

# 1 kVA to 15 kVA SINGLE PHASE

## Series 800A Commercial Power Purification Systems

Designed to be used with linear or non-linear loads including:

- Computers
- Hosts
- Hubs
- PC
- Laboratories
- Distributed Control Systems
- Medical
- All Commercial Facilities



UL 1012



**CONTROLLED POWER COMPANY**

# SERIES 800A



## "Series 800A" Commercial Power Purifier

The overall function of the **Series 800A Power Purifier** is to take polluted, fluctuating, and erratic electrical power that exists in all areas today, and purify it for sensitive electronic equipment.

The **Series 800A Power Purifier** is a self-regulating isolation transformer. It was developed to protect against fluctuating voltage, brownouts, noise, short duration power outages, sags, surges, spikes and transients. With the advent of switch mode power supplies (installed in almost every computer), harmonics are introduced into the power lines causing overheating and potential failure of conductors and transformers. For this reason, special transformers are manufactured to handle these harmonics. Transformers with high "K-factors" are designed to not overheat as a result of harmonics in the line. The **Series 800A Power Purifier** has one of the highest "K-factors" – K-30 – and eliminates harmonic current in the power line, preventing damage to building wiring.

The **Series 800A Power Purifier** is ideal for commercial power distribution situations. In addition to the problem of electrical power disturbances, there is often the question of how to effectively and efficiently distribute electrical power at a given installation. Typically, a commercial environment (offices, facilities, etc.) is in a state of perpetual change. When computers and peripherals are added, eliminated, or relocated, the power distribution equipment must be capable of adapting to these changing conditions.

The **Series 800A Power Purifier** is also ideal for medical applications requiring an isolated power source with low leakage current to ground characteristics. (See Page 4 for the **Series 800A** specifications.)



## Features & Benefits

- State-of-the-art ferroresonant transformer protects sensitive electronic equipment against all power line disturbances, line noise, and transients
- Provides "ride-through" capability for up to (1) full cycle of lost power
- Acts as a large filter to eliminate harmonics that might be reflected into the line from the load
- Solves 99.5% of all power disturbance problems



# SOLUTIONS TO POWER PROBLEMS

**Exceeding the voltage regulating performance of any power conditioning product on the market, the [Series 800A Power Purifier](#) solves 99.5% of the electrical power problems that exist**

## Variable Range Regulation (VRR)

In the **Series 800A Power Purifier**, the input regulation band widens as an inverse function of load. Under typical conditions, the input band is +10% to -20%, regulating the output to  $\pm 3\%$ . With a 50% load (common in many installations), the input band is +10% to -40%.

The benefits of VRR are dramatic. Under conditions in which most equipment would cease operation, the **Series 800A Power Purifier** and the equipment plugged into it continue to perform.

## Immunity To Distortion Of Input Waveform Irregularities

The input waveform can be distorted and laden with transients, or may even be a square wave. However, the sine wave output is transient-free and independent of the input irregularities. This makes the **Series 800A Power Purifier** a perfect choice for certain generator-powered applications.

## “Ride Through” Capability

With the loss of input power for 1/4 cycle (4 msec), 1/2 cycle (8 msec), or a full cycle (16.6 msec, load-dependent), the stored energy within the **Series 800A Power Purifier** assures that the load sees no power loss.

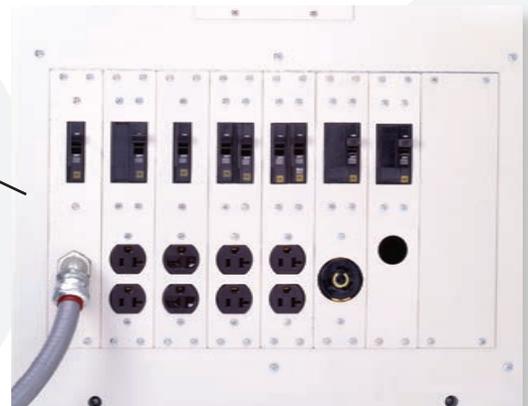
## Short-Circuit Proof

The **Series 800A Power Purifier** is a well-constructed, static magnetic device, which cannot be damaged by electrical shorts in the load. Upon a short-circuit condition, the output voltage will drop to near zero, and return to full nominal voltage once the short is cleared.

## Efficient, Effective Power Distribution

Designed for maximum application flexibility, the **Series 800A Power Purifier** back panel interfaces with computer peripherals in any or a combination of (3) output configurations. Changes can be made by installing the proper output distribution panel.

- **Receptacle Interface:** The back panel may be customized to fit a variety of receptacles. This interface option allows peripherals to plug directly into the **Series 800A Power Purifier**.
- **Flexible Extension With Receptacle Termination:** The back panel is designed to accommodate a flexible extension with the desired receptacle termination(s) and number of receptacles.
- **Flexible Extension With Field-Wired Termination:** This is the same as “Receptacle Termination” (above), only the termination is field-installed wiring instead of receptacles.



