

## UDC SERIES PwrKart™ 270VDC GROUND POWER UNITS



TOWABLE CONFIGURATION  
(Shown with standard digital panel)

### STANDARD FEATURES:

- IP55
- Certified to UL 1012
- 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
- TCP/IP/Ethernet interface (Modbus)
- Internal Communication Ports - "USB, RJ45 (ETHERNET), RS485 (Modbus), & RS232
- External Communication Ports – RJ45 (ETHERNET) & USB
- 10% Power Regulation
- Emergency Power "OFF" Switch (EPO)
- 18-Inch Hazard Area Clearance
- I/O Voltage and Current Monitoring
- Input Frequency Monitoring
- Elapsed Time Meter
- Front Panel Summary Fault Indicators
- Input & Output Cable Rack
- 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 for military applications. Through an innovative design, Built-In Test Equipment (BITE) and modular construction, Unitron products assure maximum power availability and minimal repair time for the latest military aircraft including the F-22A Raptor and the JSF F-35A.

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 PwrKart™ Series includes 115/200VAC, 400Hz, 28VDC, and 270VDC towable converters for aircraft applications in the ramp or hangar area. Output power ratings for the 270VDC towable PwrKart™ range from 30kW to 72kW, and are available in single or dual output configurations.

In addition to towable GPUs, Unitron offers 400Hz, 28VDC, 270VDC and combination AC/DC units in mobile, fixed, and bridge-mounted configurations.

### OPTIONS:

- Alternate Input Voltages Available (specify)
- 50 or 100 foot Input Power Cable (Pigtail)
- Side Cable Hanger(s) or Top Cable Storage Rack
- DC Output Power Cable with Plug (Available in 35, 63, or 83 ft. lengths)
- 400Hz Output (combination units)
- Output Universal Aircraft Safety Interlock Circuit Disconnect (Single or Dual)
- Output Safety Disconnect
- Alternate Mounting Configurations Available
- Indoor Touch Screen Panel
- Front Panel Voltage Adjust (± 10%)
- Lockable Front Door
- Custom Paint & Decals (Standard Color - White)
- CSA Certified
- CE Mark Certified

### MECHANICAL SPECIFICATIONS:

Size:	See Figure 1
Weight:	36kW = 1,484lbs. (673kg.) 48kW = 1,570lbs. (712kg.) 60kW = 1,647lbs. (747kg.) 72kW = 1,735lbs. (787kg.)
Enclosure:	NEMA 3RX Corrosion Resistant
Cooling:	Forced Convection

### SPECIFICATIONS / STANDARDS:

2ZEU00004, Rev-0007	F-35 Ground Electrical Power Interface Document
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
*Defined Basis of CE Mark Certification	

## GENERAL SPECIFICATIONS

### AC INPUT:

Input Current Distortion	≤ 5%, typically 3%
Voltage	380 to 480 V, +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, over current, short circuit. Voltage transient protection IAW IEEE C62.41.1, Location Cat. B/C
Inrush Current	No greater than 100% of full load current

### 28VDC OUTPUT:

Overload	100% continuous; 150% for 5 sec; 200% for 1 sec; 250% for 50 msec
Current Rating	15 Amps continuous
Voltage	28 VDC, 2 wire, grounded
Voltage Regulation	± 0.5%
Output Ripple Voltage	150 mV pk to pk
Protection	Overload, short circuit, overvoltage

### 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

### 270VDC OUTPUT:

Power Rating	36, 48, 60, or 72 kW
Overload	100% continuous 150% for 5 sec. 200% for 1 sec 250% for 50 msec.
Pulse Loads	IAW LMCO Drawing No. 2ZEU00004, Rev-0007
Voltage	270 VDC, 2 wire, grounded negative
Voltage Regulation	<ul style="list-style-type: none"> <li>100% continuous rated load and ± 10% input voltage ± 0.5%</li> <li>No load to rated load with nominal input voltage ± 1.5%</li> </ul>
Voltage Adjust	270 VDC ± 5%
Output Ripple Voltage	3.0 volts pk to pk
Transient Response	(25% load changes) IAW MIL-STD-704F
Protection	Overload, short circuit, overvoltage and safety disconnect
Power Regulation	10%

### ENERGY FACTORS:

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

