



"Power Quality is Our Business"

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The SineTamer® E20 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 E20 is typically installed at residential or small service entrances up to 400 amps. 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. The E20 is extremely effective in limiting internally generated transients and is an absolute must on panels feeding office locations and/or microprocessor based equipment.

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 **15 Year Unlimited Free Replacement Warranty** provides peace of mind.



#### GENERAL

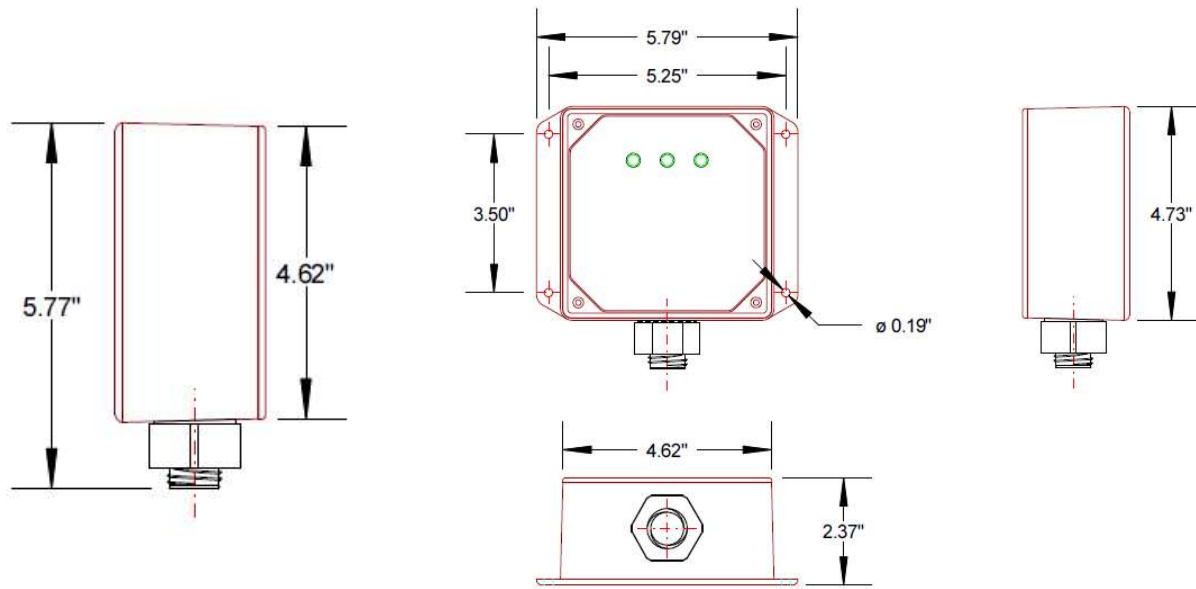
<b>Description:</b>	Parallel connected, transient voltage surge suppressor device utilizing both high-energy handling and sine-wave tracking circuitry for virtual elimination of impulse and ring wave type transients. (actively tracking the AC sine wave)
<b>Application:</b>	Designed for use at ANSI/IEEE 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.
<b>Warranty:</b>	<b>15 Years Unlimited Free Replacement</b>
<b>Product Qualifications:</b>	Tested to ANSI/UL 1449 and UL1283 Standards, ISO 9001:2008, ANSI C62.72-2007

#### MECHANICAL

<b>Enclosure:</b>	ABS Plastic, UL94-0
<b>Mounting:</b>	3/4" conduit fitting (internally threaded) and external mounting feet.
<b>Connection Method:</b>	#10 stranded wire.
<b>Shipping Weight:</b>	≈3 lbs

#### ELECTRICAL

<b>Circuit Design:</b>	Parallel connected, internally fused, hybrid design incorporating all mode protection, 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.
<b>Protection Modes:</b>	L-N, L-L (Normal Mode), and L-G, N-G (Common Mode). (Five discrete modes)
<b>Input Power Frequency:</b>	50-60Hz constant
<b>EMI/RFI Noise Attenuation:</b>	30dB Max. from 1kHz to 10MHz
<b>Capacitance:</b>	Up to 3.5 uF Max.
<b>Energy Consumption:</b>	8mA Total (Approximately 4mA per LED)
<b>Temperature Rating/RH</b>	Up to 80°C. 0 – 99% Relative Humidity Non-Condensing
<b>Circuit Diagnostics:</b>	Super Bright LED, 1 per phase, normally on.
<b>Circuit Interrupt:</b>	External and internal (see installation instructions for details).
<b>Fusing:</b>	Component Level Thermal Fusing/Phase Level Current Fusing



Voltage Code	ANSI/UL 1449 Voltage Protection Ratings (VPR)						
	L-N	HL-N	L-G	HL-G	N-G	L-L	HL-L
1S1	500	-	500	-	500	700	-

MEASURED LIMITING VOLTAGE PERFORMANCE AND ELECTRICAL SPECIFICATIONS						
Model	Circuit Type	MCOV	Peak Surge Current (Amps) Per Mode/Phase	Mode	ANSI/IEEE C62.41 & C62.45 Let-Through Voltage Test Results	
					A1 2kV, 67A 100KHz Ring Wave 270° Phase Angle	B3/C1 6kV, 3kA Impulse Wave 90° Phase Angle
E202011S1	120/240V, Split Ø (3 wire + ground)	300 L-L 150 L-N 150 L-G 150 N-G	20,000 / 40,000	L-L L-N L-G N-G	55 45 55 50	720 445 469 600

**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.