

UFC SERIES PwrKart™ 400Hz AND 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
- Internal Communication Ports - USB, RJ45 (ETHERNET), RS485 (Modbus), & RS232
- External Communication Ports – RJ45 (ETHERNET) & USB
- Individual Output Voltage Regulation/15% ALDC
- Emergency Power "OFF" Switch
- 18-Inch Hazard Area Clearance
- I/O Voltage, Current, & Frequency Monitoring
- Elapsed Time Meter
- Sleep Mode
- Front Panel Summary Fault Indicators
- 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: 2,690lbs. (1,220kgs.)
 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, 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, Lightning-II.

The UFC Series includes lightweight 400Hz or 270VDC and 28VDC mobile GPUs for aircraft ground power applications in the hangar or ramp area. The dual output AC/DC Low Profile™ provides 90kVA of 400Hz power "AND" 72kW of 270VDC plus optional 28VDC up to 1200 amps continuous. Because a single unit can do the work of two, Unitron's AC/DC GPU reduces operating and maintenance costs, and decreases ramp congestion.

OPTIONS:

- Alternate third or fourth outputs - 28VDC each at 600 Amps continuous with Individual Safety Disconnect from aircraft or 1000 amp terminal block
- Alternate 3-phase, Input Voltages of 208-240 or 600VAC
- 50 Foot Input Power Cable (Pigtail)
- AC Output Power Cable with Plug (available in 30 or 60 foot standard lengths), specify required length
- Output Universal Aircraft Safety Interlock Circuit Disconnect (Single or Dual)
- Output Safety Disconnect
- Second 28VDC output
- 300% overload for 6 seconds
- TCP/IP/Ethernet interface (Modbus)
- Front Panel AC Voltage Adjust (± 15%)
- No Break Power Transfer Compatible
- Indoor Touch Screen Panel
- 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:

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
DFS-400	Specification for 400Hz aircraft power supply
*Defined Basis of CE Mark Certification	

GENERAL SPECIFICATIONS

AC 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	45 - 65 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	120, 150, or 180 kVA
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
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 conditions of line, load and temperature
Frequency Transients	None
Phase Angle Regulation	± 2° for balanced loads
Harmonic Distortion	2.0% maximum
Protection	Overload, short circuit, over/under voltage and safety disconnect
Automatic Line Drop Compensation (ALDC)	15%

ENERGY FACTORS:

Efficiency	94% typical at full load, 92% typical at half load; varies depending on configuration and rating
Energy Efficiency Ratio	20.0 typical

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

270VDC OUTPUT:

Power Rating	36, 48, 60, or 72 kW dependant upon AC rating
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"> 100% continuous rated load and ± 10% input voltage ± 0.5% No load to rated load with nominal input voltage ± 1.5%
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
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%
Ingress of Water	Type 3RX, IP55

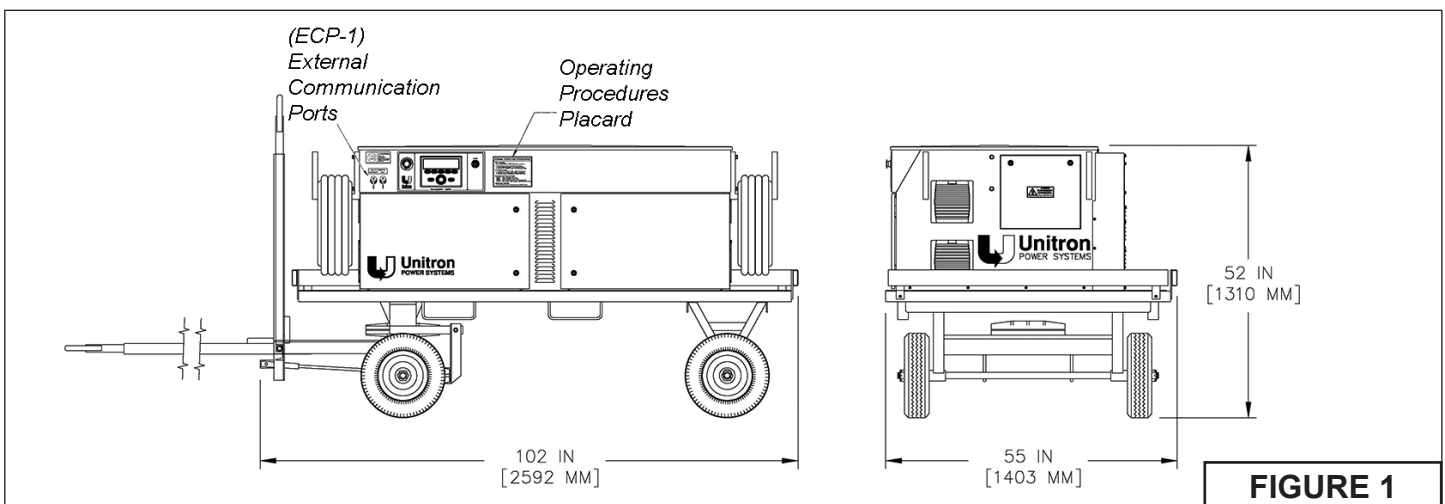


FIGURE 1