

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



MOBILE CONFIGURATION
(Shown with standard touch screen panel)

STANDARD FEATURES:

- IP55
- Certified to UL 1012
- 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
- Front Panel Voltage Adjust
- 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 = 683 lbs (310 kg) 30.0kVA = 740 lbs (336 kg) 45.0kVA = 827 lbs (375 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 mobile GPUs, Unitron offers 400Hz, 28VDC and combination AC/DC units in towable, 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
- Bench Top Voltage Adjust
- ≤5% input current distortion at max load
- AC and DC Extended Menu Voltage Adjust
- CE Mark Certified
- Input Auto Ranging
- No Break Power Transfer Compatible
- 270VDC Output
- Second 28VDC output
- Custom Paint & Decals (Standard Color - White)
- CE Mark Certified
- CSA 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* | 380-480V, ± 10%, 3Ø, 3 or 4 wire plus ground (Alternative Voltages Available) |
| 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 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) | 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 |
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| | |
|---------|--------------------------------------|
| 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 ± 0.5%
- Overload with nominal input voltage See start mode curves

| | |
|----------------|--------------|
| Voltage Adjust | 28 VDC ± 10% |
|----------------|--------------|

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|----------------------|----------------------------|
| 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) |
|------------------|--------------------------------------|

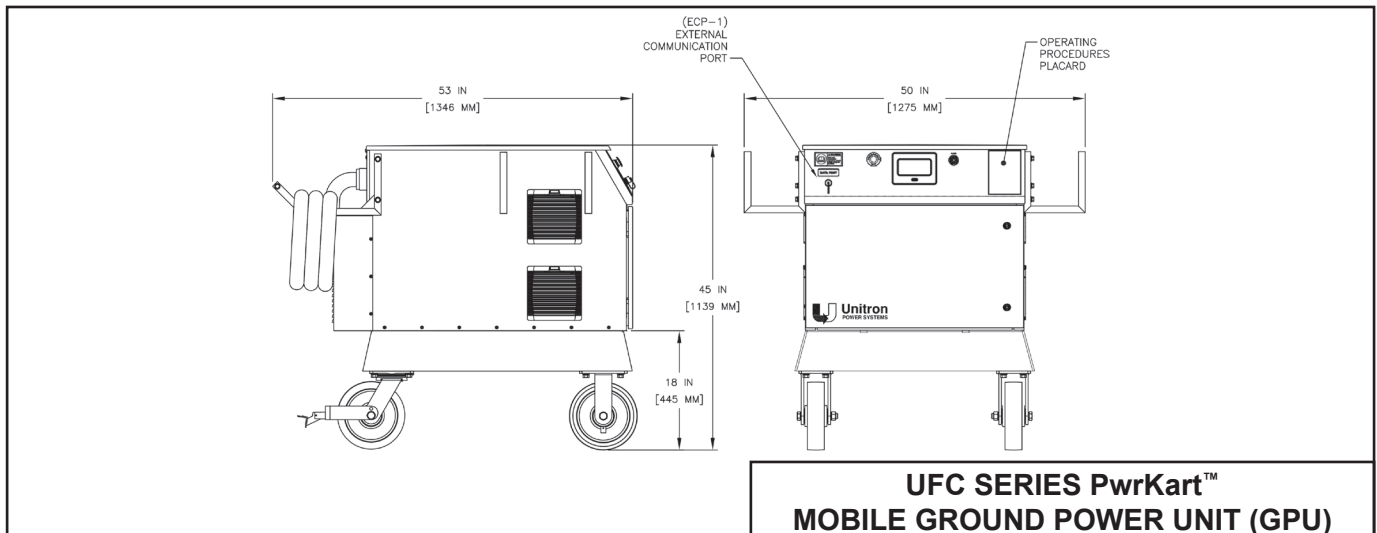
| | |
|-------------------|----------------|
| Temperature Range | -40°C to +55°C |
|-------------------|----------------|

| | |
|-------------------|--------------------------|
| Relative Humidity | 10 - 95%, Non-Condensing |
|-------------------|--------------------------|

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|------------------|----------------|
| Ingress of Water | Type 3SX, IP55 |
|------------------|----------------|

*For CE Mark Applications Specify Option I-5.
**Use 28VDC output only during engine start mode
***Also available 120/208 VAC, adjustable ±10%

FIGURE 1



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