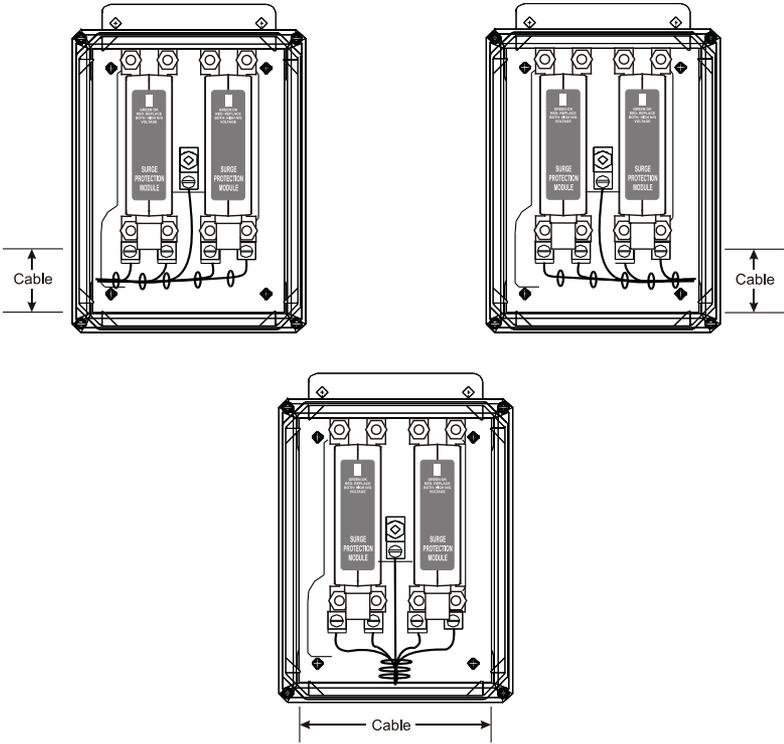
RECOMMENDED MAXIMUM: 19” (500mm)

IDEALLY: 10” (250mm)

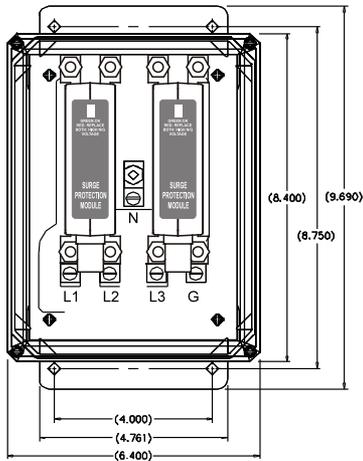
Each 10” (250mm) increase in cable length; increases clamping voltage by 25V per 1000A surge current discharged.

- **BIND THE PHASE NEUTRAL AND GROUND CONDUCTORS TIGHTLY, OVER THE ENTIRE RUN FROM THE SUPPRESSOR TO THE SERVICE PANEL.**
- **ALWAYS USE THE SHORTEST LENGTH OF CONNECTING CABLE POSSIBLE.**

