

## UFC PwrKart™ SERIES 400 Hz GROUND POWER UNIT 120 kVA to 180 kVA



TOWABLE CONFIGURATION  
(Shown with standard digital panel)

### STANDARD FEATURES:

- CE Mark certified
- 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
- USB, ETHERNET, RS 485 and Serial Port
- 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
- Pneumatic Ramp Tires
- Single Input Connector
- Input High Voltage Transient Protection (Lightning Strikes) with Front Panel Preventative Maintenance annunciation
- Multi Language Display (English, French, German, Italian, Russian and Spanish)

### MECHANICAL SPECIFICATIONS:

Size:	See Figure 1
Weight:	120.0 kVA = 2537 lbs. (1151 kg.) 150.0 kVA = 2888 lbs. (1310 kg.) 180.0 kVA = 3060 lbs. (1388 kg.)
Construction:	Indoor/Outdoor
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 115/200 VAC, 400 Hz, 28 VDC, 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 **400 Hz towable PwrKart™** provides up to 180 kVA 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 **400 Hz** Ground Power Units (GPUs) range from 20 kVA to 180 kVA. 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 or 575 VAC
- 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
- Dual Output Universal Aircraft Safety Interlock Circuit Disconnect
- Front Panel AC Voltage Adjust (± 15%)
- 28VDC Output
- 300% Overload for 6 sec.
- Alternate third or fourth outputs - 28 VDC each at 600 Amps continuous with Individual Safety Disconnect from aircraft
- Alternately Selectable 400 Hz or 270 VDC at same kW ratings, either output
- Indoor Touch Screen Panel
- External Communication Ports (ECP)
- Individual Output Voltage Regulation / ALDC
- Alternate Mounting Configurations Available
- Custom Paint & Decals (Standard Color - White)
- Ground Fault Monitor
- Cockpit Control
- Lockable Front Door

### 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 wire plus ground (Alternate voltages - specify)
Frequency	45 - 65 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%
Enclosures	NEMA 3R, IP24 (optional IP54 or IP55; contact factory)

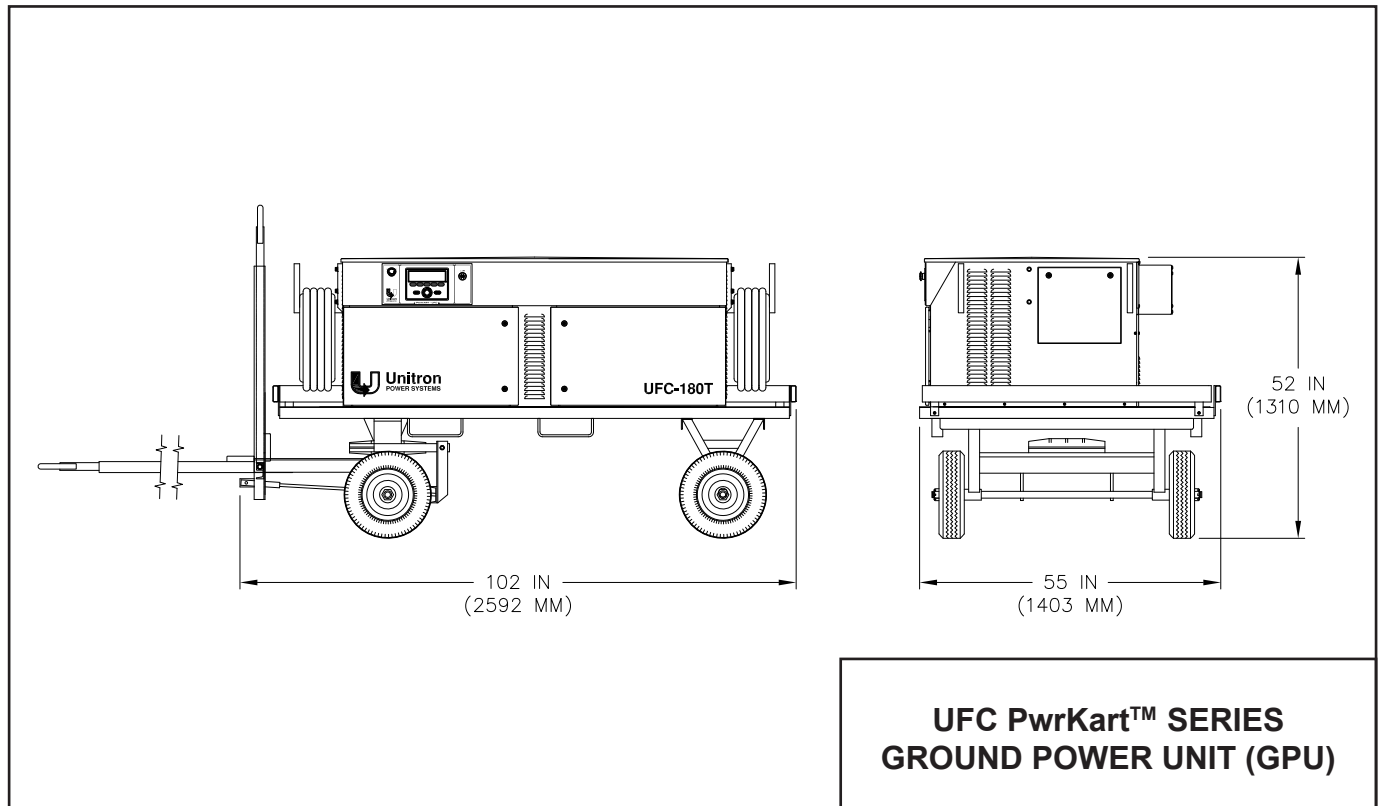
**ENERGY FACTORS:**

Efficiency	95% typical at full load, 93% typical at half load; varies depending on configuration
Energy Efficiency Ratio	20.0 typical

**OUTPUT:**

Power Rating	120, 150, or 180 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



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