

**Transient Voltage  
Surge Suppressors By:**

**ST-SPW Series**

Series Wired AC Unit with Sine Wave Tracking and Discrete All-Mode Protection



"Power Quality is our Business"

P.O. Box 330607  
Ft. Worth, TX 76163  
Phone: 817.483.8497  
Fax: 817.572.2242  
[www.sinetamer.com](http://www.sinetamer.com)

The SineTamer® ST-SP devices provide the best ring wave transient protection available for a device of its type. These devices are intended for single 120, 240 or 440 VAC circuit applications at locations feeding sensitive/critical equipment. It is extremely effective in limiting transients generated inside the facility and is an absolute must on circuits feeding critical microprocessor based equipment. It boasts a robust 20kA per mode peak surge current rating on the 15 amp models and 40kA per mode on the 30 amp models.

This economical device is unique in that it is designed as a stand-alone surge suppression device and requires no special enclosure when used outside an existing enclosure or cabinet. Its compact size makes installation a breeze and the warranty is the best in the industry. Add to all that, dedicated "all mode" Enhanced Sinewave Tracking™ and completely encapsulated Optimal Response Network™, and you get a device that defines effective and reliable surge suppression.

We believe that we offer the most versatile TVSS devices on the market with performance specs that are superior to our competitors and a warranty that is second to none.

**GENERAL**

<b>Description:</b>	Series wired parallel-connected transient voltage surge suppressor with encapsulated Optimal Response Network™ and Enhanced Sinewave Tracking circuitry (20kA per mode peak surge current.)
<b>Application:</b>	Designed for use at ANSI/IEEE Category A with susceptibility up to medium exposure levels to protect sensitive/critical loads fed by a single 120 or 240VAC circuit.
<b>Warranty:</b>	<b>25 Years Unlimited Free Replacement</b>
<b>Unit Listings:</b>	Tested to UL 1449 Second Edition and CUL

**MECHANICAL**

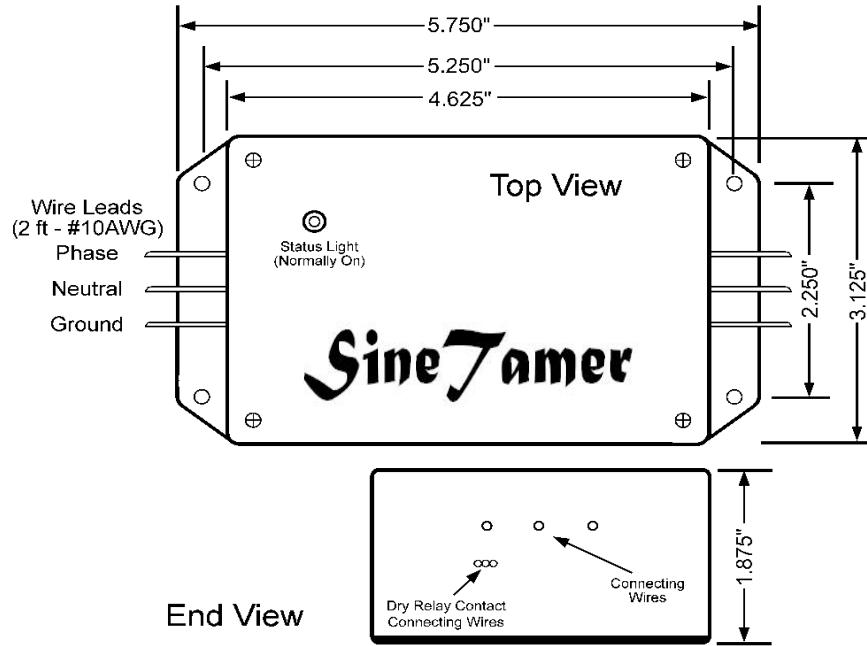
<b>Enclosure:</b>	Plastic, UL 94V
<b>Mounting:</b>	External mounting feet.
<b>Connection Method:</b>	3 wires – One (1) phase, One (1) neutral, and One (1) ground at both the input and output sides of the device.
<b>Shipping Weight:</b>	≈ 2 lbs

