

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 at max load
- 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 Voltage Adjust
- 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. Kilowatt power for the complete unit is limited to the nominal rating of the 400Hz output of the unit. 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)
- Various Convenience Outlets (Specify Voltage and Frequency)
- 50 or 100 foot Input Power Cable (Pigtail)
- Top Cable Storage Rack
- Output Universal Aircraft Safety Interlock Circuit Disconnect (Single or Dual)
- Output Safety Disconnect
- 300% overload for 6 seconds or 425% overload for 1 second* (Specify)
- Second 28VDC Output
- Alternate Mounting Configurations Available
- Indoor Touch Screen Panel
- Bench Top Voltage Adjust
- 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 and -4**	Electromagnetic Compatibility Immunity and Emission Standards for Industrial Environments
2006/95/EC**	Low Voltage Directive
ISO 461-1/2	Aircraft - Connectors for Ground Electrical Supplies
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	380 to 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 Adjust*	± 15%
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; 200% for 1 sec;	150% for 5 sec; 250% for 50 msec
Current Rating	15 Amps continuous	
Voltage	28 VDC, 2 wire, grounded	
Voltage Adjust	28 VDC ± 10%	
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; 200% for 1 sec;	150% for 5 sec; 250% for 50 msec
Pulse Loads	IAW LMCO Drawing No. 2ZEU00004, Rev-0007	
Voltage	270 VDC, 2 wire, grounded negative	
Voltage Adjust	270 VDC ± 10%	
Voltage Regulation		
■ Continuous rated load and ± 10% input voltage	± 0.5%	
■ No load to rated load with nominal input voltage	± 0.5%	
■ Overload with nominal input voltage	See Start Mode Curves	
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
Relative Humidity	10 - 95%, Non-Condensing
Ingress of Water	Type 3RX, IP55

*Also available 120/208 VAC, adjustable ±10%

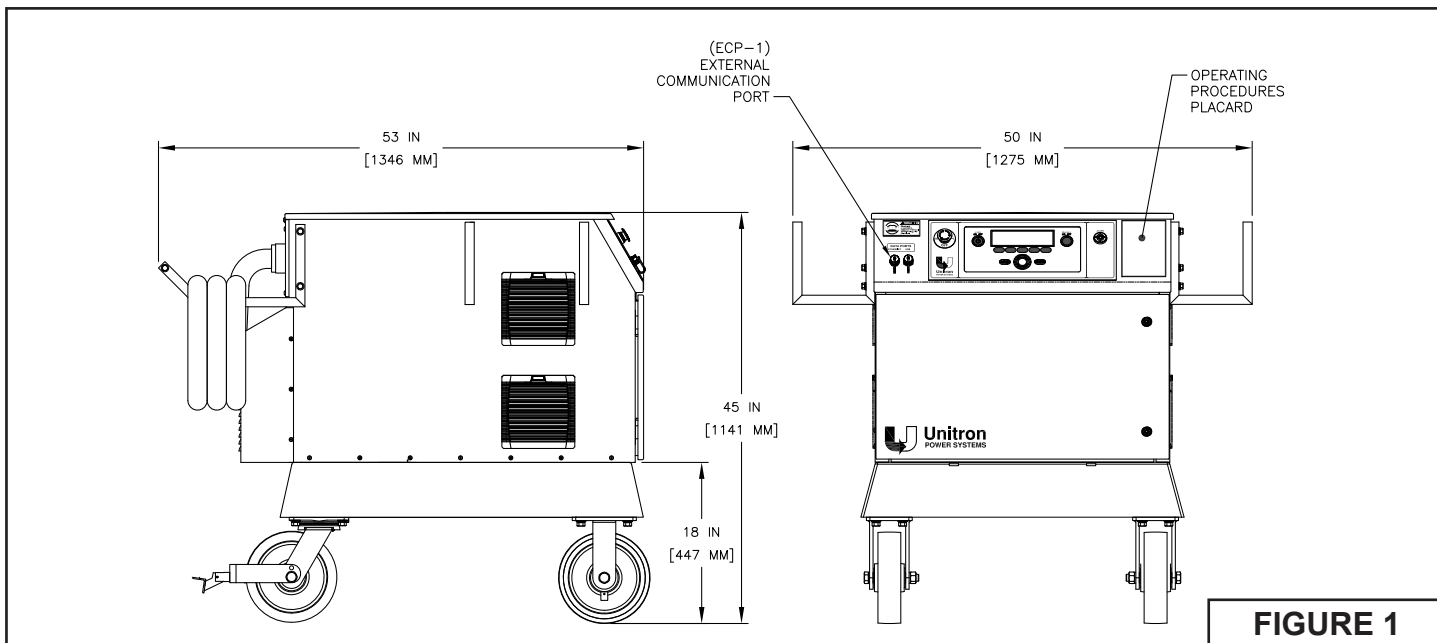


FIGURE 1