

A.C. VOLTAGE SURGE SUPPRESSOR Model: SL-5

1.0 **GENERAL DESCRIPTION:** The SL-5 A.C. Voltage Surge Suppressor is a high-speed, high-current, solid-state device designed to protect electronic equipment and systems from transient over voltages on 120 VAC, single phase services . This suppressor is designed for system exposure per category C1, B3 IEEE C62.41 1991. It performs this function by limiting the magnitude of transient over voltages that are present upon the A.C. power lines. Continuous bi-polar, bi-directional, non-interrupting protection is provided. The SL-5 automatically resets after each suppression function with no degradation of protection capabilities. This suppressor utilizes silicon junction avalanche suppressor diodes in a LATTICE MATRIX configuration as its sole suppression technology. The device begins to suppress transient over-voltages at approximately 120% of the peak nominal voltage of the A.C. sine wave (para. 2.2.1.1). At maximum power dissipation the suppressor will not exceed the maximum voltage protection level. The suppressor is supplied with indicators that illuminate to verify that the unit is on-line and functioning properly. It is housed inside a non-metallic enclosure with a U.L. fire rating of 94-5V. The SL-5 attaches to power source via a 6'-0" cord and provides protection for five individual 120 VAC outlets, one in/out telephone line, and coax cable in/out connectors. In the unlikely event that the suppressor is damaged, it is can easily be replaced.

2.0 PERFORMANCE REQUIREMENTS:

2.1 Electrical Service:

- 2.1.1 **Service voltage:** 120AC
- 2.1.2 **Frequency:** ... 50/60Hz
- 2.1.3 **Phases:** 1 Phase
- 2.1.4 **Wiring Configuration:**.. 3 Wire Cord
- 2.1.5 **Maximum Continuous Operating Voltage (L-N):**..... 140

VRMS

2.2 Electrical Performance:

- 2.2.1 **Voltage Protection Level (L-N):** (10/1000 μ sec wave form).
 - 2.2.1.1 Minimum/Maximum..... 220/300 Volts Peak
- 2.2.2 **Testing:** Per ANSI/IEEE C62.45 1992 Using IEEE C62.41 1991 Wave Shapes
 - 2.2.2.1 Location Category A: 6kV, 200A, 100kHz Ring Wave.
 - 2.2.2.2 Location Category C1, B3: 6kV, 500A, 100kHz Ring Wave and 6kV, 3kA Combination Wave.
 - 2.2.2.3 Long Wave 10/1000 Stress Surge Per IEEE C62.41 1991 (Section 10.2 and Table 8).
- 2.2.3 **Response Time (Max.):** 5

nanoseconds 2.2.4 **Standby Power (Max.):**
1 Watt

2.2.5 **Operating Temperature:** 0°C TO +50°C

2.3 **Mechanical:** The construction and physical characteristics of the suppressor are
outlined herein. ⌘

2.3.1 **Enclosure Description:** The suppressor is housed inside non-metallic enclosure rated to U.L. 94-5V.

2.3.2 **Material:** The material shall be as specified herein. However, when a definite material is not specified, the material utilized will enable the device to meet the performance requirements of this specification. The enclosure is fabricated from a non-metallic fiberglass/polyester resin composite that can be drilled as required for installation purposes. The suppressor is comprised entirely of solid state devices.

3.0 ENVIRONMENTAL:

3.1 **Operating Temperature:** 0° to +50°C

3.2 **Storage Temperature:**..... 0° to +50°C

3.3 **Relative Humidity (Suppressor Module):**.....90%

4.0 STATUS INDICATORS:

4.1 **Power On Status:** One (1) amber LED, located on the face of the suppressor module is illuminated to indicate A.C. power is applied to unit.

4.2 **Suppressor Status:** One (1) red colored LED located on the front surface indicate suppressor status. This indicator will illuminate to signify that the suppressor has failed. Contact Transtector Systems Inc. Immediately if this occurs (1-800-882-9110). Warning: A.C. power may still be applied to unit (Refer to section 5.1).

SUMMARY
SUPPRESSOR PERFORMANCE SPECIFICATIONS
120 VAC, 1 Ø, 3-WIRE, 50/60 Hz A.C. SERVICE
HPS-120

1.0 **GENERAL DESCRIPTION:** The SL-5 A.C. Voltage Surge Suppressor is a high-speed, solid-state device designed to protect electronic equipment and systems from transient over voltages on 120 VAC, single phase services. This suppressor is designed for system exposure per category C1, B3 IEEE C62.41 1991. It performs this function by limiting the magnitude of transient over voltages that are present upon the A.C. power lines. Continuous bi-polar, bi-directional, non-interruption protection is provided. The SL-5 automatically resets after each suppression function with no degradation of protection of protection capabilities. This suppressor utilizes silicon junction avalanche suppressor diodes in a LATTICE MATRIX configuration as its sole suppression technology. The device begins to stppress transient over-voltages at approximately 120% of the peak nominal voltage of the A.C. sine wave. At maximum power dissipation the suppressor will not exceed the maximum voltage protection level. The suppressor is supplied with indicators that illuminate to verify that the unit is on-line and functioning properly. It is housed inside a non-metallic enclosure with a U.L. fire rating of 94-5V.

2.0 **ELECTRICAL SERVICE:**

- 2.1 Service voltage: 120VAC
- 2.2 Frequency: 50/60 Hz
- 2.3 Phases: 1 Phase
- 2.4 Wiring Configuration:.....**3-WIRE**, 6'-0" CORD
- 2.5 Maximum Continuous Operating Voltage (L-N):..... . 140 VRMS

3.0 **ELECTRICAL PERFORMANCE:**

- 3.1 Voltage Protection Level (L-N, 10/1000 µsec wave form).
Minimum/Maximum..... 220/300 Volts Peak
- 3.2 Testing: Per ANSI/IEEE C62.45 1992 Using IEEE C62.41 1991 Wave Shapes
 - 3.2.1 Location Category A: 6kV, 200A, 100kHz Ring Wave.
 - 3.2.2..... Location Category C1, B3: 6kV, 500A, 100kHz Ring Wave and 6kV, 3kA Combination Wave.
 - 3.2.3..... Long Wave 10/1000 Stress Surge IEEE C62.41 1991 (Section 10.2 and Table 8).
- 3.3 Response Time (Max.): 5 nanoseconds
- 3.4 Standby Power (Max.): 1 Watt
- 3.5 Duty Cycle:..... 0.01%
- 3.6 Power-On Suppressor Status Indicator : One (1) amber LED on the face of the unit is ulluminated to indicaate when power is applied to the unit.
- 3.7 Operational Status Indicator: One (1) red LED on the face of the unit illuminates to indicate that the suppressor has failed.