

The Phoenix Lite series is a single phase, standby, solid state inverter system utilizing DSP/PWM technology. The unit packs all the necessary options and is quickly and simply installed. The Phoenix Lite is designed to function in conjunction with the existing building electrical system to provide high quality surge suppression, power conditioning, backup power protection and distribution for lighting loads and other critical loads.

Model: \_\_\_\_\_ Date: \_\_\_\_\_  
 Accessories: \_\_\_\_\_  
 Job Name: \_\_\_\_\_ Type: \_\_\_\_\_

- Standard Power Level:** 525, 700, 875, 1050W
- Input Voltage:** 120, 208, 240, 277, 480VAC
- Input Voltage Range:** +10% to 15%
- Output Voltage:** 120, 277, 120/240 or 120/277VAC
- Output Voltage Regulation:** ±5% for all loads and battery discharge mode
- Output Frequency Range:** 60 Hz, ±1%
- Output Wave Form:** Sine-wave <5% @ 100% linear load
- Crest Factor:** 2.5:1 typical
- Input Protection:** Input Main Circuit Breaker
- Output Protection:** Output Main Circuit Breaker
- Surge Protection:** The unit will protect itself and the load against surges defined in ANSI/IEEE C62.45 category A/B
- Battery:** Sealed maintenance-free (AGM) lead calcium
- Recharge Current:** Conforms to UL 924 standards
- External Battery:** Provision for hardware connection of external battery cabinets or DC source
- Efficiency:** ≥99% at 100% linear load
- Audible Noise:** <45dBA
- Operating Temperature:** 0° to 40°C (32° to 104°F)
- Storage Temperature:** -20° to 60°C (-4° to 140°F)
- Humidity:** 5 - 95%, Non-condensing
- Monitoring:** LED Displays Alarms and Diagnostics



**ORDERING INFORMATION** Example: PHXLTE-525-120-277-RP-90

| Series   | Power Rating | Input Voltage | Output Voltage       | Options <sup>1</sup>  | Run Time    |
|--|--------------|---------------|----------------------|---|-------------|
| PHXLTE   | 525 = 525W   | 120 = 120VAC  | 120 = 120VAC         | (BLANK) = None  | 90 = 90 Min |
|  | 700 = 700W   | 208 = 208VAC  | 277 = 277VAC         | ECM120/# <sup>2</sup> = 120V Environmental Control Module / Qty |             |
|  | 875 = 875W   | 240 = 240VAC  | 120/240 = 120/240VAC | ECM277/# <sup>2</sup> = 277V Environmental Control Module / Qty |             |
|  | 1050 = 1050W | 277 = 277VAC  | 120/277 = 120/277VAC | EW <sup>3</sup> = Extended Warranty                             |             |
|  |              | 480 = 480VAC  |                      | FCON = Form C Contacts  |             |
| <b>Notes</b>   |              |               |                      | NOF/V/# = Normally OFF Output Circuit / Voltage / Qty           |             |
| <sup>1</sup> Some options may not be used together - consult factory |              |               |                      | OCB/V/#/A = Output Circuit Breakers / Voltage / Qty / Amps      |             |
| <sup>1</sup> One ECM is used per switching device or circuit         |              |               |                      | OST = Onsite Start-Up   |             |
| <sup>1</sup> Consult factory for warranty options                    |              |               |                      | RP = Remote Indicator Panel                                     |             |

| Series                                     | Select Power Rating (W) | Voltage (VAC)             |               | UPS Cabinet Dimensions |        |       | Weight (LBS)       | BTUs | Battery Type                                | Output Protection                          | Safety Approvals                            |
|--|-------------------------|---------------------------|---------------|------------------------|--------|-------|--------------------|------|---|--|---|
|  |                         | Select Input              | Select Output | Width                  | Height | Depth |                    |      |   |  |   |
| Phoenix Lite Single Phase Standby Inverter | 525                     | 120, 208, 240, 277 or 480 | 120,          | 25"                    | 22"    | 12"   | 157                | 17.8 | Sealed, Maintenance Free (AGM) Lead Calcium | Input and Output Circuit Breakers Standard | UL924<br>UL1778<br>NFPA101<br>NFPA70<br>NEC |
|  | 700                     |                           | 208,          |                        |        |       | 200                | 23.8 |   |  |   |
|  | 875                     |                           | 240,          |                        |        |       | 200                | 29.8 |   |  |   |
|  | 1050                    |                           | 277 or 480    |                        |        |       | 120/240 or 120/277 | 207  |   |  |   |

### POWER RATING

525 - 1050W Single phase output unit uses the latest technology to provide the most advanced performance and reliability features.

### INPUT

120, 208, 240, 277 or 480 VAC input

#### AC Input Characteristics:

- Input Frequency: 60 Hz
- Power walk-in: 0 to 100% over a 10-second period.
- Magnetizing Inrush Current: Less than nominal input current for less than one cycle.
- Input Surge Protection: The Phoenix Lite is equipped with a standard input filter assembly that will withstand surges per IEEE 587-1980/ANSI C62.41

### OUTPUT

120, 277, 120/240 or 120/277 VAC output, Stand-by design is ≥99% efficient at 100% linear load.

#### AC Output Characteristics:

- Voltage Regulation: + 3% for no-load to full load and full 90 minute battery discharge mode.
- Frequency: 60 Hz (+ 0.1Hz when free running).
- Voltage Distortion: Maximum 5% total (THD) @ 100% linear loads.
- Voltage Transient (Step Load) Response:
  - +/- 5% for 50% step load change
  - +/- 8% for 100% step load change
  - +/- 3% for loss or return of AC input power or manual transfer at full load
- Voltage Recovery Time: Return to within 3% of nominal value within 50 milliseconds.
- Non-Linear Load Capability: Output voltage total harmonic distortion is less than 8% when connected to a 100% non-linear load with a crest factor not to exceed 2.5%.
- Slew Rate: 1 Hz/second maximum
- Power Factor: Unity power factor.
- Inverter Overload Capability:
  - 125% of rated load for 1 minute
  - 145% of rated load for 10 seconds
- Bypass Overload Capability: > 200% for one cycle; > 150% for 30 seconds
- Transfer to Inverter within 16 to 60 milliseconds standard.

