

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



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

STANDARD FEATURES:

- CE Mark certified
- 3 Phase, 380-480 VAC Input
- Indoor/Outdoor (Hangar/Ramp) Use
- $\leq 5\%$ Input Current Distortion
- Automatic Input Line Monitoring
- Advanced Integrated Display (AID™) Console
- 8000 Event Log / Diagnostics
- USB, ETHERNET, RS 485 and Serial Port
- JBus/Modbus Protocol
- 15% Automatic Line Drop Compensation (ALDC)
- Emergency Power "OFF" Switch (EPO)
- 18-Inch Hazard Area Clearance
- No Break Power Transfer (NBPT) Compatible
- 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, Russian and Spanish)

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

OPTIONS:

- Alternate input voltage range 3 Phase, 208 or 575 VAC 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 ($\pm 15\%$)
- 28 or 270VDC Output
- Up to 675% Overload for 6 sec., Dependent on Rating
- Indoor Touch Screen Panel
- External Communication Ports (ECP)
- Alternate Mounting Configurations Available
- Pneumatic Ramp Tires
- Custom Paint & Decals (Standard Color - White)
- Ground Fault Monitor
- Cockpit Control
- Lockable Front Door

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: 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

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%
Enclosure(s)	NEMA 3R IP24 (optional IP54 or IP55; contact factory)

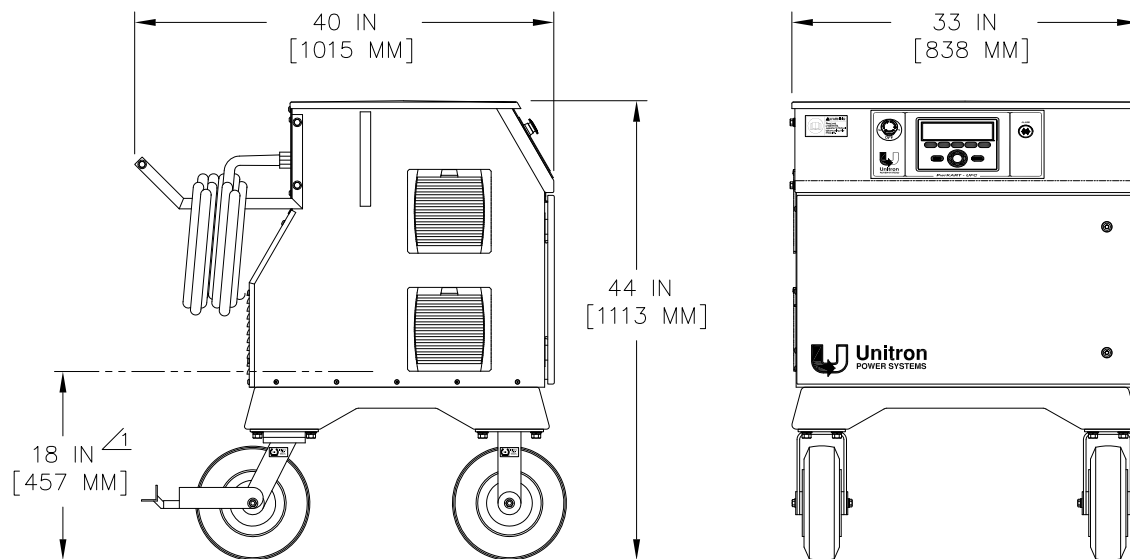
ENERGY FACTORS:

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

OUTPUT:

Power Rating	20, 30, or 45 kVA (specify)
Overload	150% for 5 min., 200% 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%, internal adjustment

FIGURE 1



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

**UFC PwrKart™ SERIES
MOBILE GROUND POWER UNIT (GPU)**