# SPECIFICATIONS

## Line Regulation

Under normal load conditions, the output voltage remains constant to within  $\pm 3\%$ , with input voltage variations of  $+10\%$  to  $-20\%$ . In addition, usable voltages are available with an input of  $+10\%$  to  $-40\%$  using Variable Range Regulation (VRR).

## Load Regulation

3 – 4% from 0% to 100% load.

## Voltage Recovery

The output voltage returns to 95% of nominal level within 2 cycles and to 100% within 3 cycles when going from no-load to full-load, or vice-versa. Recovery from partial load change is corrected in a shorter period of time.

## Frequency Variations

A 1% change in line frequency from the nominal design frequency, changes output voltage approximately 1.5% in the same direction as the frequency change.

## Efficiency

90% full-load efficiency for standard input and output voltage levels.

## Leakage Current To Ground

$\leq 20$  microamps (1 kVA – 3.5 kVA).

## Operating Temperature

$-20^{\circ}$  C. to  $+40^{\circ}$  C.

## Distortion

5% maximum, at full-load.

## Transverse Mode Noise Attenuation

120 dB.

## Common Mode Noise Attenuation

140 dB.

## Audible Noise

45 dB – 60 dB, depending on size.

## Operating Frequency

60 Hertz (50 Hertz models available).

## Output Distribution

Total of (5) patch panels available on sizes 5 kVA to 15 kVA. Hard-wiring output uses (1) panel. Each panel accommodates up to (2) interface options.

## Optional Interface Combinations

- Receptacle Interface (hospital-grade available)
- Flexible Extension With Receptacle Termination
- Flexible Extension With Field-Wired Termination

## Safety Listing

- UL 1012

## SERIES 800A POWER PURIFIER MODEL SELECTION GUIDE

MODEL #	VA RATING	WATT RATING	INPUT VOLTAGE	OUTPUT VOLTAGE	INPUT INTERFACE <sup>1</sup>	OUTPUT DISTRIBUTION <sup>3</sup>	CABINET W X D X H (INCHES)	WEIGHT (POUNDS)
5AAX-1K-8-A	1000	700	120	120	5-15P	4-5-20R	8.5 x 12.75 x 17.5	46
5AAX-1.6K-8-A	1600	1200	120	120	5-15P	4-5-20R	8.5 x 12.75 x 17.5	62
5AAX-2.1K-8-A	2100	1500	120	120	5-20P	4-5-20R	8.5 x 12.75 x 17.5	65
5AAX-2.5K-8-A	2500	1750	120	120	5-30P	4-5-20R	8.5 x 12.75 x 17.5	68
5AZX-3.5K-8-A	3500	2450	120	120/208/240 <sup>6</sup>	<sup>2</sup>	4-5-20R <sup>4</sup>	8.5 x 12.75 x 17.5	72
5MZX-3.5K-8-A	3500	2450	208/240	120/208/240 <sup>6</sup>	<sup>2</sup>	4-5-20R <sup>4</sup>	8.5 x 12.75 x 17.5	72
5MZX-5K-8-A	5000	3500	208/240	120/208/240 <sup>6</sup>	HW	<sup>5</sup>	15 x 23.75 x 22.5	176
5MZX-7.5K-8-A	7500	5250	208/240	120/208/240 <sup>6</sup>	HW	<sup>5</sup>	15 x 23.75 x 22.5	210
5MZX-10K-8-A	10000	7000	208/240	120/208/240 <sup>6</sup>	HW	<sup>5</sup>	15 x 23.75 x 22.5	256
5MZX-15K-8-A	15000	10500	208/240	120/208/240 <sup>6</sup>	HW	<sup>5</sup>	15 x 23.75 x 22.5	314

<sup>1</sup> Input line cords are 8 ft. long. Medical models available with a 15A or 20A hospital-grade input plug, or "locking type" 30A or 50A input plug. HW = Hardwired input interface.

<sup>2</sup> Input plug is a 5-50P on 120V input; L6-20P on 208/240V input.

<sup>3</sup> Medical models available with a 15A or 20A hospital-grade output receptacles.

<sup>4</sup> Optional quantity (1), L6-20R or L6-30R available, wired to the 208V or 240V output (specify receptacle and voltage when ordering).

<sup>5</sup> 5 panels available for output distribution. HW output uses 1 panel, other 4 panels can be used for receptacle interface or cabling. Panels available from 5 to 15 kVA.

<sup>6</sup> Load on 120 volt outputs from must be split, when there is a 120/240V output.



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