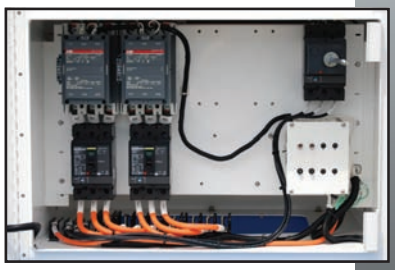
400 Hz Solid-State Converter

400 Hz Solid-State Converter—45–90 kVA



400 Hz Solid-State Converter

PERFORMANCE FEATURES

Proven design:

- Individual phase regulation at aircraft interface, perfect voltage regulation even with unbalanced loads
- Meets and exceeds Mil-Std-704F requirements
- Plug 'n' Play cable compensation: Calibrated Automatic Line Drop Compensation eliminates voltage drops due to cabling, providing 1% voltage regulation at the aircraft interface
- Total harmonic content <2%
- Up to 4 outputs available
- Soft Start feature eliminates in-rush current
- 12 Pulse front end

THE ADVANTAGES

- NFPA 70 Article 500 Class 1 Div. 2 compliant with 18" Floor Stand
- Trailer mounted units are compliant with SAE AS8090 Type 1 Class 2 requirements.
- Easy-to-read Digital Information Display
- Modular design allows for ease of maintenance
- BIT: Digital diagnostics aid troubleshooting

Our 400 Hz Frequency Converter provides a complete fully integrated and tested system which is ready to install as delivered. Front access for all service and maintenance functions. 30-40% space and weight savings compared with competitive products. The compact light weight adaptable design allows flexible installation options. It can be floor mounted, overhead mounted or mounted on a trailer or castors.

ETL LISTED POWER UNITS OTHER THAN CLASS 2
3176982
CONFORMS TO UL STD 1012

NSF Registered to AS9100 (with ISO 9001)

ITW MILITARY GSE

ITW Military GSE is an Illinois Tool Works (ITW) company. ITW is a diverse Fortune 200 company with over 850 operating divisions in 49 countries worldwide. ITW Military GSE is a world-class engineering-based company headquartered in Palmetto, Florida. We specialize in the design, manufacture, and world wide service of Military Aircraft Ground Support Equipment providing GSE to U.S. and foreign military programs since 1972.

Model	Input Power	Output Power	Length	Width	Height	Weight
90 kVA 400 Hz SS Converter	400/480 VAC, 50/60 Hz, 110/94 amps	115/200 VAC, 400 Hz, 90 kVA	26.5" (673 mm)	34" (864 mm)	65.5" (1664 mm)	726 lbs (330 kg)

400 Hz Solid-State Converter Unit Specifications

INPUT POWER

- Rated current: 94 amps ±15% @ 480 VAC, 60 Hz

OUTPUT

- Power: 90 kVA @ 0.8 pf Lag
- 115/200 V - WYE, ABC-N
- Frequency: 400 Hz ± 0.1%
- Power factor: 0.5 lag to 0.9 lead
- Voltage regulation: <1%
- Transient performance exceeds Mil-Std-704F
- Crest factor: 1.414 ±3%
- Overload Rating:
  - 110% for 60 minutes
  - 125% for 5 minutes
  - 150% for 2 minutes
  - 200% for 20 seconds
  - 300% for 6 seconds

EFFICIENCY

- 12 pulse Front End
- Overall efficiency:
  >0,93 at 35-90 kVA load
  >0,90 at 25 kVA load
- No load loss: <2 kW

PROTECTION

- No break power transfer
- Over/under voltage: Input and Output
- Overload
- Short circuit
- High temperature
- Internal system error

ENVIRONMENTAL

- Operating temperature: -40°C to +55°C
- Relative humidity 0—95%
- Airborne Noise <65 dba @ 1m - typically 60 dba

MISCELLANEOUS

- MTBF (Proven): 100,000 hours
- MTTR: max. 20 minutes

STANDARDS

- MIL-STD-704F Aircraft electric power characteristics
- Mil-STD-1399-300 Interface Standard for Shipboard Systems
- Mil-STD-1472F Human Engineering
- UFGS-26 35 43 Unified Guide Specification
- DFS 400 Specification for 400 Hz Aircraft Power
- BS 2G 219 General Requirements for Ground Support Equipment
- ETL Listed

EMI

MIL-STD-461E:

CE102 Conducted Emissions, Power Leads, 10 kHz to 10 MHz

CS101 Conducted Susceptibility, Power Leads, 30 Hz to 150 kHz

CS114 Conducted Susceptibility, Bulk Current Injection, 10 kHz to 200 MHz

CS115 Conducted Susceptibility, Bulk Cable Injection, Impulse Excitation

CS116 Conducted Susceptibility, Damped Sinusoidal Transients, Cables and Power Leads, 10 kHz to 100 MHz, 10A max for all configurations

RE102 Radiated Emissions, Electrical Field, 10 kHz to 1 GHz

RS103 Radiated Susceptibility, Electric Field, 2 MHz to 18 GHz

OPTIONS

- External Emergency Stop
- Remote Control Box
- 6 pulse Front End
- 18" Floor Stand
- Trailer per SAE AS8090
- Auxiliary Power Outlets, 60 Hz or 400 Hz
- Door/Panel Interlock
- Loss of Neutral Detection
- Portable Service Lamp
- 400Vac/50hz Input
- Up to 4 outputs available

Specifications subject to change without notice.

The 400 Hz Converter is compatible with these aircraft and others:

Sukhoi-30MK

F-15 Eagle

F-16 Falcon

F-18 Hornet

Mirage

Eurofighter

Grippen

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Updated 2/23/10

FROM DESIGN TO DEPLOYMENT