

The Phoenix Compact series is a single phase, on-line, solid state inverter system utilizing patented ECM technology. Each system consists of a solid-state inverter, a temperature compensated rectifier/battery charger, a continuous duty static switch, an internal maintenance bypass switch, battery plant, status/control panel, and synchronizing circuitry. The Phoenix Compact is designed to function in conjunction with the existing building electrical system to provide high quality power conditioning, back-up power protection and distribution for lighting loads and other critical loads.

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

- Standard Power Level:** 350, 525, 700, 750, 875, 1050, 1400 & 2000 Watts
- Input Voltage:** 120, 208, 277 or 480 VAC
- Input Voltage Range:** +10% -15%
- Output Voltage:** 120, 277, 480, 120/240 or 120/277 VAC
- Output Voltage Regulation:** ±3% 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 UL924 standards
- External Battery:** Provision for hardware connection of external battery cabinets or DC source
- Efficiency:** ≥92% 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
- Compliance:** Assembled in the USA with global components  
American Recovery and Reinvestment Act (ARRA) compliant



### ORDERING INFORMATION Example: PHXCOM-525-120-480-EPO-90

Series	Power Rating	Input Voltage <sup>1</sup>	Output Voltage <sup>1</sup>	Options	Run Time <sup>4</sup>
PHXCOM	350 = 350 Watts	120 = 120VAC	120 = 120VAC	ECM120/# <sup>2</sup> = 120V Environmental Control Module / Qty	5 = 5 Min
	525 = 525 Watts	208 = 208VAC	277 = 277VAC	ECM277/# <sup>2</sup> = 277V Environmental Control Module / Qty	10 = 10 Min
	700 = 700 Watts	277 = 277VAC	480 = 480VAC	NOF/V/# = Normally OFF Output Circuit / Voltage / Qty	15 = 15 Min
	750 = 750 Watts	480 = 480VAC	120/240 = 120/240VAC	NOH/V/# = Normally OFF "Hold ON"/ Voltage / Qty	20 = 20 Min
	875 = 875 Watts		120/277 = 120/277VAC	OCB/V/#/A = Output Circuit Breakers / Voltage / Qty / Amps	25 = 25 Min
	1050 = 1050 Watts			EPO = Emergency Power Off	30 = 30 Min
	1400 = 1400 Watts			RP = Remote Indicator Panel	45 = 45 Min
	2000 = 2000 Watts			SNMP = SNMP Card	60 = 60 Min
				FCON = Form C Contacts	90 = 90 Min (Std)
			SRB = Seismic Rated Bracket	120 = 120 Min	
<b>Notes</b>			OST <sup>3</sup> = Onsite Start-Up	180 = 180 Min	
<sup>1</sup> Consult factory for other voltages, may effect weight, size and number of cabinets			WB = Wall Mounting Bracket	240 = 240 Min	
<sup>2</sup> One ECM is used per switching device or circuit			IDB = Internal Dimmer Bypass		
<sup>3</sup> Includes one additional year of warranty on unit, consult factory			EMB = External Maintenance Bypass Switch		
<sup>4</sup> Consult factory for other run times			EW = Extended Warranty		

Series	Select Power Rating (Watts)	Voltage (VAC)		UPS Cabinet Dimensions			Weight (LBS)	BTUs	Battery Type	Output Protection	Safety Approvals
		Select Input	Select Output	Width	Height	Depth					
Phoenix Compact Single Phase Online Inverter	350	120, 208, 277 or 480	120, 277, 480, 120/240 or 120/277	24"	26"	16"	340	95.2	Sealed, Maintenance Free (AGM) Lead Calcium	Input and Output Circuit Breakers Standard	UL924 UL1778 NFPA101 NFPA70 NEC
	525						340	142.8			
	700						370	190.4			
	750						370	204			
	875						370	238			
	1050						440	285.6			
	1400						460	380.8			
	2000						600	544			

### POWER RATING

350 - 2000 watt single phase output unit uses the latest technology to provide the most advanced performance and reliability features

### INPUT

120, 208, 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 Compact is equipped with a standard input filter assembly that will withstand surges per IEEE 587-1980/ANSI C62.41

### OUTPUT

120, 277, 480, 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

### BATTERIES

The Phoenix Compact 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 Compact 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.
- Battery self-test: The battery monitoring system is to perform the following automatic functions:
  - Battery circuit check
- 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, 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 Compact 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 Compact sub-assemblies, as well as the battery, are accessible from the front and top only. The Phoenix Compact design will provide maximum reliability and minimum MTTR (mean time to repair). The electronic Phoenix Compact control and monitoring assembly is fully microprocessor based. This unit is repairable by replacing standard subassemblies.

- Guardian Diagnostics provides complete self diagnostic capabilities and LED Monitoring
- Informative, advanced display and alarms allow complete control of the emergency lighting environment
- Automatically performs periodic self-tests ensuring a safely lighted environment prior to an emergency
- 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 Compact is housed in a freestanding enclosure. The mechanical structure of the Phoenix Compact is sufficiently strong and rigid to withstand handling and installation operations without risk. Access to Phoenix Compact 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 Compact available will allow for side, top and bottom entry cables.
- Ventilation and Heat Rejection: The Phoenix Compact is designed specifically for forced air cooling. Air inlets are provided from the front, bottom of the Phoenix Compact 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 1 will operate under the following environmental conditions:
  - Temperature:
    - Phoenix 1 Module
      - Operating: 0° to 40°C (32°F to 104°F)
      - Non-Operating: -20°C to +60°C (-4°F to 140°F)
    - Batteries: 25°C (77°F)
  - Relative humidity (operating and storage): 5 to 95% non-condensing
  - Barometric Pressure:
    - Up to 1000 meters above sea level
    - Up to 2000 meters with ambient temperature less than 28°C
    - Up to 12,000 meters above sea level non operating
  - Audible Noise: 45dBA at 3 feet BA at 3 feet
- 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 UL924 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
- Dimming Panel Interface allows use with emergency lights controlled by common dimmer panel

## 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.

## WARRANTY

- One (1) year full warranty on system electronics (with phone assisted start-up), consult factory for Onsite Start-Up option warranty
- Battery warranty one (1) year with nine (9) years pro-rated
- Five (5) year power train warranty
- Maintenance contracts available