**ELECTRICAL**

<b>Circuit Design:</b>	Series wired, parallel connected hybrid design incorporating discrete all mode protection and utilizing our encapsulated Optimal Response Network™ and Enhanced Sinewave Tracking circuitry design to provide lowest possible let-through-voltages. All suppression circuits are completely encapsulated in our exclusive compound to assure long component life and complete protection from the environment and/or vibration.
<b>Protection Modes:</b>	Dedicated protection components and circuitry for each mode. Discrete L-N (Normal Mode), and Discrete L-G, N-G (Common Mode)
<b>Input Power Frequency:</b>	50-60Hz
<b>Operating Current:</b>	15 and 30 Amps AC (60 Amp models available)
<b>Response Time:</b>	<1 nanosecond
<b>Circuit Diagnostics:</b>	Super Bright LED, normally on.
<b>Circuit Interrupt:</b>	External (see installation instructions for details).
<b>Options:</b>	-P = wires on one end for parallel install, -N = remove N-G tracking capacitor, -DIN = din rail mounting feet.
<b>Remote Alarm option:</b>	Dry Relay Contacts, 125Vrms, 0.5 amps; 30VDC, 1.0 amps – N/O, N/C. These contacts are for use in conjunction with external status monitoring devices and are connected via the 18ga wires provided. Add suffix "C" for DRC option.

Because we are constantly seeking to improve our products, specifications are subject to change at any time.

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#### MEASURED LIMITING VOLTAGE PERFORMANCE AND ELECTRICAL SPECIFICATIONS

Model	MCOV	Mode	ANSI/IEEE C62.41 & C62.45 Let-Through Voltage Test Results		
			A1 2kV, 67A 100kHz Ring Wave 180° Phase Angle	A3 6kV, 200A 100kHz Ring Wave 90° Phase Angle	B3/C1 6kV, 3kA Impulse Wave 90° Phase Angle
ST-SPW120-15	150 L-N	L-N	28V (D)	94V (D)	281V (D)
	150 L-G	L-G	62V (D)	190V (D)	360V (D)
	150 N-G	N-G	41V (S)	94V (S)	550V (S)
ST-SPW120-30	150 L-N	L-N	30V (D)	55V (D)	289V (D)
	150 L-G	L-G	58V (D)	160V (D)	380V (D)
	150 N-G	N-G	33V (S)	94V (S)	550V (S)
ST-SPW240-15	300 L-N	L-N	66V (S)	121V (D)	610V (D)
	300 L-G	L-G	100V (S)	220V (D)	605V (D)
	300 N-G	N-G	33V (S)	121V (S)	605V (S)
ST-SPW240-30	300 L-N	L-N	66V (S)	121V (D)	610V (D)
	300 L-G	L-G	100V (S)	220V (D)	605V (D)
	300 N-G	N-G	33V (S)	121V (S)	605V (S)
ST-SP480-15	550 L-L	L-L	75 (S)	725 (S)	895 (S)
	550 L-G	L-G	75 (S)	725 (S)	880 (S)

\***Measured Limiting Voltage (Let-Through) Test Environment:** Dynamic (D) or Static (S), positive polarity. All voltages are peak ( $\pm 10\%$ ). Time Base is 1ms. 180° phase angle voltages are measured from the zero crossing, 90° phase angle voltages are measured from the positive peak of the sine wave to the positive peak of the surge indicating actual excess voltage let through. All tests were performed with the device connected in series simulating actual installation.

\*\***Suppressed Voltage Test Environment** using test parameters as defined by Underwriters Laboratory: Dynamic (D) or Static (S), Positive Polarity. Time base=10μs. All voltages are peak ( $\pm 10\%$ ). 90E phase angle voltages are measured from the zero crossing to the peak of the surge. All SineTamer products are manufactured exclusively for Energy Control Systems.