

## UltraLite™ SERIES 28VDC GROUND POWER UNIT



50/60HZ INPUT CONFIGURATION  
(Shown with standard digital panel & top cable rack)

### STANDARD FEATURES:

- IP55
- Certified to UL 1012
- Indoor/Outdoor (Hangar/Ramp) Use
- ≤ 5% Input Current Distortion at Max Load
- Input Auto Ranging
- 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% Power Regulation
- Emergency Power "OFF" Switch
- 18-Inch Hazard Area Clearance
- I/O Voltage and Current Monitoring
- Input Frequency Monitoring
- Input Power Factor Correction
- Elapsed Time Metering
- Sleep Mode - for regional jet applications
- Front Panel Voltage Adjust
- Front Panel Summary Fault Indicators
- Input & Output Cable Storage Handle
- 9 Inch Top Cable Storage Rack
- Up to 75 Foot Output Cable Capability
- Input High Voltage Transient Protection
- Output Current Limit Adjust from 150 to full rated current
- 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 1960 Unitron's exclusive focus has been on the design and manufacture of all-solid-state power conversion equipment. Our product lines are the most extensive and comprehensive available in the markets we serve.

Continuing in our industry innovation, Unitron has created state-of-the-art 28VDC GPUs designated as its **UltraLite** Series. This series employs features and options that have been derived to meet the special **No-Break Power Transfer** (NBPT) requirements often imposed by "glass cockpit" attributes of certain avionics equipment operated in the more advanced mid-sized 28VDC Business Jets and Regional Airlines. By providing the essentials of a NBPT system, Unitron's **UltraLite**™ System 28VDC GPUs avoid needless ground delays caused by insufficient DC voltage being applied to the aircraft during engine starts when using a traditional 28VDC GPU which incorporates 1940s Transformer/Rectifier technology. These NBPT characteristics of the Unitron **UltraLite** Series GPUs used during engine starting conditions eliminates the risk of having to re-boot important digital based navigational equipment aboard many larger, longer range 28VDC aircraft thereby minimizing costly time spent on the ground.

### OPTIONS:

- 50 or 100 foot Input Power Cable (Pigtail)
- Various Convenience Outlets (Specify Voltage and Frequency)
- Alternate 3Ø Input Voltage Range Available - 575-600VAC
- Single DC Output Power Cable with Plug available up through 75 foot lengths (Specify)
- 400Hz Output (Combination Units)
- Single Output Safety Disconnect - All Conditions
- Dual 28VDC output (Contact Factory)
- Bench Top Voltage Adjust
- Alternate Mounting Configurations Available
- Custom Paint & Decals (Standard Color - White)
- Indoor Touch Screen Panel
- CE Mark Certified
- CSA Certified
- 12 Inch Top Cable Storage Rack
- Lockable Front Door
- Pneumatic Ramp Tires

### MECHANICAL SPECIFICATIONS:

Size:	See Figure 1
Weight*:	Model 620 - 410lbs. (186 kg.) Model 420 - 390lbs. (177 kg.) <small>*Depending on unit configuration</small>
Enclosure:	NEMA 3RX Corrosion Resistant
Cooling:	Forced Convection

### SPECIFICATIONS / STANDARDS:

EN 61000-6-2 and -4*	Electromagnetic Compatibility Immunity and Emission Standards for Industrial Environments
2006/95/EC*	Low Voltage Directive
EN60079-10	Classification of hazardous areas
ISO 461-1/2	Aircraft - Connectors for Ground Electrical Supplies
ISO 1540	Characteristics of aircraft electrical system
ISO 6858	Aircraft ground support electrical supplies
MIL-STD-704F	Aircraft electric power characteristics
MIL-STD-1472	Human Engineering Design Criteria

