

UFC PwrKart™ SERIES 400Hz AND 28VDC GROUND POWER UNIT (20, 30 and 45kVA)



TOWABLE CONFIGURATION
(Shown with standard digital panel)

STANDARD FEATURES:

- IP55
- Certified to UL 1012
- 3 Phase, 50 - 60Hz, 380-480VAC Input
- ≤ 5% Input Current Distortion at max load
- 15% Automatic Line Drop Compensation
- Indoor/Outdoor (Hangar/Ramp) Use
- 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
- Emergency Power “OFF” Switch
- 18-Inch Hazard Area Clearance
- Voltage, Current, & Frequency Monitoring
- Elapsed Time Meter
- Sleep Mode
- Front Panel Voltage Adjust
- Front Panel Summary Fault Indicators
- Output Current Limit Adjust from 150A to full rated current
- Input & Output Cable Racks
- Input High Voltage Transient Protection
- Multi Language (Romanization) Display - English, French, German, Italian, Portuguese, Russian and Spanish, Others - Specify

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. The **dual output AC/DC PwrKart** provides simultaneous AC and 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 eases ramp congestion.

In addition to towable GPUs, Unitron offers 400Hz, 28VDC and combination AC/DC units in mobile, fixed and bridge-mounted configurations.

OPTIONS:

- Alternate input voltage range 3 Phase, 208-240 or 600VAC input
- Various Convenience Outlets (Specify Voltage and Frequency)
- 50 or 100 Foot Input Power Cable (Pigtail, Specify Required Length)
- AC and/or DC Output Power Cable with Plug (Specify Required Length)
- Output Universal Aircraft Safety Interlock Circuit Disconnect (Single or Dual)
- Output Safety Disconnect
- No Break Power Transfer Compatible
- 270VDC Output
- Second 28VDC output
- Indoor Touch Screen Panel
- Custom Paint & Decals (Standard Color - White)
- CSA Certified
- CE Mark Certified
- Bench Top Voltage Adjust
- Ground Fault Monitor
- Lockable Front Door
- Pneumatic Ramp Tires
- Alternate Mounting Configurations Available
- Neutral Interrupt Protection
- Universal Safety Interlock

SPECIFICATIONS / STANDARDS:

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	

MECHANICAL SPECIFICATIONS:

Size:	See Figure 1
Weight:	20.0kVA = 1,326 lbs (601 kg) 30.0kVA = 1,484 lbs (673 kg) 45.0kVA = 1,642 lbs (745 kg)
Enclosure:	NEMA 3RX Corrosion Resistant
Cooling:	Forced Convection

GENERAL SPECIFICATIONS

AC INPUT:

Voltage*	208-240V and 380-480V, +10%, -15%, 3Ø, 3 or 4 wire plus ground (Specify)
Frequency	50 - 60 Hz ± 10%
Phase Rotation	Any
Protection	Over/undervoltage, loss of phase, overcurrent, short circuit. Voltage transient protection IAW IEEE C62.41.1, Location Cat. B/C
Inrush Current	No greater than 100% of full load current

AC OUTPUT:

Power Rating	20, 30, or 45 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 (45kVA);	300% for 20 sec (30kVA);
450% for 20 sec (20kVA)	
Crest Factor	1.414 ± 3%
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	± 1° for balanced loads; ± 2° for unbalanced loads
Harmonic Distortion	2.0% maximum
Protection	Overload, short circuit, over/under voltage and safety disconnect
Automatic Line Drop Compensation (ALDC)	15%

DC OUTPUT:

Full Rated Load	425 amps continuous
Engine Start Capacity*** (10% duty cycle)	Adjustable up to 1600 amps for 35 seconds or 2000 amps for 30 seconds
Overload (10% duty cycle)	600 amps for 1 hour 1000 amps for 1 minute
Voltage	28 VDC, 2 wire, grounded negative
Voltage Adjust	28VDC ± 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
Current Limit Adjust	150A to full rated current
Protection	Overload, short circuit, over voltage 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

ENERGY FACTORS:

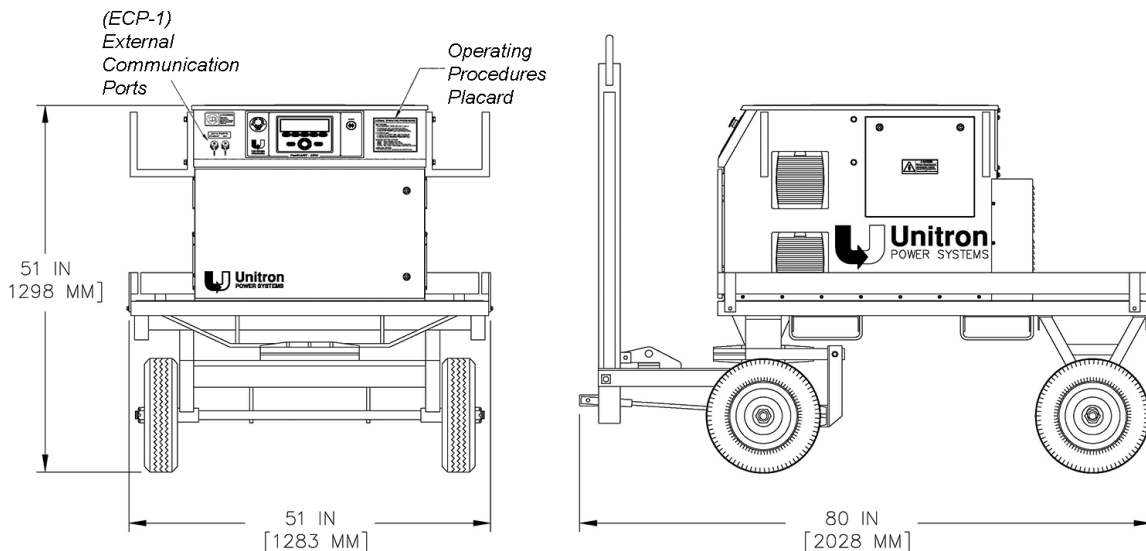
Efficiency	93% typical at full load; 91% typical at half load; varies depending on configuration
Energy Efficiency Ratio	20.0 typical

*For CE Mark Applications Specify Option I-5.

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

***Use 28VDC output only during engine start mode

FIGURE 1



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