UFC SERIES Low ProFile™ 400Hz AND 28VDC 400Hz GROUND POWER UNIT 120kVA to 180kVA

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
- Internal Communication Ports - USB, RJ45 (ETHERNET), RS485 (Modbus), & RS232
- External Communication Ports – RJ45 (ETHERNET) & USB
- 15% Automatic Line Drop Compensation
- Emergency Power “OFF” Switch
- 18-Inch Hazard Area Clearance
- Voltage, Current, & Frequency Monitoring
- Elapsed Time Meter
- Sleep Mode
- Front Panel Summary Fault Indicators
- Output Current Limit Adjust from 150A to full rated current
- 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:	120.0kVA = 1,700lbs. (771kg.)
	150.0kVA = 1,851lbs. (840kg.)
	180.0kVA = 2,020lbs. (916kg.)
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. 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. The dual outputs provided can be single source controlled, be individually voltage regulated and line drop compensated, and configured for partial redundancy.

Output power ratings for these **400Hz** Ground Power Units (GPUs) range from 20kVA to 180kVA. Dependent upon rating, these units are available in mobile, towable, fixed and bridge-mounted configurations. When ramp or floor space is a premium, the **Low ProFile™** GPU can be installed as an overhead mounted unit.

In addition to bridge-mounted GPUs, Unitron offers mobile, fixed and towable configurations.

OPTIONS:

- Alternate 3-phase, Input Voltages of 208-240 or 600VAC
- AC Output Power Cable with Aircraft Plug (Specify Length)
- DC Output Power Cable with Plug (Specify Length)
- Output Universal Aircraft Safety Interlock Circuit Disconnect (Single or Dual)
- Output Safety Disconnect
- Front Panel AC and DC Voltage Adjust (± 15%)
- 270VDC output
- Second 28VDC output
- Alternate third or fourth outputs - 28VDC each at 600 Amps continuous with Individual Safety Disconnect from aircraft
- Individual Output Voltage Regulation / ALDC
- TCP/IP/Ethernet interface (Modbus)
- Indoor Touch Screen Panel
- No Break Power Transfer Compatible
- Custom Paint & Decals (Standard Color - White)
- Ground Fault Monitor
- 300% overload for 6 seconds
- CSA Certified
- CE Mark Certified
- 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

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

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GENERAL SPECIFICATIONS

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

ENERGY FACTORS:

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

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 Compensation (ALDC)	15%

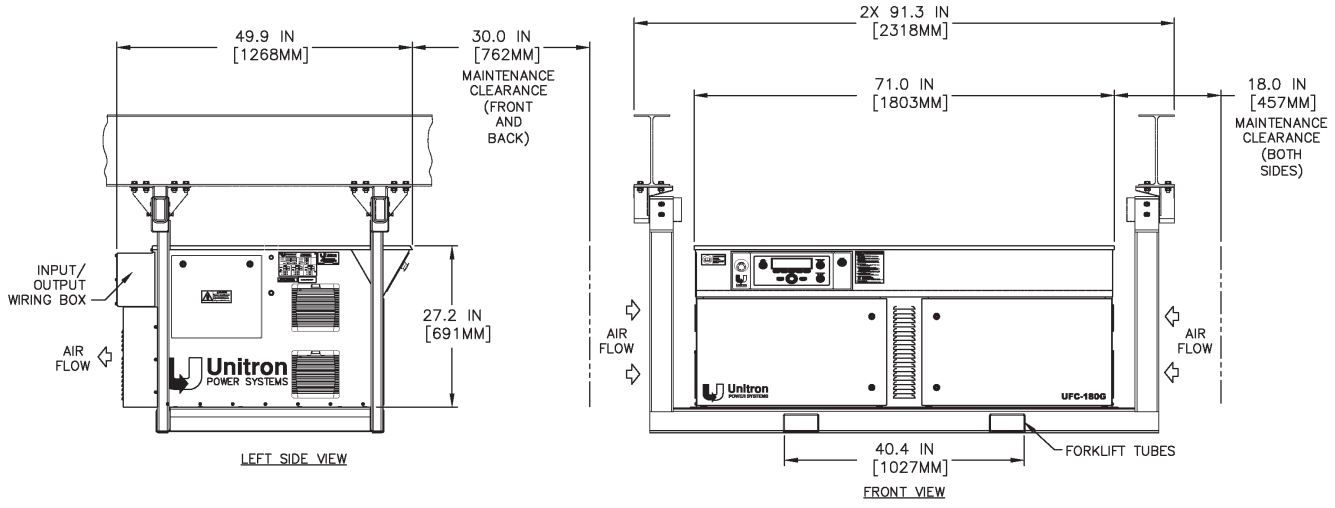
AC OUTPUT:

Power Rating	120, 150, or 180 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
Voltage	115/200 volts, 3Ø, 4 wire, grounded neutral
Crest Factor	1.414 ± 3%
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/undervoltage 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%
Ingress of Water	Type 3RX, IP55

FIGURE 1



UFC SERIES Low ProFile™ Boarding Bridge Mount GROUND POWER UNIT (GPU)