

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



MOBILE CONFIGURATION
(Shown with standard digital panel)

STANDARD FEATURES:

- IP55
- Certified to UL 1012
- Indoor/Outdoor (Hangar/Ramp) Use
- ≤ 5% Input Current Distortion
- Automatic Input Line Monitoring
- Advanced Integrated Display (AID™) Console
- 8000 Event Log / Diagnostics
- TCP/IP/Ethernet interface (Modbus)
- Internal Communication Ports - USB, RJ45 (ETHERNET), RS485 (Modbus), & RS232
- External Communication Ports – RJ45 (ETHERNET) & USB
- 15% Automatic Line Drop Compensation
- Emergency Power “OFF” Switch
- 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
- Multi Language (Romanization) Display - English, French, German, Italian, Portuguese, Russian and Spanish, Others - Specify

MECHANICAL SPECIFICATIONS:

Size: See Figure 1
 Weight: 36kW / 45.0kVA = 790lbs. (358kgs.)
 48kW / 60.0kVA = 906lbs. (411kgs.)
 60kW / 75.0kVA = 1,078lbs. (489kgs.)
 72kW / 90.0kVA = 1,170lbs. (531kgs.)
 Enclosure: NEMA 3RX Corrosion Resistant
 Cooling: Forced Convection

This product was 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, Lightning-II.

The PwrKart™ Series includes lightweight 400Hz or 270VDC and 28VDC mobile GPUs for aircraft ground power applications in the hangar or ramp area. The **dual output AC/DC PwrKart™** provides AC or DC power from a single GPU. Because a single unit can do the work of two, Unitron's AC/DC PwrKart™ reduces operating and maintenance costs, and decreases ramp congestion.

In addition to mobile GPUs, Unitron offers 400Hz, 28VDC, 270VDC and combination AC/DC units in towable, fixed 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%)
 - Top Cable Storage Rack
 - Output Universal Aircraft Safety Interlock Circuit Disconnect (Single or Dual)
 - Output Safety Disconnect
 - 300% overload for 6 seconds
 - 400% overload for 1 seconds*
 - Second 28VDC output
 - Front Panel AC and DC Voltage Adjust (± 15%)
 - Alternate Mounting Configurations Available
 - Indoor Touch Screen Panel
 - CSA Certified
 - CE Mark Certified
 - Lockable Front Door
 - Custom Paint & Decals (Standard Color - White)
 - Pneumatic Ramp Tires
 - Ground Fault Monitor
 - Neutral Interrupt Protection
 - Universal Safety Interlock
- * IAW MIL-STD-704F and ISO 6858

SPECIFICATIONS / STANDARDS:

2ZEU00004, Rev-0007	F-35 Ground Electrical Power Interface Document
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 or 4 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
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-704F
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
Automatic Line Drop Compensation (ALDC)	15%

ENERGY FACTORS:

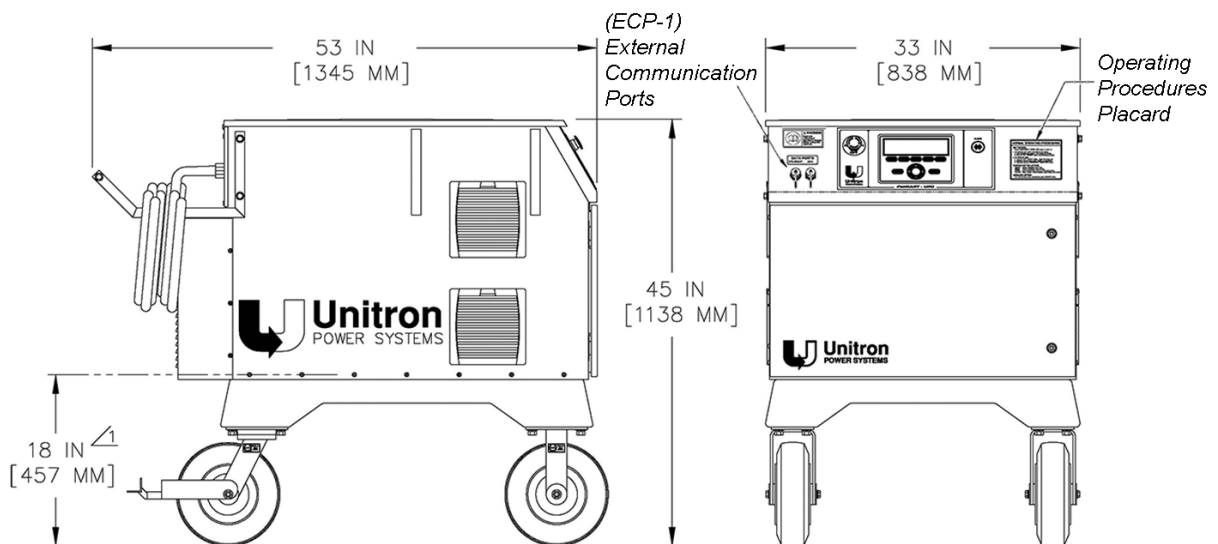
Efficiency	94% typical at full load, 92% typical at half load; varies depending on configuration and rating
Energy Efficiency Ratio	20.0 typical

28VDC OUTPUT:

Overload	100% Continuous 150% for 5 sec 200% for 1 sec 250% for 50 msec
Current Rating	15 Amps continuous
Voltage	28 VDC, 2 wire, grounded
Voltage Regulation	± 0.5%
Output Ripple Voltage	150 mV pk to pk
Protection	Overload, short circuit, overvoltage

270VDC OUTPUT:

Power Rating	36, 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	3.0 volts pk to pk
Transient Response	(25% load changes) IAW MIL-STD-704F
Protection	Overload, short circuit, overvoltage and safety disconnect
Automatic Line Drop Compensation (ALDC)	10%
ENVIRONMENTAL:	
Acoustical Noise	< 65 dBA maximum at 5 feet (1.5m)
Temperature Range	-40°C to +55°C
Ingress of Water	Type 3RX, IP55



△ Safety clearance IAW Article 513-10(a) of the National Electrical Code (NEC)—Reference NFPA 70-1996, and EN60079-10

FIGURE 1