BARRON EXITRONIX emergency lighting

PHOENIX COMPACT

Single Phase, Indoor Online Emergency Lighting Inverter

The Phoenix Compact series is a freestanding, single phase, on-line, solid state inverter system utilizing patented DSP/PWM 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: _____

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:	±2% 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/EEE 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:	0º to 40ºC (32º to 104ºF)
Storage Temperature:	-20º to 60ºC (-4º to 140ºF)
Humidity:	5 - 95%, Non-condensing
Monitoring:	LED Displays Alarms and Diagnostics
Compliance:	Complies with the Buy American Act (Level 3) and Build America Buy America requirements

BABA BAA 1/10/5 WARRANTY

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

Series	Power Rating	Voltage[1] (Input-Output)	Voltage[1] (Input-Output)	Run Time[5]	Factory Installed Accessories (Order as separate line item)
PHXCOM	350 = 350 Watts	120-120	277-120	5 = 5 Min	ECM120/#[2] = 120V Environmental Control Module / Qty
	525 = 525 Watts	120-277	277-277	10 = 10 Min	ECM277/#[2] = 277V Environmental Control Module / Qty
	700 = 700 Watts	120-480	277-480	15 = 15 Min	NOF/V/# = Normally OFF Output Circuit / Voltage / Qty
	750 = 750 Watts	120-120/240	277-120/240	20 = 20 Min	NOH/V/# = Normally OFF "Hold ON"/ Voltage / Qty
	875 = 875 Watts	120-120/277	277-120/277	25 = 25 Min	OCB/V/#/A[4] = Output Circuit Breakers / Voltage / Qty / Amps
	1050 = 1050 Watts	208-120	480-120	30 = 30 Min	EPO = Emergency Power Off
	1400 = 1400 Watts	208-277	480-277	45 = 45 Min	RP = Remote Indicator Panel
	2000 = 2000 Watts	208-480	480-480	60 = 60 Min	SNMP = SNMP Card
		208-120/240	480-120/240	90 = 90 Min (Std)	FCON = Form C Contacts
		208-120/277	480-120/277	120 = 120 Min	WB = Wall Mount Bracket
		240-120		180 = 180 Min	IDB = Internal Dimmer Bypass
		240-277		240 = 240 Min	EMB[4] = External Maintenance Bypass Switch
		240-480			
		240-120/240			**Service Options** (Order as separate line item)
		240-120/277			EBW# = Extended Battery Warranty (# - Specify Number of Years)
Notes					EW = Extended Warranty
[1] Consult factory for other voltages, may effect weight, size and number of cabinets					OST[3] = Onsite Start-Up
[2] One ECM is used per switching device or circuit					SC = Service Contract
[3] Includes one additional year of warranty on unit, consult factory					
[4] OCB and EMB options cannot be combined					See Page 5 for Accessory Details
[5] Consult factory for other run times					

Specifications are subject to change without notice.
Installation must be performed in accordance with Barron Lighting Group installation instructions.

BARRON lighting group
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	Max Utility Amperage					Max Output Amperage					
(kW)	120V	208V	240V	277V	480V	120V	240V	277V	480V	BTUs	Combined Weight (LBS)
350	5.0 A	3.0 A	2.6 A	2.2 A	1.3 A	2.9 A	1.5 A	1.3 A	0.7 A	95.2	340
525	7.7 A	4.4 A	3.8 A	3.3 A	1.9 A	4.4 A	2.2 A	1.9 A	1.1 A	142.8	340
700	10.2 A	5.9 A	5.1 A	4.4 A	2.6 A	5.8 A	2.9 A	2.5 A	1.5 A	190.4	370
750	11.1 A	6.3 A	5.6 A	4.8 A	2.8 A	6.3 A	3.2 A	2.7 A	1.6 A	204	370
875	12.8 A	7.4 A	6.4 A	5.5 A	3.2 A	7.3 A	3.6 A	3.2 A	1.8 A	238	370
1050	15.3 A	8.8 A	7.7 A	6.6 A	3.8 A	8.8 A	4.4 A	3.8 A	2.2 A	285.6	440
1400	20.4 A	11.8 A	10.2 A	8.8 A	5.1 A	11.7 A	5.8 A	5.1 A	2.9 A	380.8	460
2000	29.2 A	16.8 A	14.6 A	12.7 A	7.3 A	16.7 A	8.3 A	7.2 A	4.2 A	544	600

Note: Weights are calculated based on a 90-minute run time. Consult factory for other configurations.

