

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



HORIZONTAL CONFIGURATION
(Shown with standard 4 inch stand and digital panel)

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
- I/O Voltage, Current, & Frequency Monitoring
- Elapsed Time Meter
- Sleep Mode
- Front Panel Summary Fault Indicators
- 4 Inch Leg Kit
- 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 = 1,332lbs. (604kg.) 150.0kVA = 1,683lbs. (763kg.) 180.0kVA = 1,855lbs. (841kg.) |
| 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. This versatile design is particularly well suited for field installations where low clearances for aircraft are required. The **400Hz fixed Low ProFile™ unit** provides up to 180kVA output power and is designed to service the largest commercial and military aircraft on the market today. 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.

OPTIONS:

- Alternate 3-phase, Input Voltages of 208-240 or 600VAC
- AC Output Power Cable with Aircraft Plug (Specify Length)
- Input & Output Cable Racks
- Output Universal Aircraft Safety Interlock Circuit Disconnect (Single or Dual)
- Output Safety Disconnect
- Front Panel AC Voltage Adjust (± 15%)
- 28VDC or 270VDC output
- Second 28VDC output
- 300% overload for 6 seconds
- Non Linear Load
- Alternate third or fourth outputs - 28VDC each at 600 Amps continuous with Individual Safety Disconnect from aircraft
- Alternately Selectable 400Hz or 270VDC at same kW ratings, either output
- TCP/IP/Ethernet interface (Modbus)
- Indoor Touch Screen Panel
- Individual Output Voltage Regulation / ALDC
- No Break Power Transfer Compatible
- Custom Paint & Decals (Standard Color - White)
- CSA Certified
- CE Mark Certified
- Ground Fault Monitor
- 18-Inch Hazard Area Clearance
- Alternate Mounting Configurations Available
- 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

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 | 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 |

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 |

ENERGY FACTORS:

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

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% |

FIGURE 1