\*Defined Basis of CE Mark Certification

## GENERAL SPECIFICATIONS

### INPUT:

Input Current Distortion	≤ 5%, typically 3% (At Max Load)
Voltage Auto Ranging	208-240 and 380-480V, +10%, -15%, 3Ø, 3 or 4 wire plus ground
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
EMI/RFI	Compatible with aircraft systems
Relative Humidity	10 - 95%, Non-Condensing
Ingress of Water	Type 3RX, IP55

### OUTPUT:

#### Model 420

Full Load Rating	425 amps continuous
Overload (10% duty cycle)	600 amps for 1 hour 1000 amps for 1 minute

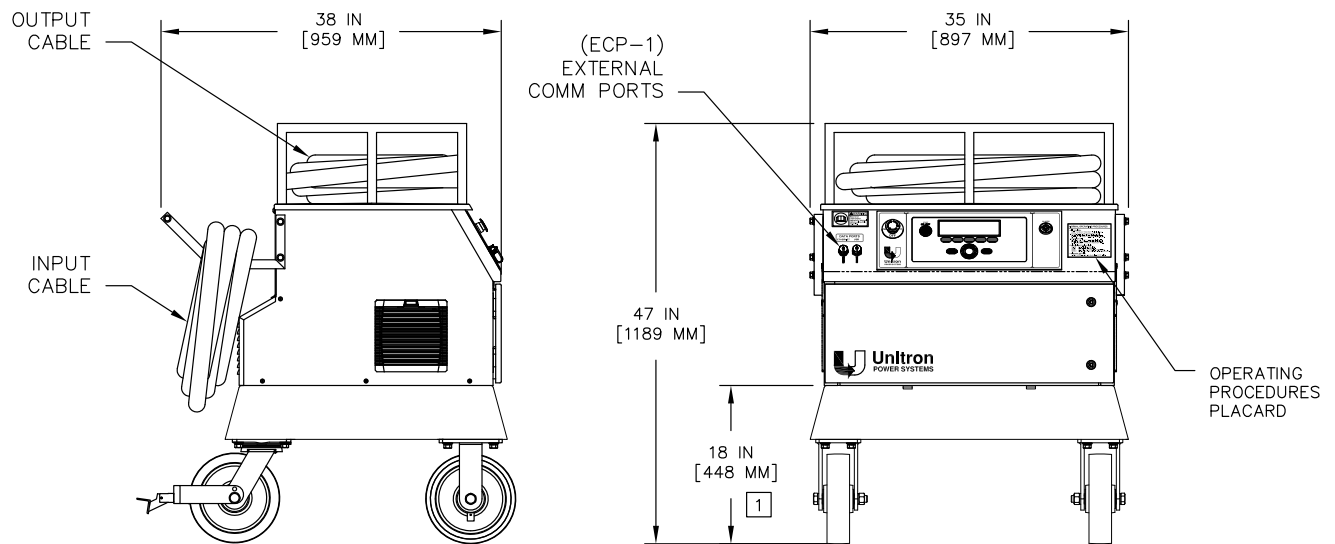
#### Model 620

Full Load Rating	600 amps continuous
Overload (10% duty cycle)	1000 amps for 1 minute

#### Model 420/620

Engine Start Capacity (10% duty cycle)	Adjustable up to 1600 amps for 35 seconds or 2000 amps for 30 seconds
Voltage	28 VDC, 2 wire, grounded negative
Voltage Regulation	<ul style="list-style-type: none"> <li>100% continuous rated load ± 0.5% over any nominal input voltage range</li> <li>No load to rated load ± 0.5%</li> <li>Overload with nominal input voltage See start mode curves</li> </ul>
Voltage Adjust	28 VDC ± 10%
Current Limit Adjust	150A to full rated current
Protection	Overload, short circuit, over voltage and safety disconnect (if specified)
Power Regulation	15%

FIGURE 1



1. SAFETY CLEARANCE IAW ARTICLE 513-10(A) OF THE NATIONAL ELECTRICAL CODE (NEC)-REFERENCE NFPA 70-1996 AND EN60079-10

**UltraLite™ Series**  
**28VDC GROUND POWER UNIT (GPU)**