

## UFC SERIES PwrKart™ 400Hz AND 28VDC 400 Hz GROUND POWER UNIT (120, 150 and 180kVA)



TOWABLE CONFIGURATION  
(Shown with standard digital panel)

### STANDARD FEATURES:

- IP55
- Certified to UL 1012
- 3 Phase, 380-480VAC input
- Indoor/Outdoor (Hangar/Ramp) Use
- ≤ 5% Input Current Distortion
- Automatic Input Line Monitoring
- Advanced Integrated Display (AID™) Console
- 8000 Event Log / Diagnostics
- 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
- Voltage, Current, & Frequency Monitoring
- Elapsed Time Meter
- Sleep Mode
- Front Panel Summary Fault Indicators
- Output Current Limit Adjust from 150A to full rated current
- Input & Output Cable Racks
- Single Input Connection
- 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:	120.0kVA = 2,655lbs. (1,204kg.) 150.0kVA = 3,006lbs. (1,363kg.) 180.0kVA = 3,178lbs. (1,442kg.)
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, advanced self-diagnostic systems (BITE) and modular construction, Unitron products assure maximum power availability and minimal repair time.

The PwrKart™ Series includes 115/200VAC, 400Hz, 28VDC, and 270VDC converters designed to provide aircraft ground power in support of hangar and ramp aircraft maintenance activities, and on flight lines when aircraft engines are secured. The **400Hz towable PwrKart™** provides up to 180kVA and 28VDC or 270VDC 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.

These **400Hz** Ground Power Units (GPUs) range from 20kVA to 180kVA. Dependent upon rating, these units are available in mobile, towable, fixed and bridge-mounted configurations. When ramp or floor space is a premium, the **Low ProFile™** GPU can be installed as an overhead mounted unit.

### OPTIONS:

- Alternate 3-phase, Input Voltages of 208-240 or 600VAC
- 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
- DC Output Power Cable with Plug (available in 20, 30, 40, or 60 foot standard lengths), specify required length
- Output Universal Aircraft Safety Interlock Circuit Disconnect (Single or Dual)
- Output Safety Disconnect
- Front Panel AC and DC Voltage Adjust (± 15%)
- 270VDC output
- Second 28VDC output
- 300% overload for 6 seconds
- Alternate third or fourth outputs - 28VDC each at 600 Amps continuous with Individual Safety Disconnect from aircraft
- Alternately Selectable 400Hz or 270VDC at same kW ratings, either output
- TCP/IP/Ethernet interface (Modbus)
- No Break Power Transfer Compatible
- Indoor Touch Screen Panel
- Individual Output Voltage Regulation / ALDC
- Alternate Mounting Configurations Available
- Custom Paint & Decals (Standard Color - White)
- CSA Certified
- CE Mark Certified
- Ground Fault Monitor
- Neutral Interrupt Protection
- Universal Safety Interlock

### 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 volts, +10%, -15%, 3Ø, 3 or 4 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 C62.41.1, Location Cat. B/C
Inrush Current	No greater than 100% of full load current

### DC OUTPUT:

Full Rated Load	425 amps continuous
Engine Start Capacity (10% duty cycle)	Adjustable up to 1600 amps for 1 minute or 2000 amps for 30 seconds
Overload (10% duty cycle)	600 amps for 1 hour 1000 amps for 10 minutes
Voltage	28 VDC, 2 wire, grounded negative
Voltage Regulation	
▪ 100% continuous rated load and ±10% input voltage	± 0.5%
▪ No load to rated load with nominal input voltage	IAW ISO 6858
▪ Overload with nominal input voltage	See start mode curves
Voltage Adjust	28 VDC ± 10%
Current Limit Adjust	150A to full rated current
Protection	Overload, short circuit, over voltage and safety disconnect
Automatic Line Drop Compensation (ALDC)	15%

### AC OUTPUT:

Power Rating	120, 150, or 180 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
Crest Factor	1.414 ± 3%
Voltage	115/200 volts, 3Ø, 4 wire, grounded neutral
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 condi- tions 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%

### ENVIRONMENTAL:

Acoustical Noise	< 65 dBA maximum at 5 feet (1.5m)
Temperature Range	-40°C to +55°C
Relative Humidity	10 - 95%
Ingress of Water	Type 3RX, IP55

FIGURE 1

