60-180kW
FCXTREME

35+ YEARS IN BUSINESS
Established 1987

FCX SYSTEMS
Engineered for Endurance
MADE IN THE USA SINCE 1987

Ground POWER Solutions For All Generations Of Aircraft

The FCXtreme Series provides reliable solid-state converters that are designed to provide 400Hz ground power with a small footprint in applications such as inside aircraft hangars, in electrical equipment rooms, or in maintenance shops.

All models optimized and tested to perform a continuous output power rating with 200% overload capacity in 24/7 operations.

- Individual phase regulation, improved efficiency, and lower input current distortion
- Innovative, adaptive wave optimization and voltage stabilization
- Laminated bus design eliminates transient voltage surges for high performance and increased reliability
- Lightweight powder-coated steel enclosure with sealed electronics compartment superior to typical aluminum enclosures to reduce RFI and EMI emissions
- Full-featured user interface with advanced diagnostic and logging system
- High contrast 4 line by 20 character display with full feature user interface and 16 button keypad. Separate standalone controls to ensure ease of use for most frequent functions.
- Standard RS485 Modbus communication and integration capability with available RJ45 Ethernet connection capability

Suitable For:

Fixed and Rotary Wing Aircraft and All Other 400Hz Applications

Through an innovative design, advanced diagnostic and logging systems, and rugged modular construction, FCXtreme Series products assure maximum power availability and minimal maintenance time.

FCX Systems has been serving the military, commercial, and industrial markets since 1987. Our knowledgeable, experienced sales staff is waiting to review your requirements and specifications. Please call us at **(304)983-0400** or submit your inquiry via email to **sales@fcxinc.com**. We are eager to provide your solution.

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Specifications below based on 60-180KVA. Other ratings and types are available. Please contact us for more information.

Electrical Characteristics		
INPUT	Input Voltage	380-415V, 3ph, 50Hz / 480V, 3ph, 60Hz ± 10% (Other voltages available upon request)
	Input Power Factor	0.8 to Unity (1.0) (Typically ≥0.95 at 50% and above)
	Surge Protection	Integral Surge Supression compliant with UL 1449 and IEEE C62.41.1 and IEEE C62.41.1 (Location Category B) requirements
	Inrush Current	None, Soft Charge to rated voltage
	Input Current Distortion	≤ 5% at full rated load
OUTPUT	Output Voltage	200/115V, 3ph, 400Hz or 208/120V, 3ph, 400Hz (Other votlages available upon request)
	Power output	60kVA/60kW continuous 75kVA/75 kW continuous 90kVA/90 kW continuous 120kVA/120 kW continuous 140kVA/140 kW continuous 160kVA/160 kW continuous 180kVA/180 kW continuous
	Efficiency	≥ 87% @ 50% Load ≥91% @ 100% Load (Note: Systems requiring an input transformer, apply 2% reduction to efficiency numbers)
	No Load input Losses	≤7% of converter output kW rating (Typically ≤5%)
	Overload	110% (60 minutes), 125% (5 minutes), 150% (2 minutes), 200% (20 seconds) Standard. 300% (4 seconds) Optional
	Short Circuit	System designed and tested to withstand short circuit current (bolted line to ground fault and bolted three phase fault) without damage until the integral protective controls and devices interrupt the fault
	Output Voltage THD	≤3% L-L / L-N for Linear Loads, ≤5% L-L / L-N for Non-Linear Loads, ≤4% for Unbalanced (15%) Linear Loads
	Output Voltage Amplitude Modulation	≤0.5% of nominal votlage rating, no load to full load
	Frequency Stability	±0.01% under all operating conditions
	Phase Angle Regulation	120° between adjacent phases ±2° (Balanced Load), 120° between adjacent phases ±4° (15% Unbalanced Load)
	Transient Output Voltage Recovery	Meets or exceeds MIL-STD-704F
Environmental Rating		
Ambient Temperature Range		Operating: -40˚C to +55˚C (-40˚F to +131˚F))
Relative Humidity Range		10 to 95% w/out condensation
Ambient Pressure from Sea Level		Ambient Pressure: Sea Level to 9843ft (3000m)
Monitoring and Control Panel		
Controls		Start, Stop/Reset, Output On/Off, Emergency Stop
Indicators		LED indicators: Power On, Converter On, Module Fault, Input Voltage Fault, Output Voltage Fault, Overload, 28VDC E/F Interlock, 28VDC E/F Bypass Mode, Output 1 On, Output 2 On
Instrumentation		4 Line by 20 Character Backlit Display
Data Logging		Total of 200 events (100 Events per unit when dual outputs are incorporated)
Diagnostics		System designed with built-in test circuit that monitors both primary and protective circuits of the unit. Performs system check of each circuit board and communication port to internal component interfaces.
Alarm Functions		Audible Alarm rated 80dB(A) @ 2ft w/ Alarm silence function & indicator activates when system fault condition is detected

Input and Output Connections	
Circuit Breaker	Circuit breaker conforming to UL489
Input Circuit Breaker	UL listed thermal magnetic trip circuit breaker
Output Contactor	Three pole, magnetic coil contactor rated for full load, overload, and short circuit conditions. Contactor internlocked with all protective controls to open in the event of fault condition. (Typical for aircraft cable applications)
Output Circuit Breaker	UL listed molded case switch derated for 400Hz application. (Typcial for distribution applications)
Aircraft Interlock Circuit	A safety interlock circuit included on the unit output to detect 28VDC feedback signal from the aircraft. Bypass function supplied as well
Protection	
Input Under/Over Voltage, Phase Loss, Input Power Loss, Access Door(s) Interlock, Output Under/Over Voltage per Mil-STD-704F, Output Overload, and Over Temperature	
Automatic Line Drop Compensation	
Adjustable automatic line drop compensation, configurable from 0 - 10%	
Acoustical Noise	
Less than 72dbA typical @ 1m	
Assembly Construction	
Enclosure is suitable for indoor or outdoor environments and provides protection equivalent to NEMA 250, Type 3R. Integral forced air cooling intake and exhaust openings are covered as required. All components except for the user interface are totally enclosed within the enclsoure. Design employs modular construction for ease of maintenance and repair. All wiring uniquely indentified with indentification throughly documented in as built schematics provided with Operation & Maintenance manual. Finish is durable, scratch resistant, rust inhibiting, electrostatically applied powder coat finish. Standard color: White Aluminum (RAL 9006). Other colors available upon request	
Codes and Standards	
Meets or Exceeds	UFGS 26 35 43 NFPA 70 UL 1012 MIL-STD-704F SAE ARP-5015 BS2G-219 DFS-400
Option and Accessories	
28.5VDC Output with 600A rating Integral single cable rack Freestanding or wall mount cable racks Output circuit breaker for distributed power applications Dual or Triple output contactors	Remote operators station(s) Output power cables Power usage monitoring 300% overload for 60/90kVA units Split F interlock MV/CV-22 interlock

At FCX Systems, we take pride in our highly trained support staff, dedicated to providing the best operational and technical support in the industry. Factory technicians are available for on-site training, maintenance and repair services, either in conjunction with our available maintenance plans, or as standalone services. Operational and maintenance training are also available at our factory. With FCX you can rest assured that you will have the support you need, when you need it, from a friendly, professional and experienced staff, 24/7/365.

Contact us at **(304)983-0403** or **service@fcxinc.com**.