



POWERCLAMP SERIES 4

**HYBRID MULTI-STAGED HIGH ENERGY
TRANSIENT VOLTAGE SURGE SUPPRESSOR**



**For studios, STLs,
computers, AC sub-panels**



**60,000 amp rating
20 μ sec surge per phase**

POWERCLAMP is a sophisticated surge suppression unit that provides the ultimate in transient protection with much lower clamping levels than any other TVSS device.

POWERCLAMP Series 4 wire-in PARALLEL TVSS devices are intended for **broadcast studios, computer rooms**, and similar applications that have moderate exposure to lightning and other extreme transients.

They are rated at 60,000 surge amps per phase and will prevent power line spikes from damaging studio equipment, computers, and other sensitive equipment. Their superior surge suppression will greatly reduce equipment failures and computer lock-ups that are caused by power line disturbances. Operation is *not* affected by the power requirements of the load. Each line phase is fused, with a fuse status lamp. An unlikely failure will *not* interrupt power to the load. ***POWERCLAMP*** Series 4 units should be installed at branch or sub-panels with upstream (main panel) protection. A Series 4 can also be used at the main entry panel in residential environments.

HOW *POWERCLAMP* OPERATES

POWERCLAMP Transient Voltage Surge Suppressor (TVSS) device is a passive, multi-staged hybrid high energy parallel device designed to react to the onset of surges with fast rise times and high amplitude ranges such as those which follow sags or other external or atmospheric induced impulses. ***POWERCLAMP*** senses the fast ramp of the transient and automatically fixes on the peak of the line voltage waveform. The unit incorporates *sine wave tracking*, to 'float' the clamping threshold with the rise and fall of the peak of the AC waveform without creating wave shape distortion. Response times are within 1-2 nanoseconds. ***POWERCLAMP*** will clamp many transients to within 2 volts of the AC waveform. Units operate at up to 120% of the normal line voltage.

FEATURES AND BENEFITS:

- 60,000 Surge Amps Per Mode
- High Energy Dissipation
- Meets ANSI/IEEE C62-41 1980
- Fault Indicating lamps
- 2 Volt Clamping Level
- Maintenance Free
- Meets UL-1449-1994
- Full Voltage Range
- 1-2 Nanosecond Response Time
- Sine wave tracking
- Non-degrading
- Voltage Reactive
- Parallel Wire-in Design
- Simple Installation
- Passive System
- 5 Year Warranty

CLAMPS MOST TRANSIENTS TO WITHIN 2 VOLTS OF THE AC WAVEFORM.

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TECHNICAL SPECIFICATIONS

POWERCLAMP is a sophisticated surge suppression unit that offers the ultimate in transient protection with **ULTRA-LOW CLAMPING LEVELS**. Its **PARALLEL INSTALLATION** provides these benefits:

- No chance of power interruption
- No need to match load power
- No insertion power loss

When tested to the *ANSI/IEEE C62.41-1991/UL-1449 Standard*, its hybrid multistage circuitry will suppress (clamp) transient surges and spikes in all modes and bi-directionally, as listed below.

Category A waveform (6kV, 200amps, 0.5us, 100kHz): TWO (2) VOLTS of the peak of the sine wave. Measured from the baseline at the 90° point of the power sine wave (@ WAVEFORM PEAK).

Category B ringwave (6kV, 500amps, 0.5us, 100kHz): TEN (10) VOLTS of the peak of the sine wave. Measured from the baseline at the 90° point of the power sine wave (@ WAVEFORM PEAK).

Category B combination (6kV, 1.2/50us, 3,000 amps): THIRTY (30) VOLTS of the peak of the sine wave. Measured from the baseline at the 90° point of the power sine wave (@ POSITIVE WAVEFORM PEAK).

Unit Model Number	Type Service 40-420Hz	Surge Joules Per Ø	Surge Amps 20 microsec	Modes of Protection	Connection Wiring
HP401	120/240V 1Ø	1008	60,000	L-L/L-N/L-G	2-L, 1-G
*HP402	120/240V 1Ø	1008	60,000	L-L/L-N/L-G/N-G	2-L, 1-N, 1-G
HP403	120/208V 3Ø WYE	1008	60,000	L-L/L-N/L-G	3-L, 1-G
*HP404	120/208V 3Ø WYE	1008	60,000	L-L/L-N/L-G/N-G	3-L, 1-N, 1-G
HP405	240V 3Ø DELTA	2450	60,000	L-L/L-G	3-L, 1-G
HP406	480V 3Ø DELTA	3570	60,000	L-L/L-G	3-L, 1-G
HP407	277/480V 3Ø WYE	2674	60,000	L-L/L-N/L-G	3-L, 1-G
*HP408	277/480V 3Ø WYE	2674	60,000	L-L/L-N/L-G/N-G	3-L, 1-N, 1-G

L-L = line to line; L-N = line to neutral; L-G = line to ground; N-G = neutral to ground common mode*

*Common mode: Neutral to Ground, needed when not installed at main panel where Neutral and Ground are tied.

- Response time: 1-2 nanoseconds
- Maximum leakage current: 3mA
- Fusing: One fuse per phase with failure indicator lamps
- Minimum Humidity Range: 5% to 97%
- Operating temperature: -20°C (-68° F) to 70° C (158° F) ambient temperature
- Dimensions: (all units) 6" wide, 6" high, 4" deep
- Shipping weight: approximately 8 lbs. (including packaging)
- 5 Year pro-rated Limited Replacement Warranty

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