60-180kW FCXTREME





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 aircraft ground power in "low profile" applications such as under passenger boarding bridges, in maintenance hangars, or on flight lines.

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 RF emissions
- Full-featured user interface with detailed troubleshooting menus added to the 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 tp 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 400 Hz Applications

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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.

## 60-180kW

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

#### Electrical Characteristics

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Flee	Electrical Characteristics			
	Input Voltage	380-415V, 3ph, 50Hz / 480V, 3ph, 60Hz ± 10% (Other voltages available upon request)		
I N U T	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 Voltage	200/115V, 3ph, 400Hz or 208/120V, 3ph, 400Hz (Other votlages available upon request)		
	Power output	60 thru 180KVA		
	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%)		
0	Overload	110% (60 minutes), 125% (5 minutes), 150% (2 minutes), 200% (20 seconds) Standard. 300% (4 seconds) Optional		
U T P U T	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 $^\circ$ C to +55 $^\circ$ C (-40 $^\circ$ F to +131 $^\circ$ 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				
Maximum continuous acoustical noise level ≤72dBA				
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 enclosure. 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 SAE ARP-5015 NFPA 70 BS2G-219 UL 1012 DFS-400 MIL-STD-704F			
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**.

