

UFC SERIES PwrKart™ 400 Hz AND 270 VDC GROUND POWER UNITS



TOWABLE CONFIGURATION

STANDARD FEATURES:

- UL 1012 Listed
- Indoor/Outdoor (Hangar/Ramp) Use
- ≤ 5% Input Current Distortion
- Automatic Input Line Monitoring
- Advanced Integrated Display (AID™) Console
- 8000 Event Log / Diagnostics
- USB, ETHERNET, RS 485, and Serial Port
- 15% Automatic Line Drop Compensation (ALDC)
- Emergency Power "OFF" Switch (EPO)
- 18-Inch Hazard Area Clearance
- I/O Voltage and Current Monitoring
- Input Frequency Monitoring
- Elapsed Time Meter
- Front Panel Summary Fault Indicators
- Input & Output Cable Rack
- Input High Voltage Transient Protection (Lightning Strikes) with Front Panel Preventative Maintenance annunciation
- Output Current Limit Adjust from 150 to full rated current
- Front Panel Voltage Adjust (± 10%)
- Multi Language Display (English, French, German, Italian, Portuguese, Russian and Spanish)

****This product is manufactured in a plant whose quality management system is registered to ISO 9001:2008.**

APPLICATION:

Since its beginning in 1960, Unitron has specialized in the design and development of reliable, solid-state power systems. Through an innovative design, Built-In Test Equipment (BITE) and modular construction, Unitron products assure maximum power availability and minimal repair time for the latest military aircraft including the F-22A Raptor and the JSF F-35A.

The PwrKart™ Series includes lightweight 115/200 VAC, 400 Hz, 28 VDC, and 270VDC mobile converters for aircraft ground power applications in the hangar or ramp area. The **400 Hz towable PwrKart™** provides up to 180 kVA output power and is designed to service the largest commercial and military aircraft on the market today. The dual outputs provided can be single source controlled, be individually voltage regulated and line drop compensated, and configured for partial redundancy.

In addition to fixed GPUs, Unitron offers 400 Hz, 28 VDC, 270 VDC and combination AC/DC units in towable, mobile and bridge-mounted configurations.

OPTIONS:

- Alternate Input Voltages Available (specify)
- AC Output Power Cables with Plugs (Available in 30 or 60 ft. lengths)
- DC Output Power Cables with Plug (Available in 35, 63, or 83 ft. lengths)
- 50 or 100 foot Input Power Cable (Pigtail)
- Front Panel AC and DC Voltage Adjust (± 15%)
- Side Cable Hanger(s) or Top Cable Storage Rack
- Output 28VDC Aircraft Safety Interlock Circuit Disconnect
- Alternate Mounting Configurations Available
- Indoor Touch Screen Panel
- External Communication Ports (ECP)
- Lockable Front Door
- Custom Paint & Decals (Standard Color - White)
- Ground Fault Monitor
- CE Mark certified
- Cockpit Control

MECHANICAL SPECIFICATIONS:

Size: See Figure 1
 Weight: 30 kW / 45.0 kVA = 1,637 lbs. (743 kgs.)
 48 kW / 60.0 kVA = 1,723 lbs. (782 kgs.)
 60 kW / 75.0 kVA = 1,800 lbs. (816 kgs.)
 72 kW / 90.0 kVA = 1,888 lbs. (856 kgs.)

Construction: Indoor/Outdoor

Cooling: Forced Convection

SPECIFICATIONS / STANDARDS:

EN 61000-6-2*	Electromagnetic compatibility Immunity standard for industrial environments
EN 61000-6-4*	Electromagnetic compatibility Emission standard for industrial environments
2006/95/EC*	Low Voltage Directive
ISO 1540	Characteristics of aircraft electrical system
ISO 6858	Aircraft ground support electrical supplies
SAE ARP 5015	Ground equipment 400Hz ground power performance requirement
MIL-STD-704F	Aircraft electric power characteristics
MIL-STD-1472	Human Engineering Design Criteria
DFS-400	Specification for 400Hz aircraft power supply

*Defined Basis of CE Mark Certification

GENERAL SPECIFICATIONS

AC INPUT:

Voltage	480 volts, -15%, +10%, 3Ø, 3 wire plus ground
Frequency	60 Hz ± 10%
Phase Rotation	Any
Protection	Over/undervoltage, loss of phase, overcurrent, short circuit
Inrush Current	No greater input current than at 100% of full load rating

AC OUTPUT:

Power Rating	45, 60, 75 or 90 kVA (specify)
Power Factor Range	0.5 lagging to 0.8 leading
Overload	100% continuous 110% for 60 min 125% for 10 min 150% for 2 min 200% for 20 sec 300% for 6 sec
Voltage	115/200 volts, 3Ø, 4 wire, grounded neutral
Voltage Regulation	± 1.0% under all conditions of line, balanced loads and temperature
Voltage Transients	IAW MIL-STD-704E
Frequency Regulation	400 Hz ± 0.01% under all conditions of line, load and temperature
Frequency Transients	None
Phase Angle Regulation	± 2° for balanced loads
Harmonic Distortion	2.0% maximum
Protection	Overload, short circuit, over/under voltage and safety disconnect

DC OUTPUT:

Power Rating	30, 48, 60, or 72 kW dependant upon AC rating
Overload	100% continuous 150% for 5 sec. 200% for 1 sec 250% for 50 msec.
Pulse Loads	IAW LMCO Drawing No. 2ZEU00004, Rev-0007
Voltage	270 VDC, 2 wire, grounded negative
Voltage Regulation	<ul style="list-style-type: none"> 100% continuous rated load and ± 10% input voltage ± 0.5% No load to rated load with nominal input voltage ± 1.5%
Voltage Adjust	270 VDC ± 5%
Output Ripple Voltage	< 6 VAC
Transient Response	(25% load changes) IAW MIL-STD-704F
Protection	Overload, short circuit, overvoltage and safety disconnect

ENERGY FACTORS:

Efficiency	93% typical at full load, 91% typical at half load; varies depending on configuration and rating
Energy Efficiency Ratio	20.0 typical

ENVIRONMENTAL:

Acoustical Noise	< 65 dBA at 5 feet
Temperature Range	-40°C to +55°C
Relative Humidity	10 - 95%
Enclosure(s)	NEMA 3R IP55

FIGURE 1