### BATTERIES

The Phoenix Lite module employs a valve regulated, sealed, lead calcium, heavy-duty industrial battery. This battery system is designed for auxiliary power service. The primary battery is furnished with an impact resistant plastic case and housed within the cabinet.

- Protection against deep discharge and self-discharge: The Phoenix Lite is equipped to protect the battery against deep discharge depending on discharge conditions, with isolation of the battery by a circuit breaker. In particular, a monitoring device will adjust the battery shutdown voltage as a function of a discharge coefficient in order to avoid excessive discharge.
- Sealed, maintenance-free, lead calcium (AGM) batteries
- 10 year prorated warranty
- Guardian Smart Battery Monitoring System is TEMPERATURE COMPENSATED maintaining maximum runtime and battery life
- Microprocessor controlled recharge and overcharge protection is standard

### LAMPS AND LOADS

- Pure sine wave output for all types of lamps
- Emergency power provides FULL LIGHT OUTPUT from all lamps and fixtures for the entire runtime
- Standard or LED exits and other safety equipment
- Standard or electronic ballasts, dimming devices or panels, sensors and most control equipment
- Operates fluorescent, incandescent, quartz, LED and other lamp types

### CODES

- City of Chicago and New York approved
- Complies with the Buy American Act (Level 3)
- The Phoenix Lite will meet the requirements of the following standards:
  - IEEE 587-1980/ANSI C62.41 1980 Standards for Surge Withstand Ability
  - FCC rules and regulations of Part 15, Subpart J, Class A
  - Meets UL 1778, UL 924, Standards for Lighting Inverter Equipment
  - NEMA PE 1 (National Electrical Manufacturers Association) Lighting Inverter Systems
  - NEMA 250 (National Electrical Manufacturers Association) Enclosures for Electrical Equipment (1000 Volts Maximum)
  - NFPA 70 National Electrical Code
  - ISO 9001
  - Occupational Safety & Health Administration (OSHA)

### PROTECTION

- Provides overload, surge and undercurrent protection using the latest technology and Guardian Diagnostics to protect system performance and reliability
- Transfer in 16msec - 60msec

### DIAGNOSTICS, MAINTENANCE AND ACCESSIBILITY

All Phoenix Lite sub-assemblies, as well as the battery, are accessible from the front and top only. The Phoenix Lite design will provide maximum reliability and minimum MTTR (Mean Time To Repair). The electronic Phoenix Lite control and monitoring assembly is fully microprocessor based. This unit is repairable by replacing standard subassemblies.

- Standard Guardian Diagnostics provides complete self diagnostic capabilities and LED Monitoring
- Informative, advanced display and alarms allow complete control of the emergency lighting environment
- Single point of testing instead of multiple testing points with battery packs

### CABINET

- Space saving small footprint with a modular design enabling flexible installation
- Enclosure: The Phoenix Lite is housed in a freestanding enclosure. The mechanical structure of the Phoenix Lite is sufficiently strong and rigid to withstand handling and installation operations without risk. Access to Phoenix Lite subassemblies is through the front and top only. The sheet-metal elements in the structure are protected against corrosion by a suitable treatment, such as zinc electroplating, powder coating, epoxy paint or an equivalent.
- Cable Access: The standard Phoenix Lite available will allow for side, top and bottom entry cables.
- Ventilation and Heat Rejection: The Phoenix Lite is designed specifically for forced air cooling. Air inlets are provided from the front, bottom of the Phoenix Lite enclosure. Air exhaust is achieved from the top or side portions of the unit.

## INSTALLATION

- Modular design and small footprint allow easy installation in electrical closet or other convenient locations
- Phone assisted factory start-up standard for all systems
- Extended warranty available
- The Phoenix Lite will operate under the following environmental conditions:
  - Temperature:
    - Phoenix Lite Module
      - Operating: 0° to 40°C (32°F to 104°F)
      - Non-Operating: -20°C to 60°C (-4°F to 140°F)
  - Relative humidity (operating and storage): 5 to 95% non-condensing
  - Barometric Pressure:
    - Up to 1000 meters above sea level
  - Audible Noise: 45dBA at 3'
- Site Testing and Start-Up – If selected, the inverter system will be checked, started and tested by a manufacturer's qualified field service engineer either by phone start-up (standard) or by optional onsite start up when performed by a factory technician.

## SPECIAL APPLICATIONS

- Barron offers numerous UL 924 optional devices to meet unusual or difficult application parameters
- ECM – Eco-Control Module allows fixtures and lamps on the emergency circuit(s) to be operated by normal switching and/or dimming devices in NON-emergency conditions.

## DELIVERY, STORAGE, AND HANDLING

- All products are packaged in a manner to prevent penetration by debris and to allow safe delivery by all modes of ground transportation and air transportation where specified.
- Prior to shipping all products are inspected at the factory for damage.
- Equipment is protected against extreme temperature and humidity and is stored in a conditioned or protected environment.
- Equipment containing batteries will not be stored for a period exceeding three months without powering up the equipment for a period of eight hours to recharge the batteries, or warranty will be void.

## WARRANTY

- One year full warranty on system electronics
- Battery warranty one year with nine years pro-rated
- System one year on-site warranty labor with phone assisted start-up
- Five year power train warranty
- Maintenance contracts available