Transient Voltage Surge Suppressors By: **AC Distribution Panel Unit** ***Model LA-ST180***

Dedicated Protection Components And Circuitry For Each Mode

Made in the USA

"Power Quality is Our Only Business"

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The SineTamer© LA series of units blends outstanding high-energy "impulse" suppression with excellent "ring-wave" transient protection. This durable device is intended for general purpose and sensitive/critical load applications. The LA-ST180 is typically installed at service entrances up to 1800 amps, distribution and sub-distribution panels. Compact size and non-metallic enclosure design also allow it to be installed directly inside electrical panels and individual equipment disconnects. The internal installation provides the absolute shortest possible lead length and optimum performance.

This economical device has features that are not available in devices costing many times its price. Its compact size makes installation a breeze. **Maintenance Free** operation and **20 Year Unlimited Free Replacement Warranty** provide peace of mind.

Standard unit is Type 2 10kA UL Nominal Discharge Current; Optional Type 2 20kA I_N is available.

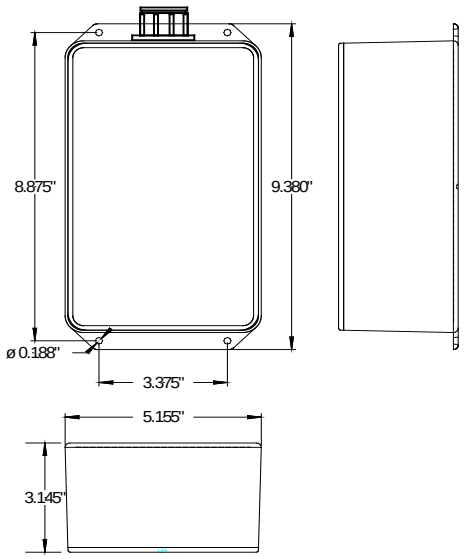
GENERAL	
Description:	Parallel connected, transient voltage surge suppressor device utilizing both high-energy handling and sine-wave tracking circuitry (60kA per mode or 180 ka per phase - peak surge current) for virtual elimination of impulse and ring wave type transients.
Application:	Designed for use at ANSI/IEEE Categories C, B and A with susceptibility up to medium exposure levels. Designed to protect sensitive/critical loads fed from distribution panels, branch panels and/or individual equipment panels.
Warranty:	**20 Years Unlimited Free Replacement**
Product Qualifications:	**ANSI/UL 1449 Fourth Edition by CSA (MC# 259700) & UL – (ML#: E363345); UL1283* and CE Compliant (*Type 2 SPDs only) ISO 9001:2000, ANSI C62.72-2007, IEC 61643-1 Class 2&3**

MECHANICAL	
Enclosure:	High strength ABS Plastic, Nema 1 rated
Mounting:	2.54 cm conduit fitting (internally threaded) and external mounting feet.
Connection Method:	#10 stranded wire // 2.60 mm dia.
Shipping Weight:	≈6 lbs // 2.7 kg

ELECTRICAL	
Circuit Design:	Parallel connected, internal thermal fusing, hybrid design incorporating discrete all mode protection (10 modes for 3 phase wye units*) and utilizing our encapsulated design to provide improved durability. All suppression circuits are encapsulated in our exclusive compound to assure long component life and complete protection from the environment and/or vibration.
Protection Modes:	Dedicated protection components and circuitry for each mode. Discrete L-N, L-L (Normal Mode), and Discrete L-G, N-G (Common Mode). 10 modes / 3 phase wye system.
Input Power Frequency:	50-60Hz
Options:	LA-ST**B** = Type 2 20kA I_N Type 1 available – contact factory for proper model number.
Circuit Diagnostics:	Super Bright LED, 1 per phase, normally on.
Circuit Interrupt:	External and internal (see installation instructions for details).
Fusing:	Line level and component level thermal cutouts (see installation sheet for full details)
Options:	-V Remove Frequency Attenuation; -S Surge Counter; -C Dry Relay Contacts, Other options available. Call!

LISTED TO ANSI/UL 1449-2006 · C US · CE · Made in USA · ISO 9001 MANUFACTURER ISO 9001:2000 · 2004 2006 FROST & SULLIVAN Transient Voltage Surge Suppressors Customer Value Enhancement Award

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



MEASURED LIMITING VOLTAGE PERFORMANCE AND ELECTRICAL SPECIFICATIONS

Model	Circuit Type	MCOV	Peak Surge Current (Amps) Per Mode	Mode	ANSI/IEEE C62.41 & C62.45 Let-Through Voltage Test Results		
					A1 2kV, 67A 100KHz Ring Wave 270º Phase Angle	B3/C1 (6 kV, 3 kA) 90° Phase Angle	C3 20kV, 10kA Impulse Wave 90º Phase Angle
LA-ST1801P1	120V, Single Ø (2 wire + ground)	150 L-N 150 L-G 150 N-G	60,000 L-N 60,000 L-G 60,000 N-G 180,000 Total	L-N L-G N-G	35 60 55	353 361 534	914 1025 1176
LA-ST1801S1	120/240V, Split Ø (3 wire + ground)	300 L-L 150 L-N 150 L-G 150 N-G	60,000 L-L 60,000 L-N 60,000 L-G 60,000 N-G 300,000 Total	L-L L-N L-G N-G	75 35 60 55	554 353 361 534	1119 914 1025 1176
LA-ST1803Y1	120/208V, 3ØY (4 wire + ground)	300 L-L 150 L-N 150 L-G 150 N-G	60,000 L-L 60,000 L-N 60,000 L-G 60,000 N-G 300,000 Total	L-L L-N L-G N-G	55 35 60 55	554 353 361 534	1119 914 1025 1176
LA-ST1801P2	240V, Single Ø (2 wire + ground)	320 L-N 320 L-G 320 N-G	60,000 L-N 60,000 L-G 60,000 N-G 180,000 Total	L-N L-G N-G	60 80 55	523 549 951	1050 1262 1575
LA-ST1803Y2	277/480V, 240/415V, 220/380V, 3ØY (4 wire + ground)	550 L-L 320 L-N 320 L-G 320 N-G	60,000 L-L 60,000 L-N 60,000 L-G 60,000 N-G 600,000 Total	L-L L-N L-G N-G	130 60 80 55	763 523 549 951	1344 1050 1262 1575
LA-ST1803N2	240V, 3∅Δ (3 wire + ground)	320 L-L 320 L-G	60,000 L-L 60,000 L-G 360,000 Total	L-L L-G	95	554 495	1262 1262
LA-ST1803N4	380V, 3∅Δ 480V, 3∅Δ (3 wire + ground)	550 L-L 550 L-G	60,000 L-L 60,000 L-G 360,000 Total	L-L L-G	140	763 777	1344 1344

Let-Through Voltage Test Environment: Positive Polarity. Time base=1ms. All voltages are peak (±10%). Surge voltages are measured from the insertion point of surge on the sine wave to the peak of the surge. All tests are Dynamic (voltage applied) except N-G which is static (no voltage applied). All tests were performed with 6 inches of lead length outside the device enclosure which simulates actual "as installed" performance.

Single-pulse, surge current capacities of 200,000 amps or less are determined by single-unit testing of all components within each mode. Present industry test equipment limitations require testing of individual components or sub-assemblies within a mode for single-pulse, surge current capacities over 200,000 amps.

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