

# MOBILE PRECISION FREQUENCY CONVERTER

PFC 75KVA-180KVA 400HZ



180KVA mobile unit

## INNOVATION. QUALITY. SERVICE.

FCX Systems, Inc. designs and manufactures a mobile trailer-mounted power supply package for Point-of-Use operations. Each solid-state unit is configured in a space saving, drip proof (NEMA 3R equivalent) cabinet. The electronics compartment is sealed equivalent to NEMA 4 standards.

The most advanced solid-state technology enables these high performance, trailer mounted, power units, rated from 75 to 180 KVA, to convert any conventional electrical power to 400Hz aircraft power.

High performance and increased reliability are achieved by using laminated bus integrated inverter modules. The performance characteristics are enhanced by microprocessor controllers with field programmable logic. This advanced design has long made the FCX converter the top converter in the world.

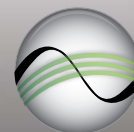
With units located in 76 countries and on all seven continents, FCX Systems has proven to be a worldwide leader in solid-state 400Hz technology. We want to continue to be your supplier now and in the future.

## FEATURES:

- Completely sealed electronics
- 4 line 20 character alpha-numeric user interface display
- Integrated IGBT driver/power modules providing the most compact and reliable inverter design
- True RMS Design to accurately power harmonic loads such as flight deck computers and power inverters
- Laminated bus design achieving an extremely low inductance layout
- Diagnostic logging system
- Software options & upgrades



90KVA mobile Cube



**FCX**  
SYSTEMS

www.fcxinc.com 304-983-0400

# SPECIFICATIONS

## ELECTRICAL

### INPUT

Input Voltage	208 to 600VAC*
Input Frequency	45 to 65Hz
Input Phase Rotation	Any (automatic phase lock)
Inrush Current	None (soft start to rated power)
Protection	Overload, short circuit, over voltage, under voltage, phase loss, over temperature, access door interlock

### OUTPUT

Output Power	75 to 180KVA**
Output Voltage	3 phase, 115/200V
Output Frequency	400Hz, +/- 0.01%
Voltage Recovery	Meets or exceeds limits of MIL-STD-704F, typically less than 50 milliseconds with a 100% load change
Voltage Regulation	+/- 1% maximum
Voltage Balance	+/- 1% for balanced loads, +/- 2% for 25% unbalanced loads
Harmonic Content	1.5% max., 1% typical (line to line, or line to neutral)
Overload Capacity	125% for one hour, 150% for 5 minutes, 200% for 20 seconds
NBPT	Fully capable of No Break Power Transfer for all aircraft
Protection	Overload, short circuit, over and under voltage per MIL-STD-704F, over temperature, isolation, aircraft 28VDC interlock—immediate shutdown, access door interlock
Efficiency	92% or better at any power factor and load above 50% of rating
MTRR	Mean time to repair less than 30 minutes

## CODES & STANDARDS

Meets	MIL-STD-704F
	BS2G-219
	DFS-400

*Consult us for compliance with other industry codes.  
\*16 Other voltages available. \*\*Other power ratings available.*

## MONITORING AND CONTROLS

Digital Monitor	4 x 20 Character backlit LCD display
Voltage/Amperage	Frequency operating parameters & diagnostics. 16 key matrix keypad for easy menu selection
Meters	Elapsed time

## ENVIRONMENTAL

Enclosure	Meets NEMA 3R equivalent ( IP22) electronics Area rated NEMA 4 equivalent (IP66)
Audible Noise Level	Less than 68dba typical from 3 feet
Ambient Temp. Range	Operating: -40°C to +55°C (-40°F to +131°F)
Humidity	0% to 100% with condensation
Altitude	0 to 3,000 meters (10,000 ft.) without derating
Wind	Up to 145 km/hr (90 mph)
Operational Life	30 to 35 years

## TYPICAL INPUT POWER REQUIREMENTS PWM DESIGN

**Call FCX Factory for Step Wave Power Requirements**

SIZE 400HZ	FLA (400/480)	RECOMMENDED INPUT BREAKER (400/480)	RECOMMENDED INPUT CABLE
75KVA	99/83	150A	#2 AWG
90KVA	119/99	175A	#1 AWG
120KVA	159/132	225A/175A	#2/0 AWG
140KVA	186/154	250A/225A	#2/0 AWG
160KVA	212/176	300A/250A	#3/0 AWG
180KVA	238/198	300A/250A	#4/0 AWG

## OPTIONAL 28VDC ADDER PERFORMANCE

28.5 VDC output +/- 1% regulation
600 amperes continuous at 28.5VDC indefinitely
2500 amperes starting power
Automatic line drop compensation set for end of cable performance
Output voltage adjustment +/- 10% of nominal
Adds 450 lbs. to 400HZ total weight. FCX Systems, Inc. designs and manufactures a 28 VDC adder for any 400HZ solid-state frequency converter. The 28VDC adder will be a built in solid-state rectifier rated at 600amp, 2500 peak performance. The electric solid-state rectifier has superior voltage regulation and line drop compensation.



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