

**35+**  
YEARS IN BUSINESS  
Established 1987



**FCX**  
SYSTEMS

Engineered for Endurance  
MADE IN THE USA SINCE 1987



**The preferred and best power  
of choice for all 270VDC  
applications.**

FCX 270VDC powers every  
assembly station around  
the world for the  
F-35 Lightning II.  
FCX Precision 270VDC –  
PROVEN TO PERFORM.

**No other 270VDC power supply in the world is more proven or preferred than the FCX Precision DC unit. This reliable, high performance unit is the product of many years of support to F-22 and now F-35 production, test, operations, and sustainment – and is absolutely the best choice for any 270VDC requirement.**

- The advanced design of the FCX 270VDC power supply delivers precise regulation and high dynamic response
- Meets or exceeds the most stringent requirements for 270VDC power, including Lockheed Martin's F-35 Ground Electrical Power Interface Specification
- Innovative, adaptive wave optimization and voltage stabilization for exceptionally "clean" power
- Laminated bus design eliminates transient voltage surges for high performance and increased reliability
- All models are optimized and tested to perform from light loads to continuous full power rating with robust overload capability to handle the demands of 24/7/365 operations.
- Advanced BITE - diagnostic and logging system with on board troubleshooting menu

*The field proven 72kW rated 270VDC Precision Power Supply Model VDC270-72kW is shown here in vertical fixed mount configuration. We offer a wide variety of unit ratings and configurations - standard and custom. Please contact us anytime at [sales@fcxinc.com](mailto:sales@fcxinc.com) with your requirements.*



- 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

**"It was a pleasure testing a product that easily met or exceeded all requirements and expectations."**

*- Lockheed Martin Ground Power Qualification Test Manager*

**Specifications below based on 72kW-267A rated model VDC270-72kW. Other ratings and types are available. Please contact us for more information.**

Electrical Characteristics		
I N P U T	Input Voltage	380-415V, 3ph, 50Hz / 480V, 3ph, 60Hz $\pm$ 10% (Other voltages available upon request)
	Input Power Factor	0.8 to Unity (1.0) / Typically $\geq$ 0.95 @ 50% and greater load
	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	$\leq$ 5% at full rated load
O U T P U T	Output Voltage (Main)	270VDC $\pm$ 3VDC
	Output Voltage Interlock	28VDC +1VDC/-2VDC
	Power Output (Main)	72kW (267ADC)
	Power Output (Interlock)	0.42kW (15ADC)
	Efficiency	$\geq$ 87% @ 50% Load $\geq$ 91% @ 100% Load (Note: Systems requiring an input transformer, apply 2% reduction to efficiency numbers)
	No Load Input Losses	$\leq$ 7% of converter output kW rating (Typically $\leq$ 5%)
	Overload	110% (30 minutes), 125% (5 minutes), 150% (10 Seconds), 200% (2 seconds), 250% (0.1 seconds)
	Short Circuit	System designed and tested to withstand short circuit current without damage until the integral protective controls and devices interrupt the fault
	Ripple Amplitude (Main)	1.5V (Peak to Mean)
	Ripple Amplitude (Interlock)	1.5V (Peak to Mean)
	Distortion Spectrum (Main)	Per MIL-STD-704F (Figure 18)
	Distortion Factor (Main)	Per MIL-STD-704F Table IV (0.015)
	Transient Output Voltage Recovery	Meets or exceeds MIL-STD-704F (Range 220 to 330VDC for any load step change)
Environmental Rating		
Ambient Temperature Range		-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		Indicators: Power On, DC Buss Charged, 270VDC Supply On, Interlock Supply On, 270V-267A On, 270V-30A On, 270V-267A Interlock On, 270V-30A Interlock On, Module Fault, Summary Fault
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 interlocked with all protective controls to open in the event of fault condition. (Typical for aircraft cable 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 $\leq$ 72dBA	
Assembly Construction	
Enclosure is suitable for indoor or outdoor environments in accordance with NEMA 250 Type [1] [2] [3R] or [3RX]™ This conforms more accurately with the UFGS 26 35 44 spec. 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 identified with identification thoroughly 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	UL 1012 CE Certification to 2014/35/EU, 2014/30/EU UFGS 26 35 44 Lockheed Martin F-35 Ground Electrical Power Interface Specification (Document No. 2ZEU00004, Rev-0007) ISO 9001:2015 (Quality) MIL-STD-704F NFPA 70 (NEC)
Options and Accessories	
270VDC Low Inductance Output Cables Custom Power Ratings Mobile (trailer mount) Unit Configuration Low Profile Flight Line Unit Configuration	30A Auxiliary 270VDC Output Remote Operator Stations: Push Button or Full Function LED Display Integral Cable Rack Alternate Enclosure Styles Available

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.

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**.