

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



TOWABLE CONFIGURATION  
(Shown with standard touch screen panel)

### STANDARD FEATURES:

- IP55
- 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 Port – 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 Display - Arabic, Asian, English, French, German, Italian, Portuguese, Russian and Spanish, Others - Specify

### 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 250 - Type 3SX  
 Cooling: Forced Convection

### 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 GPU** provides simultaneous AC and either 425 or 600 amps continuous 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)
- External Communication Port - Ethernet
- 15% Automatic Line Drop Compensation
- Output Safety Disconnect
- No Break Power Transfer Compatible
- 270VDC Output
- Second 28VDC output
- Bench Top Voltage Adjust
- Input Auto Ranging
- Custom Paint & Decals (Standard Color - White)
- Certified to UL 1012
- CSA Certified
- CE Mark Certified
- Ground Fault Monitor
- Lockable Front Door
- Pneumatic Ramp Tires
- Alternate Mounting Configurations Available
- Neutral Interrupt Protection
- Universal Safety Interlock

### SPECIFICATIONS / STANDARDS (Meets or Exceeds):

NFPA 70 (NEC 500)	SAE ARP 5015
EN 60079-10	DFS-400
ISO 461-1/2	UFGS 26 35 43
ISO 1540	MIL-STD-1472
ISO 6858	MIL-STD-704F

\*\*Defined Basis of CE Mark Certification



This product was manufactured in a plant  
whose quality management system is  
registered to ISO 9001:2015.

## GENERAL SPECIFICATIONS

### AC INPUT:

Voltage	208-240V and 380-480V, $\pm 10\%$ , 3 $\phi$ , 3 or 4 wire plus ground (Alternative Voltages Available)
Frequency	50 - 60 Hz $\pm 10\%$
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 $\pm 3\%$
Voltage*	115/200 volts, 3 $\phi$ , 4 wire, grounded neutral
Voltage Adjust*	$\pm 15\%$
Voltage Regulation	$\pm 1.0\%$ under all conditions of line, balanced loads and temperature
Voltage Transients	IAW MIL-STD-704F
Frequency Regulation	400 Hz $\pm 0.01\%$ under all conditions of line, load and temperature
Frequency Transients	None
Phase Angle Regulation	$\pm 1^\circ$ for balanced loads; $\pm 2^\circ$ for unbalanced loads
Harmonic Distortion	2.0% maximum
Protection	Overload, short circuit, over/under voltage and safety disconnect
Automatic Line Drop Compensation (ALDC)	10%

### DC OUTPUT:

#### Model 420

Full Load Rating	425 amps continuous
Overload (10% duty cycle)	600 amps for 1 hour 1000 amps for 1 minute

#### Model 620

Full Load Rating	600 amps continuous
Overload (10% duty cycle)	1000 amps for 1 minute

#### Model 420/620

Engine Start Capacity (10% duty cycle)	Adjustable up to 1600 amps for 35 seconds or 2000 amps for 30 seconds
Voltage	28 VDC, 2 wire, grounded negative

#### Voltage Regulation

▪ Continuous rated load and $\pm 10\%$ input voltage	$\pm 0.5\%$
▪ No load to rated load with nominal input voltage	$\pm 0.5\%$
▪ Overload with nominal input voltage	See start mode curves

Voltage Adjust	28 VDC $\pm 10\%$
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 3SX, IP55

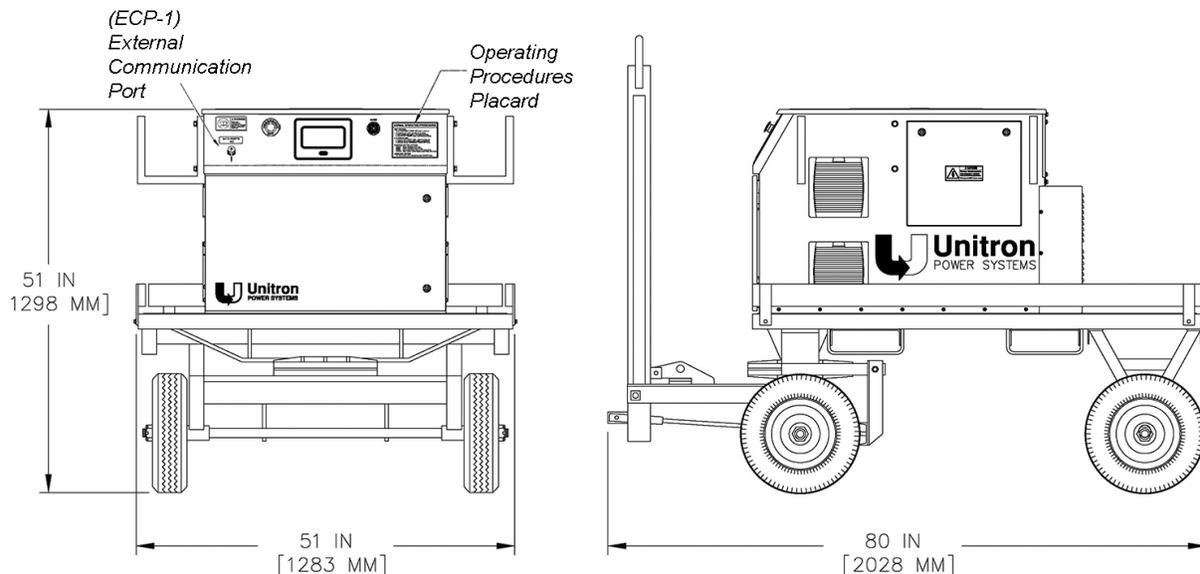
### ENERGY FACTORS:

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

\*Also available 120/208 VAC, adjustable  $\pm 10\%$

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

FIGURE 1



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