

UFC SERIES Low ProFile™ 400Hz AND 28VDC GROUND POWER UNIT (20kVA to 90kVA)



BOARDING BRIDGE CONFIGURATION
(Shown with overhead digital front panel mounting)

STANDARD FEATURES:

- IP55
- Certified to UL 1012
- 3 Phase, 380-480VAC 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
- 15% Automatic Line Drop Compensation
- Emergency Power "OFF" Switch
- Voltage, Current, & Frequency Monitoring
- Elapsed Time Meter
- Sleep Mode
- Front Panel Summary Fault Indicators
- Output Current Limit Adjust from 150A to full rated current
- 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:	20.0kVA = 661lbs. (300kg.)
(Not Incl. Bridge	30.0kVA = 718lbs. (326kg.)
Mounting	45.0kVA = 805lbs. (365kg.)
Brackets)	60.0kVA = 891lbs. (404kg.)
	75.0kVA = 968lbs. (439kg.)
	90.0kVA = 1,055lbs. (479kg.)
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, advanced self-diagnostic systems (BITE) and modular construction, Unitron products assure maximum power availability and minimal repair time.

The Low ProFile™ Series includes 115/200VAC, 400Hz, 28VDC, and 270VDC converters designed to provide aircraft ground power in "low profile" applications such as under passenger boarding bridges, in maintenance hangars, or on flight lines. The **dual output AC/DC GPU** provides simultaneous AC and DC power from a single unit. 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 GPU reduces operating and maintenance costs, and save valuable space in the hangar or on the ramp.

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

OPTIONS:

- Alternate Input Voltage Range 3-phase, 208-240 or 600VAC Input
- 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
- DC Output Power Cable with Plug (available in 20, 30, 40, or 60 foot standard lengths), specify required length
- Input & Output Cable Racks
- Output Universal Aircraft Safety Interlock Circuit Disconnect (Single or Dual)
- Output Safety Disconnect
- Front Panel AC Voltage Adjust (± 15%)
- 270VDC output
- 300% overload for 6 seconds or 425% overload for 1 second* (specify)
- Second 28VDC output
- Indoor Touch Screen Panel
- No Break Power Transfer Compatible
- Custom Paint & Decals (Standard Color - White)
- Ground Fault Monitor
- CSA Certified
- CE Mark Certified
- Lockable Front Door
- Alternate Mounting Configurations Available
- Stand - 4, 12 or 18 Inch
- Forklift Tubes - 4 Inch
- Leg Kit - 12 or 18 Inch
- Neutral Interrupt Protection
- Universal Safety Interlock

*IAW MIL-STD-704F and ISO 6858

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

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	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

DC OUTPUT:

Full Rated Load	425 amps continuous
Engine Start Capacity* (10% duty cycle)	Adjustable up to 1600 amps for 1 minute or 2000 amps for 30 seconds
Overload (10% duty cycle)	600 amps for 1 hour 1000 amps for 10 minutes
Voltage	28 VDC, 2 wire, grounded negative
Voltage Regulation	
▪ 100% continuous	± 0.5% rated load and ±10% input voltage
▪ No load to rated	IAW ISO 6858 load with nominal input voltage
▪ Overload with	See start mode curves nominal input voltage
Voltage Adjust	28 VDC ± 10%
Current Limit Adjust	150A to full rated current
Protection	Overload, short circuit, over voltage and safety disconnect
Automatic Line Drop	15% Compensation (ALDC)

ENERGY FACTORS:

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

AC OUTPUT:

Power Rating	20, 30, 45, 60, 75, or 90 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 (45-90kVA) 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 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% maximum
Protection	Overload, short circuit, over/under voltage and safety disconnect
Automatic Line Drop Compensation (ALDC)	15%

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

*Use 28VDC output only during engine start mode

FIGURE 1

