



NGFCPFC-MIL SERIES

Solid State MIL-Qualified Modular 1 KVA / 800 Watt Frequency Converters

- MIL-STD-810 Qualified
- MIL-STD-461 Qualified
- Designed To Meet MIL-STD-1399
- Compact Chassis
- 8 Pounds Total
- Remote On/Off Available



These units are suitable for applications such as:

- Military Shelters
- Ground Support
- Mobile Systems
- Tactical Systems
- Shipboard Applications
- Airborne Applications
- Military Ground Vehicles
- Communications Systems



NOVA ELECTRIC

APPLICATIONS

- Military Shelters
- Ground Support
- Mobile Systems
- Tactical Systems
- Shipboard Applications
- Airborne Applications
- Military Ground Vehicles
- Communications Systems

POPULAR OPTIONS

- Specialty Voltages and Frequencies
- MS Connector and Mates
- Rack Mount Enclosure or Panel
- Mounting Bracket
- Remote ON/OFF
- SNMP Communications
- Environmental Stress Screening Services

CONTACT

100 School Street,
Bergenfield, NJ 07621 USA
(201) 385-0500
novaelectric.com
info@novaelectric.com



NGFCPFC-MIL SERIES

Solid State MIL-Qualified Modular 1 KVA / 800 Watt Frequency Converters

GENERAL OVERVIEW

Nova's 1 KVA / 800 W NGFCPFC-MIL Series Solid State MIL-Qualified Modular Frequency Converters are intended for harsh environment and military applications wherever standard generator or utility-like power is needed at 50 Hz, 60 Hz, or 400 Hz. 115, 120, 220, or specialty AC voltages are available for input and output. These rugged frequency converters are formally qualified to MIL-STD-810 for temperature, shock, vibration, humidity, and acoustics, as well as to MIL-STD-461 for CE102, CS101, CS114, CS115, CS116, CS118, RE102, and RS103. Power factor correction is included for compliance to MIL-STD-1399. The NGFCPFC's Standard Freestanding Chassis is only 5.25" High x 5.50" Wide x 12.75" Deep, with an overall weight of just 8 pounds total. Rack mounting and other configurations are optional.

Electrical

- Input Voltage: Select 115, 120, or 220 VAC
- Input Voltage Range: +10%/-15%
- Input Frequency: Select 50 Hz, 60 Hz or 400 Hz
- Input Frequency Range: $\pm 5\%$
- Output Voltage: Select 115, 120, or 220 VAC
- Output Voltage Regulation: $\pm 2.5\%$ N.L. to F.L.
- Output Frequency: Select 50 Hz, 60 Hz or 400 Hz
- Output Frequency Regulation: $\pm 0.5\%$ N.L. to F.L.
- Overload: 125% for 5 Minutes
- Overload Protection Range: Automatic Overload & Short Circuit Protection
- Transient Response: Approx. 3 Cycle Recovery to 95% of Nominal
- Output Waveform Sinewave: <3% THD
- I/O Isolation: 1500 Volt
- MTBF: Over 100,000 hours per Field Data
- MTTR: 30 Minutes

Protective Features

- Overload
- Overvoltage
- Overtemperature

Mechanical

- Standard Freestanding Chassis is 5.25" High x 5.50" Wide x 12.75" Deep
- Rack Mount or Cantilever Shelf Optional
- Standard Chassis Weight is 8 Pounds

Environmental

- Operating Temperature: -32°C to +52°C
- Storage Temperature: -46°C to +71°C
- Shock: per MIL-STD 810G
- Vibration: per MIL-STD-810G
- Humidity: per MIL-STD-810G
- EMI: per MIL-STD-461G

MIL-STD-810G Environmental Compliance:

- High Temperature (Storage) per MIL-STD-810G, Method 501.5, Procedure I – TH=+71C, 1x 24Hr Cycle.
- Low Temperature (Storage) per MIL-STD-810G, Method 502.5, Procedure I – TL=-46C, 2x 24Hr Cycle.
- High Temperature (Operating) per MIL-STD-810G, Method 501.5, Procedure II – TH=+52C, 5x 24Hr Cycle.
- Low Temperature (Operating) per MIL-STD-810G, Method 502.5, Procedure II – TL=-32C, 5x 24Hr Cycle.
- Bench Handling Shock Testing per MIL-STD 810G Method 516.6, Procedure VI.
- Operational Vibration Testing in 3 Mutually Perpendicular Axes per MIL-STD-810G, Method 514.6, Procedure I – F=20-2000Hz, PSD(max)=8.00e-3 g2/Hz.
- Non-Operational (Transportation) Vibration in 3 Mutually Perpendicular Axes per MIL-STD-810G, Method 514.6, Procedure I – F=5-500Hz, PSD(max)=0.6 g2/Hz.
- Acoustic test per MIL-STD-810G, Method 515
- Humidity (Operating / Non-Operating) per MIL-STD-810G, Method 507, Procedure II Aggravated Temperature-Humidity Cycle.

