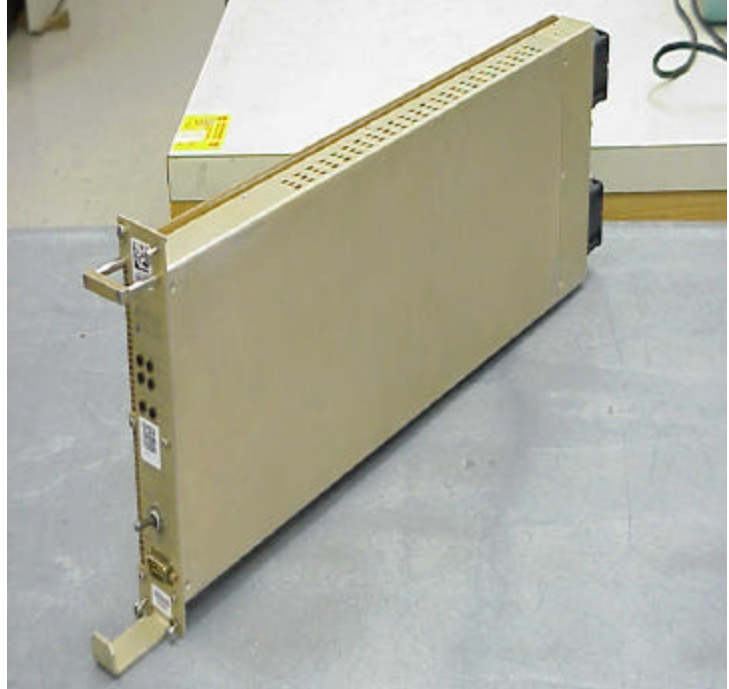


1 kW MODULES FOR ACT's POWER PROCESSOR BULK POWER SUPPLY SERIES

Characteristics:

- 90 to 264 VAC input voltage
- 47 to 440 Hz
- Power Factor > 0.99
- < 3% Total Harmonic Distortion
- Active Power Factor Correction
- Circuit Breaker Protected
- On/Off control
- Fully Isolated
- Overvoltage Protected
- Automatic Load Sharing
- Temperature Monitoring
- Self Contained Fans
- 1 kV Spike Test
- 70 msec Ride Through
- Power Good Signal
- Redundant Power Good Signal
- High Pot Tested to 1.2 kVDC



This 1 kW module can be combined to produce in excess of 9 kW of power when mounted with eight other modules in the 19" 4U chassis designed by ACT. Each module contains an EMI filter and a active Power Factor Corrected (PFC) front end. It is designed to convert single-phase 115 VAC into a single bulk output voltage.

Designed and qualified to meet the EMI requirements of MIL-STD-461E, it provides the user a fully isolated output voltage, which can be utilized in a wide variety of different applications and configurations. Depending upon the current rating of the output connector selected, the output voltage can range from 48 VDC to 270 VDC.

OPTIMUM EMI PERFORMANCE

The active PFC front end provides the > 0.99% power factor and keeps the harmonic distortion from exceeding the required 3% in both single and three phase configurations. In three phase applications the 1 kW modules can be configured such that the input power can be evenly balanced across all three phases. This configuration has been qualified to MIL-STD-461E in a number of different programs.

To increase the available output power and maintain optimum EMI performance 1 kW modules should be added in multiples of three and connected such that they are evenly balanced across the input phases.

PARALLEL CONFIGURATION

Connecting the modules in parallel can provide increased output power in multiples of 1 kW. This is obtainable due to the modules automatic load-sharing feature.

SERIES CONFIGURATION

To achieve higher output voltages modules can be connected in series. For example three standard 150 VDC modules can be connected in series to provide a 450 VDC, 3 kW output. This is made possible due to the complete electrical isolation of the modules output.

N+1 REDUNDANCY

These modules can provide N+1 redundancy in a number of configurations. For example in a configuration where a system needs 2 kW of power three modules are selected and connected in parallel. Because of the automatic load sharing under normal operation each module will provide 1/3 of the output power. However, if one module fails the other two are capable of supplying the full output power requirements.

N+1 redundancy can also be provided in the event of the loss of one phase of a three-phase system. For example, three 1 kW modules are providing power to a 2 kW load. Each module is being supplied by one phase of the three phase input power. If one phase of input power is lost the module that is using this input power will stop functioning but the other two modules will automatically pick up the load.

HOT SWITCHABLE

By using the input circuit breakers modules can be added or removed from the rack without disrupting the system.

70 msec RIDE THROUGH

Each module contains enough energy storage to provide full output power for a minimum of 70 msec. In many cases this can eliminate the need for a UPS system and satisfied system designers concerns with an automatic bus transfer (ABT).

OTHER

ACT has also designed a series of modules that utilize the 150 VDC voltage bus to generate a variety of other DC output voltages and currents. Additionally, in those cases that need AC input power, ACT has developed sine wave and square wave inverter modules.

