

## UFC SERIES PwrKart™ 400 Hz GROUND POWER UNIT 20 kVA to 45 kVA



MOBILE CONFIGURATION  
(Shown with standard digital panel & optional custom paint)

### STANDARD FEATURES:

- UL 1012 Listed
- 3 Phase, 380-480 VAC Input
- 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 (ECP-1) – RJ45 (ETHERNET) & USB
- 15% Automatic Line Drop Compensation (ALDC)
- Emergency Power "OFF" Switch (EPO)
- 18-Inch Hazard Area Clearance
- I/O Voltage, Current, & Frequency Monitoring
- Elapsed Time Meter
- Sleep Mode
- Front Panel Summary Fault Indicators
- Input & Output Cable Racks
- Input High Voltage Transient Protection (Lightning Strikes) with Front Panel Preventative Maintenance annunciation
- Multi Language Display (English, French, German, Italian, Portuguese, Russian and Spanish, Others - Specify)

### MECHANICAL SPECIFICATIONS:

Size:	See Figure 1
Weight:	20.0 kVA = 493 lbs. (224 kg.) 30.0 kVA = 550 lbs. (250 kg.) 45.0 kVA = 637 lbs. (289 kg.)
Construction:	NEMA 3R Corrosion Resistant Enclosure
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, advanced self-diagnostic systems (BITE) and modular construction, Unitron products assure maximum power availability and minimal repair time.

The PwrKart™ Series includes lightweight 115/200VAC, 400Hz, 28VDC, and 270VDC mobile converters for aircraft ground power applications in the hangar or ramp area. With one of the lightest weight-to-power rating ratio in the market, all Unitron mobile units are easily maneuvered by a single person within the hangar environment. This eliminates the need for expensive towing equipment or additional labor that other Ground Power Units (GPUs) may require.

Output power ratings for the 115/200VAC, 400Hz mobile PwrKart™ range from 20kVA to 90kVA. Larger power ratings are available in towable, fixed and bridge-mounted configurations. In addition, Unitron offers a combination AC/DC GPU, which provides simultaneous 115/200VAC, 400Hz or 270VDC at 72kW, with 28VDC power from a single unit.

### OPTIONS:

- Alternate input voltage range 3 Phase, 208-240 or 600VAC input
- 50 or 100 Foot Input Power Cable (Pigtail, Specify Required Length)
- AC Output Power Cable with Plug (available in 30 or 60 foot standard lengths), specify required length
- Output Universal Aircraft Safety Interlock Circuit Disconnect (Single or Dual)
- Output Safety Disconnect
- Front Panel AC Voltage Adjust (± 15%)
- 28VDC or 270VDC Output
- Up to 675% Overload for 6 sec., Dependent on Rating
- No Break Power Transfer (NBPT) Compatible
- Indoor Touch Screen Panel
- Alternate Mounting Configurations Available
- Pneumatic Ramp Tires
- Custom Paint & Decals (Standard Color - White)
- CE Mark certified
- Ground Fault Monitor
- Lockable Front Door
- Neutral Interrupt Protection (NIP-1)
- Universal Safety Interlock (USI-1)

### 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

### INPUT:

Input Current Distortion	≤ 5%, typically 3%
Voltage	380 to 480 V, +10%, -15%, 3Ø, 3 wire plus ground (Alternate voltages - specify)
Frequency	50 - 60 Hz ± 10%
Phase Rotation	Any
Protection	Over/undervoltage, loss of phase, overcurrent, short circuit. Voltage transient protection IAW IEEE C62.41.Location Cat. B/C
Inrush Current	No greater than 100% of full load current

### ENVIRONMENTAL:

Acoustical Noise	< 65 dBA at 5 feet (1.5m) (60 dBA typical)
Temperature Range	-40°C to +55°C
Relative Humidity	10 - 95%
Ingress of Water	IAW NEMA 250, Type 4 Requirements and IP55

### ENERGY FACTORS:

Efficiency	93% typical at full load, 90% typical at half load; varies depending on configuration
Energy Efficiency Ratio	20.0 typical

### OUTPUT:

Power Rating	20, 30, or 45 kVA (specify)
Overload	100% continuous 110% for 60 min 125% for 10 min 150% for 2 min 90kVA for 20 sec
Voltage	115/200 volts, 3Ø, 4 wire, grounded neutral
Crest Factor	1.414 ± 3%
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	± 1° for balanced loads; ± 2° for unbalanced loads
Harmonic Distortion	≤ 2.0%, typical 1.5%
Protection	Overload, short circuit, over/undervoltage and safety disconnect
Automatic Line Drop Compensation (ALDC)	15%

FIGURE 1

