

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



TOWABLE 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
- Output Current Limit Adjust from 150 to full rated current
- Multi Language (Romanization) Display - English, French, German, Italian, Portuguese, Russian and Spanish, Others - Specify

MECHANICAL SPECIFICATIONS:

Size: See Figure 1
 Weight: 36kW / 45.0kVA = 1,637lbs. (743kgs.)
 48kW / 60.0kVA = 1,723lbs. (782kgs.)
 60kW / 75.0kVA = 1,800lbs. (816kgs.)
 72kW / 90.0kVA = 1,888lbs. (856kgs.)
 Enclosure: NEMA 3RX Corrosion Resistant
 Cooling: Forced Convection

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 115/200VAC, 400Hz, 28VDC, and 270VDC mobile converters for aircraft ground power applications in the hangar or ramp area. The **400Hz towable PwrKart** provides up to 180kVA 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 towable GPUs, Unitron offers 400Hz, 28VDC, 270VDC and combination AC/DC units in fixed, mobile and bridge-mounted configurations.

OPTIONS:

- Alternate 3-phase, Input Voltages of 208-240 or 600VAC
 - Various Convenience Outlets (Specify Voltage and Frequency)
 - 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)
 - Top Cable Storage Rack
 - Output Universal Aircraft Safety Interlock Circuit Disconnect (Single or Dual)
 - 300% overload for 6 seconds or 425% overload for 1 second* (Specify)
 - Output Safety Disconnect
 - Second 28VDC output
 - Alternate Mounting Configurations Available
 - Indoor Touch Screen Panel
 - Lockable Front Door
 - Custom Paint & Decals (Standard Color - White)
 - Ground Fault Monitor
 - Bench Top Voltage Adjust
 - CSA Certified
 - CE Mark Certified
 - 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

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



GENERAL SPECIFICATIONS

AC INPUT:

Voltage	380 - 480 volts, -15%, +10%, 3Ø, 3 or 4 wire plus ground (Alternate Voltages Available)
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 Adjust*	± 15%
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%
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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

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

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%
Voltage Adjust	28 VDC ± 10%
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	
■ 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
Voltage Adjust	270 VDC ± 10%
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

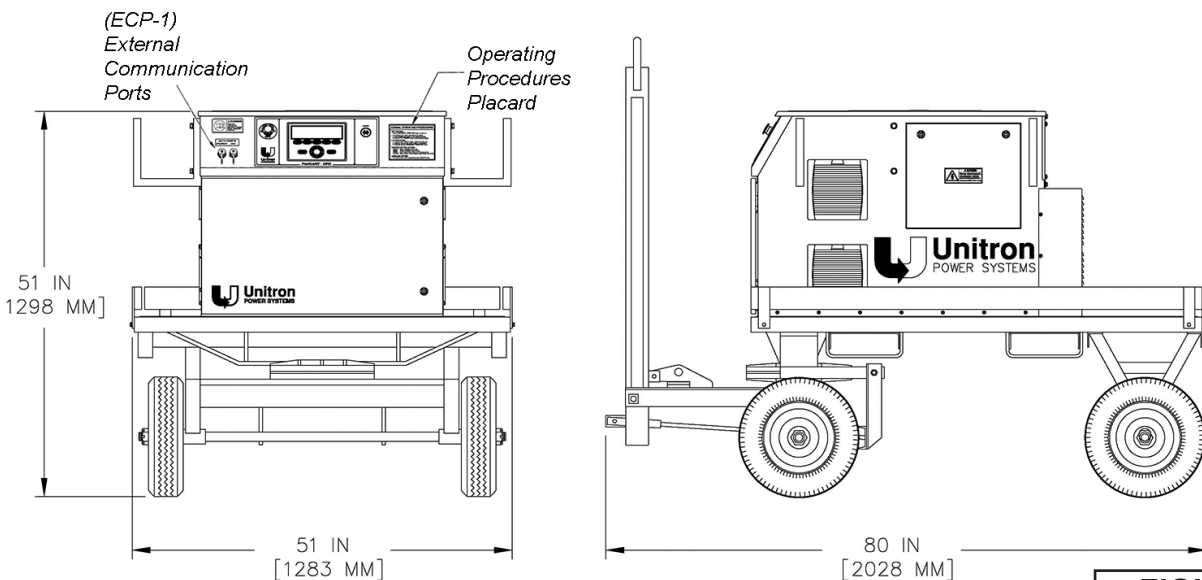


FIGURE 1