RECOMMENDED CABLE DRESSING

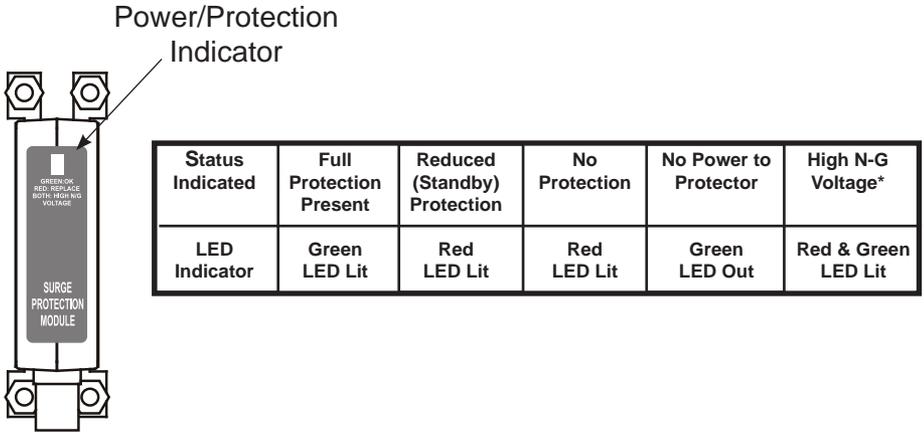


DIMENSIONS



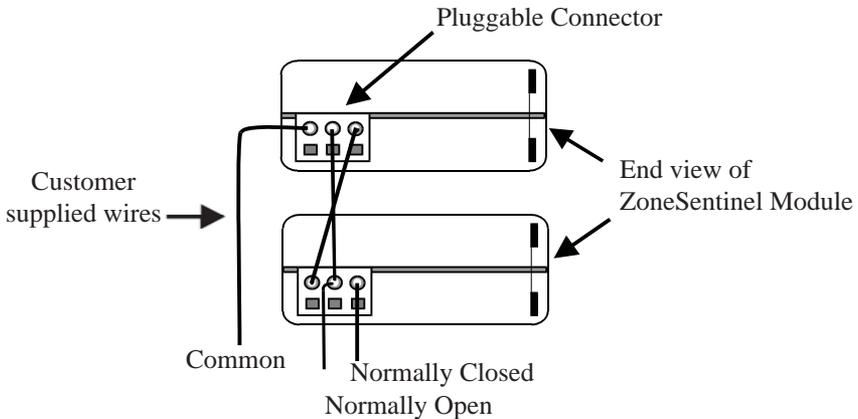
STATUS INDICATORS

The ZoneSentinel® units have comprehensive, continuous visual status monitoring present on each module.



REMOTE INDICATORS

A remote indication of the reduced protection state is available as a normally open or normally closed dry contact.

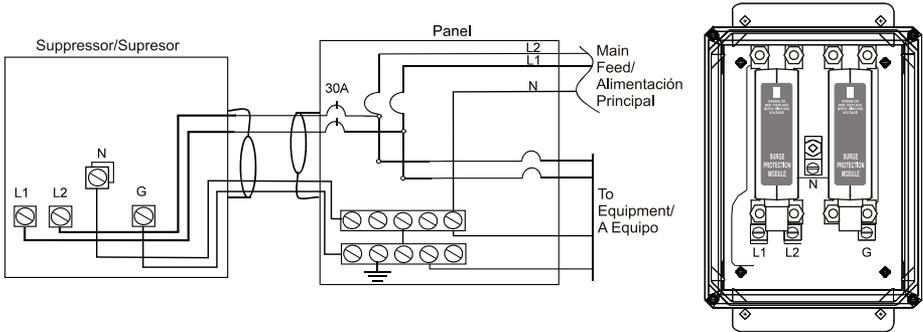


***WARNING:** **OF HIGH NEUTRAL TO GROUND VOLTAGE**

On certain models, if both Red and Green lights are on, consult a qualified electrical contractor to check the integrity of the building wiring.

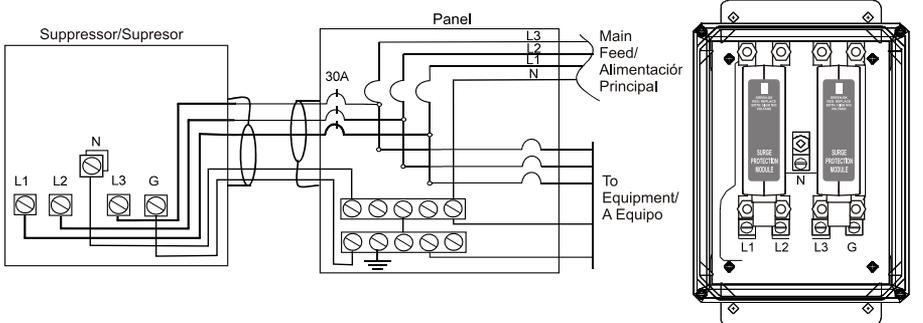
ZONESENTINEL[®] Configuration and Schematic Connection Diagrams

120/240V SPLIT PHASE 3W



ZONESENTINEL[®] Configuration and Schematic Connection Diagrams

120/208V THREE PHASE 4W WYE
 240/415V THREE PHASE 4W WYE
 277/480V THREE PHASE 4W WYE
 220/380V THREE PHASE 4W WYE



MAINTENANCE

At intervals not exceeding two months, check:

1. Status indication lights
2. Conditions of connecting cables and terminals

Module Replacement

WARNING: Before opening the access panel, ensure that the AC supply has been disconnected.

Unplug the remote contact connector at the top of the module. Remove the mounting nuts at the top and bottom of the module. The protection module can now be removed.

WARNING: Replace the defective module with a module having the same model numbers.

Installation of the replacement module is the reverse of the above procedure. Final step, check that all cable connections are secure and nuts are tightened. Do not overtighten.

NOTE: No customer serviceable parts inside. Opening module WILL void Warranty



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