



**Aviation
Ground
Equipment Corp.**

**1000 Series
Electric**

Model 1000-2



Static Frequency Converter (SFC) A/M24M-5A NSN 6130-01-616-8942

The Static Frequency Converter (SFC) converts 440/220 VAC 50/60 Hz input power to 115 VAC 400 Hz, 270 VDC and 28 VDC output power. The SFC operates worldwide in rugged Military Environments for shipboard carrier and land based sites. The SFC has an integrated trailer and internal storage of all cables.

Standard Features:

- AC Input: 440/220 VAC, 50/60 Hz
- AC Outputs: Dual, 115/200 VAC, 400 Hz, 72 kW, Meets MIL-STD-704F
- DC Output: 28 VDC, 600 A Continuous, 2000 A Peak, Meets MIL-STD-704F
- DC Output: 270 VDC Main, 72 kW, Meets LMCO F-35 Requirements
- DC Output: 270 VDC Aux Receptacle meets LMCO F-35 Specs
- No Break Power Transfer (NBPT) Compliant
- Smart Control User Interface
- Built-In Test Diagnostics (BIT) with Fault Recording
- Rugged Four-Wheeled Trailer, Hand Brake System, SAE AS 8090, Type II, Group C



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Specifications

Description

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Input

- 440 VAC 3 Phase 45-65 Hz (370-529)
- 220 VAC 3 Phase 45-65 Hz (198-242)

115/200 VAC 400 Hz. Dual Output

- Meets or Exceeds MIL-STD-704F
- Ratings: 110 kVA total unit output
90 kVA single output
- Overloads: 110% - 60 minutes
125% - 5 minutes
200% - 20 seconds
- Meets all Military and Commercial Requirements for No-Brake Power Transfer (NBPT)
- Voltage Regulation: $\pm 1\%$ up to rated load
- THD (Total Harmonic Distortion): $< 3\%$
- IHD (Individual Harmonic Content): $< 2\%$
- DC Content: 100 mV maximum
- Phase Displacement: 120 ± 2 degrees
- Transient Performance Meets and Exceeds MIL-STD-704F
- Output Voltage Adjustment Range: $\pm 15\%$
- Phase Voltage Displacement with Balanced Load: $< 2\%$
- Phase Voltage Balance (with 10% Unbalanced Load on a Single Phase): < 3 volts
- Crest Factor: 1.414 ± 0.07
- Line Drop Compensation: automatic up to 8% (user adjustable)
- Frequency Modulation: $\pm 0.25\%$
- Frequency Regulation: ± 0.2 Hz (.05%)
- Frequency Drift: $\pm 0.05\%$ at any load
- Efficiency: $> 92\%$ at full load

28 VDC Output

- Meets or Exceeds MIL-STD-704F
- 28.5 VDC Transformer-Rectifier
- Ratings: 600 amps continuous
2000 amps starting current
- Overloads: 125% - 5 minutes
- Fully Adjustable Current Limiting
- Voltage Regulation: $< \pm 1\%$ up to rated load

270 VDC Main Output

- Meets or Exceeds F-35 (JSF) Specifications as recognized by LMCO
- Meets or Exceeds MIL-STD-704F
- Ratings: 72 kW (continuous)
- Overloads: 125% - 5 minutes
200% - 5 seconds
- Fully Adjustable Current Limiting

270 VDC Output Auxiliary

- Output/connector meets or Exceeds F-35 (JSF) Specifications as recognized by LMCO
- Meets or Exceeds MIL-STD-704F
- Ratings: 4.05 KW (continuous)

E3, Emissions & Susceptibility

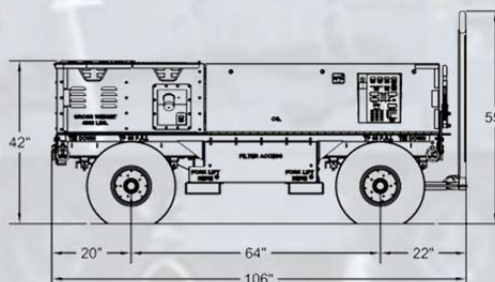
- MIL-STD-461E
 - Conducted Susceptibility, CS101, CS114, CS115 & CS116
 - Radiated Susceptibility, RS101 & RS103
 - Conductive Emissions, CE102
 - Radiated Emissions, RE102
- EMV
 - MIL-STD-464A, Table 1A
 - MIL-HDBK-235-2B

Military & Commercial Standards

- MIL-STD-704F
- MIL-STD-461E
- MIL-STD-464A
- MIL-STD-167-1
- MIL-STD-810F
- MIL-STD-901D
- MIL-STD-209
- MIL-STD-889
- MIL-STD-1472
- MIL-STD-1399, SECTION 300
- SAE AS 50881
- F-35 (JSF) LMCO (Approved)

Dimensions & Weight

- Dimensions 42"H X 52"W X 107"L
- Weight 3925 lbs.



Environmental

- Temperature, MIL-STD-810F Method 501.4, 502.4 Operating -40°F to $+125^{\circ}\text{F}$ (-40°C to $+52^{\circ}\text{C}$); Non-Operating -60°F to $+160^{\circ}\text{F}$ (-51°C to $+71^{\circ}\text{C}$)
- Humidity, MIL-STD-810F, Method 507.4
- Salt Fog, MIL-STD-810F, Method 509.3
- Blowing Rain, MIL-STD-810F, Method 506.4
- Blowing Sand, MIL-STD-810F, Method 510.4
- Wind, MIL-STD-810F, Method 506.10
- Vibration, MIL-STD-167-1
- Rail Impact, MIL-STD-810F 516.5
- Heavyweight Shock, MIL-S-901D Grade B
- Air Transportability
- Tie Down, MIL-T-81259B

Maintenance

- Mean Time to Repair < 120 minutes

Protection

- AC Input: Over/Under Voltage, Over/Under Frequency, Overload, Phase Loss
- AC Output: Over/Under Voltage, Over/Under Frequency, Overload
- DC Outputs: Over/Under Voltage, Overload, Short Circuit
- Internal: Door Interlock, Contactors Stuck (Open/Closed), Internal Power Supply Voltage, Converter Fail

Controls / Indicators

- Smart Control User Interface
- Sealed, tactile feedback membrane panel
- Integrated Built-In Test (BIT)
- Front Control Panel
 - Fault Code Display with Indicators
 - Adjustable Brightness Indicator Lamps with ON/OFF
 - LED Display Input/Output
 - Voltage
 - Amperage
 - Frequency
 - Cable Interlock Status Indicators
 - Line Drop Comp, User Adjustable
 - Output Voltage, User Adjustable
 - Emergency Stop Switch
- Door Interlock Switch
- Elapsed Time Hour Meter

Specifications subject to change without notice

Datasheet REV 06-07-2017