

## AIR-COOLED, SOLID-STATE FREQUENCY CONVERTER

The Air-Cooled, Solid-State Frequency Converter (ACSSFC) is the second-generation air-cooled, solid-state frequency converter which supplies precise, reliable, power for the U.S. Navy's most advanced and sophisticated weapon system—AEGIS. A direct descendant of the U.S. Navy's Mk84, liquid-cooled, solid-state frequency converter, the ACSSFC is the class standard on the Arleigh Burke-class DDGs.

Produced by the same production personnel as the Mk84 in the Anaheim facility of L3Harris the ACSSFC guarantees product commonality, known costs, high performance, maintainability and reliability. The ACSSFC is designed and qualified to ensure survivability in the most adverse situations.

In addition to powering the AEGIS Weapons System, the ACSSFC has also been designed as a highly reliable direct replacement for aircraft carrier or fixed-base, central power motor generators. Its light weight makes the ACSSFC easily transportable by air or mobile unit.

The ACSSFC is rated at 288 kW/384 kVA, offers parallel operation (up to six), and provides MILSTD-1399 Type II or III power at unequalled reliability and power levels. The unit has a battle overload capability of 140 percent for 15 minutes and a single unit can support transient loads of up to 520 kW (950 amp) for two seconds.

### STANDARD FEATURES

- > Air-cooled, self-contained
- > Modular construction
- > Self-synchronization for parallel operation
- > Built-in diagnostic tests
- > Easy access for trouble shooting
- > Logistics support in place

### APPLICATIONS

- > Weapons systems
- > Computers
- > Ground missile launch radar
- > Fire control systems
- > ECM systems
- > Sonar systems
- > Ground, central 400 Hz power distribution systems



### ACSSFC 384 KVA

Designed and qualified to ensure survivability in the most adverse situations, the rugged, reliable ACSSFC provides power to some of the U.S. Navy's most advanced systems, including the sophisticated AEGIS weapon system.

## INPUT POWER

Voltage/frequency 440 VAC, 60 Hz, 3 ph,  
3-wire ungrounded Type I, MIL-STD-1399

## OUTPUT POWER

### Power Rating

- > Continuous 288 kW/384 kVA
- > Battle load 410 kW/545 kVA or 15 min,  
25% duty cycle

### Transient Load

- > 600 kW/800 kVA for 100 ms
- > 520 kW/740 kVA for 2 sec

## ENVIRONMENTAL CHARACTERISTICS

### Operating ambient conditions

- > Temperature 0°-to-50°C
- > Humidity 95% at 50°C

### Qualifications

- > EMI MIL-STD-461B
- > Shock MIL-STD-901C, Grade A, Type A
- > Vibration MIL-STD-167, Type I
- > Noise MIL-STD-740B

## ELECTRICAL CHARACTERISTICS

- > Nominal user voltage 450 Vrms, 3-wire,  
delta, ungrounded Type III
- > Optional voltage 115/200 Vrms
- > Output current 493 A @0.75 pf
- > Frequency 400Hz,  $\pm 0.1\%$
- > Frequency modulation  $\pm 0.50\%$
- > Steady state voltage 428-to-472 V
- > Voltage unbalance 1%
- > Voltage modulation 1%
- > Output voltage recovery with a 200 A  
transient voltage deviation  $< 1\%$
- > THD 2%
- > Voltage phase difference 119°-to-121°,  
max
- > Paralleling capability share current with  
5% both real and reactive
- > Synchronization self-synchronizing
- > Efficiency 92% at 50% load

## MECHANICAL CHARACTERISTICS

### Paralleling

- > Two system paralleling is normal  
configuration using internal split-bus  
controller
- > Three through six system paralleling  
using optional external split bus  
controller
- > No derating of system is required when  
operating in parallel

### Bus Transfer

- > ACSSFCs will transfer to both split-to-  
common and common-to-split with no  
power interruption

**Weight 10,250 lbs (4659 kg)**