MIL-STD-461G EMI Compliance:

- CE102 Conducted Emissions per MIL-STD-461G Parag. 5.5, Radio Frequency Potentials, Power Leads, 10 kHz to 10 MHz – relaxed by 6 dB.
- CS101 Conducted Susceptibility per MIL-STD-461G Parag. 5.7, Power Leads, 800 Hz to 150 kHz), curve 1.
- CS114 Conducted Susceptibility per MIL-STD-461G Parag. 5.12, Bulk Cable Injection, 10 kHz to 200 MHz.
- CS115 Conducted Susceptibility per MIL-STD-461G Parag. 5.13, Bulk Cable Injection, Impulse Excitation.
- CS116 Conducted Susceptibility per MIL-STD-461G Parag. 5.14, Damped Sinusoidal Transients, Cables and Power Leads, 10 kHz to 100 MHz.
- CS118 Personnel Borne Electrostatic Discharge (ESD) per MIL-STD-461G Parag. 5.16. ESD to 2, 4, 8 kV for contact discharges and 2, 4, 8, 15 kV (10 kHz to 100 MHz) for air discharges.
- RE102 Radiated Emissions per MIL-STD-461G Parag. 5.18, Electric Field, 10 kHz to 18 GHz.
- RS103 Radiated Susceptibility per MIL-STD-461G Parag. 5.21, Electric Field, 2 MHz to 18 GHz.

MODEL	KW / KVA	INPUT VAC	INPUT Hz	OUTPUT VAC	OUTPUT Hz	WEIGHT
NGFCPFC0.8K50/60-120-220	0.8 / 1	120	60	220	50/60	8 lb
NGFCPFC0.8K400-120-115	0.8 / 1	120	60	115	400	8 lb
NGFCPFC0.8K50/60-220-120	0.8 / 1	220	50	120	50/60	8 lb
NGFCPFC0.8K400-220-115	0.8 / 1	220	50	115	400	8 lb
NGFCPFC0.8K50/60-115-120	0.8 / 1	115	400	120	50/60	8 lb
NGFCPFC0.8K50/60-115-220	0.8 / 1	115	400	220	50/60	8 lb





RUGGED AC POWER SYSTEMS



SELECT UNITS QUALIFIED TO MIL-STD-810, MIL-S-901, MIL-STD-1399, MIL-STD-461, MIL-STD-167, MIL-STD-740, RTCA/DO-160, AND MORE

RUGGED TRUE ONLINE UPS



500 W – 500+ KW

Rack Mount, Bulkhead Mount, and Freestanding

Single and Three Phase

50, 60, and 400 Hz.

PURE SINEWAVE DC-AC INVERTERS



100 W – 500+ KW

Rack Mount, Bulkhead Mount, and Freestanding

Single and Three Phase

50, 60, and 400 Hz.

SOLID-STATE FREQUENCY CONVERTERS



100 W – 500+ KW

Rack Mount, Bulkhead Mount, and Freestanding

Single and Three Phase

50, 60, and 400 Hz.

POWER DISTRIBUTION UNITS (PDUs)



Basic, Switched, Auto-Transfer Switching, and Metered Configurations

Rack Mount, Bulkhead Mount, and Freestanding

Single and Three Phase

CUSTOM EMI FILTERS



For MIL-STD-461 Compliance

Rack Mount, Bulkhead Mount, and Freestanding

Single and Three Phase

RUGGED PORTABLE TRANSFORMERS



100 W – 500+ KW

Rack Mount, Bulkhead Mount, and Freestanding

Single and Three Phase

EXTERNAL MAINTENANCE BYPASS SWITCHES (MBSSs)



Rack Mount, Bulkhead Mount, and Freestanding

Single and Three Phase

CUSTOM DESIGNS



Designed & Built to Spec

Integrated AC & DC Capabilities

Multiple Outputs

RELIABLE AC POWER WHEN AND WHERE YOU NEED IT SEVERE ENVIRONMENT PRODUCTS



- AIRBORNE
- SHIPBOARD
- MOBILE
- RACK MOUNT & FREESTANDING

- 50, 60, AND 400 Hz
- AIR & WATER COOLED
- SINGLE AND THREE PHASE
- LIGHTWEIGHT DESIGNS

