

## UFC SERIES FlatPak™ 400Hz GROUND POWER UNIT 20kVA - 90kVA



FIXED CONFIGURATION  
(Shown with standard digital panel and paint)

### STANDARD FEATURES:

- IP55
- Certified to UL 1012
- 3 Phase, 380-480VAC input
- ≤ 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
- I/O Voltage, Current, & Frequency Monitoring
- Elapsed Time Meter
- Front Panel Summary Fault Indicators
- Forklift Tubes - 4 Inch
- 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. Through an innovative design, advanced self-diagnostic systems (BITE) and modular construction, Unitron products assure maximum power availability and minimal repair time.

The FlatPak™ Series includes 400Hz converters specifically designed for installation where space is limited. The units mount "flat" against a wall, and offer the smallest size to power rating ratio in the industry. Also, by using noise reduction technology, Unitron converters are quiet enough to be located close to the equipment they serve. No special soundproofing or other insulation is required.

Output power ratings for the **400Hz FlatPak Converter** range from 20kVA to 400kVA. In addition to fixed units, Unitron offers 400Hz, 28VDC and combination AC/DC converters in mobile and towable configurations.

### OPTIONS:

- Output Universal Aircraft Safety Interlock Circuit Disconnect (Single or Dual)
- Output Safety Disconnect
- Second 28VDC output\*
- Indoor Touch Screen Panel
- Alternate Output Voltages (120/208V, 575V)
- Input/Output Contactor
- Auto Restart
- 300% overload for 6 seconds or 425% overload for 1 second\*\* (specify)
- Parallelable (grid expansion)
- Redundant (N+1/Hot Swap)
- Custom Paint & Decals (Standard Color - White)
- Ground Fault Monitor
- Lockable Front Door
- CSA Certified
- CE Mark Certified
- No Break Power Transfer Compatible
- Stand - 4, 12 or 18 Inch
- Neutral Interrupt Protection
- Universal Safety Interlock

\* For ≤ 62.5kVA, 28VDC is available simultaneously with 400Hz full load rating; for 75kVA & 90kVA, 28VDC is limited to the total kW full load rating of the unit. No engine start capacity while using the 400Hz output.

\*\* IAW MIL-STD-704F and ISO 6858

### MECHANICAL SPECIFICATIONS:

Size:	See Figure 1
Weight:	See Figure 1
Enclosure:	NEMA 3RX Corrosion Resistant
Cooling:	Forced Convection

### 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	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

### 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

### 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	20, 30, 45, 62.5, 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)
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%

NOTE:

\*\*Alternate output voltage of 120/208 volt available when specified

FIGURE 1

