

# Voltage Disturbance Filter

# AC Distribution Panel Unit

# CPxxLAY2

Dedicated Protection Components And Circuitry For Each Mode



"Power Quality is Our Only Business"

The SineTamer® CP series units blends outstanding high-energy "impulse" suppression with unsurpassed transient filtering protection of our Frequency Attenuation Network®. This durable device is intended for connection to motor generator set mains. Compact size and non-metallic enclosure design also allow it to be installed directly into main genset equipment disconnects. The internal installation provides the absolute shortest possible lead length and optimum performance. The CP series is extremely effective in limiting internally generated transients as well as lightning and utility company induced surges. Please discuss specific installations with your local representative.

This voltage disturbance filter has features that are not available in devices costing many times its price.

**Maintenance Free** operation and **25 Year Unlimited Free Replacement Warranty** provide peace of mind.

## GENERAL

<b>Description:</b>	Parallel connected, dynamic power filter ( <b>DPF</b> ) utilizing both high-energy handling and frequency tracking circuitry for virtual elimination of impulse and ring wave type transients.
<b>Application:</b>	Designed for use at ANSI/IEEE Categories C, B and A and IEC 61643 Category 1,2 and 3 exposure levels. Designed to protect sensitive/critical loads fed from distribution panels, branch panels and/or individual equipment panels.
<b>Warranty:</b>	<b>25 Years Unlimited Free Replacement</b>
<b>Product Qualifications:</b>	Listed to ANSI/UL 1449-2006 (4 <sup>th</sup> Edition) by UL. ML record: E363345; CSA file: 259700, UL1283* and CE Compliant, (* Type 2 SPDs only) ISO 9001:2008, ANSI C62.72-2007, IEC 61643-11 Class 2, One Port SPD.

## MECHANICAL

<b>Enclosure:</b>	High strength ABS Plastic, Nema 1 (IP10) rated enclosure for Indoor Use.
<b>Mounting:</b>	2.54 cm conduit fitting (internally threaded) and external mounting feet.
<b>Connection Method:</b>	#10 stranded wire // 2.60 mm dia.
<b>Shipping Weight:</b>	≈6 lbs // 2.7 kg

## ELECTRICAL

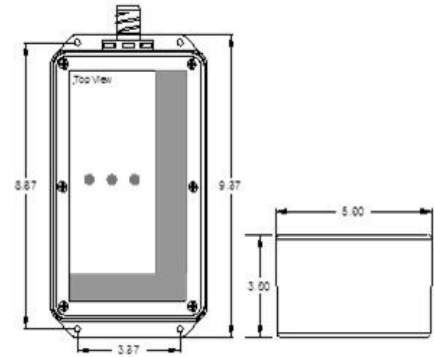
<b>Circuit Design:</b>	Parallel connected, internally fused, hybrid design incorporating our <b>Frequency Attenuation Network®</b> our <b>Transient Equalization Network</b> . All suppression circuits are encapsulated in our exclusive compound to improve durability, assure long component life and complete protection from the environment and/or vibration.
<b>Protection Modes:</b>	Dedicated protection components and circuitry for each mode. Discrete L-N, L-L (Normal Mode), and Discrete L-G, N-G (Common Mode). 10 modes / 3 phase wye system.
<b>Nominal Discharge:</b>	Standard unit 10kA; Option B (LA-STB.) 20kA
<b>LTV @ 20ka I<sub>n</sub></b>	L-N: 1700v / L-G: 1715 / L-L: 1965
<b>Input Power Frequency:</b>	50-60Hz
<b>EMI/RFI Noise Attenuation:</b>	30dB Max. from 1kHz to 10MHz
<b>Temperature Rating:</b>	Up to 80°C
<b>Humidity</b>	0-99% Non-condensing
<b>Energy Consumption:</b>	12mA Total (Approximately 4mA per LED)
<b>Capacitance:</b>	3Y2: L-N & N-G = 3.6 uF; L-L & L-G = 1.8 uF;
<b>kAIC Rating:</b>	200 kAIC when installed according to installation instructions
<b>Fusing:</b>	Component Level Thermal and Board Level Current Fusing
<b>Options:</b>	-V Remove Frequency Attenuation; -N Remove N-G attenuation filter; -S6 Surge Counter; -C Dry Relay Contacts, -C1 Dry Relay Contacts with wires. AC11S6 – audible alarm with Surge Counter -X3 Nema 4 enclosure. Other options available. Call!

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

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AC Distribution Panel Unit *Model CPxxLAY2 or CPxxLAN4*

Peak Surge Current per Mode/Phase for each model. See below for xx =	
6	20,000 / 60,000
12	40,000 / 120,000
18	60,000 / 180,000
24	80,000 / 240,000
30	100,000 / 300,000
Main Isolator Amp Rating :	
0-600	CP6LAY2
600-1200	CP12LAY2
1200-1800	CP18LAY2
2000-2400	CP24LAY2
2500-3000	CP30LAY2



VSD Rating	Option 1	Option 2
0-75kW	CP12LAY2	CP12LAN4
90-132Kw	CP18LAY2	CP18LAN4
160-300Kw	CP24LAY2	CP24LAN4
300-500Kw	CP30LAY2	CP30LAN4

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 270° Phase Angle	Cat B3/C1 (6 kV, 3 kA) 90° Phase Angle	C3 20kV, 10kA Impulse Wave 90° Phase Angle
CPxxLAY2	277/480V, 240/415V, 220/380V, 3ØY (4 wire + ground)	550 L-L 320 L-N 320 L-G 320 N-G	See Chart Above	L-L	130	805	1344
				L-N	60	560	1050
				L-G	80	588	1262
				N-G	55	941	1575
CPxxLAYN4	380V, 3ØΔ 480V, 3ØΔ (3 wire + ground)	550 L-L 550 L-G	See Chart Above	L-L	140	792	1344
				L-G		792	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.