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: <3% total (THD) @ 100% linear load.
- 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

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, compact fluorescent, incandescent, quartz, LED and other lamp types

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

CODES
- City of Chicago and New York approved
- Complies with the Buy American Act (Level 3) and Build America Buy America requirements
- 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

COMMUNICATION INTERFACE
- RS232, Modbus, and SNMP for remote monitoring are available. Consult factory for details

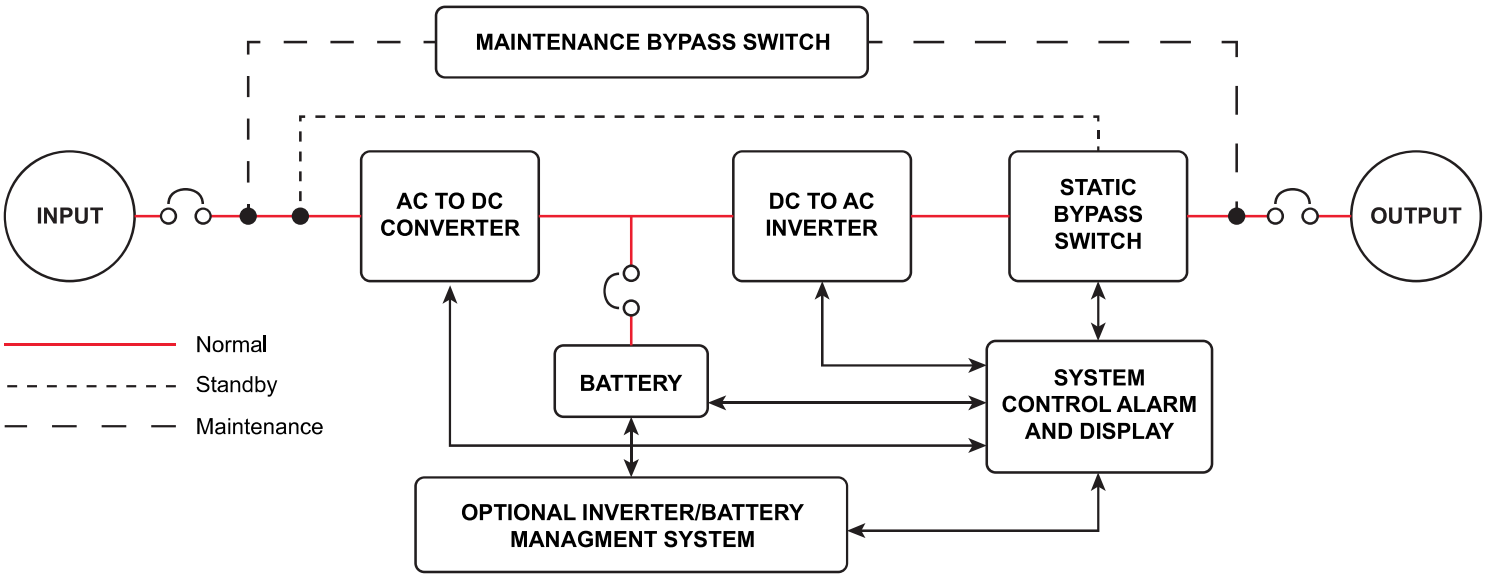
CABINET
- Space saving small footprint with a modular design enabling flexible installation
- Enclosure: The Phoenix Compact is housed in a freestanding enclosure. The mechanical structure of the Phoenix Compact is sufficiently strong and rigid to withstand handling and installation operations without 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: measured on Response Curve A
- 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.

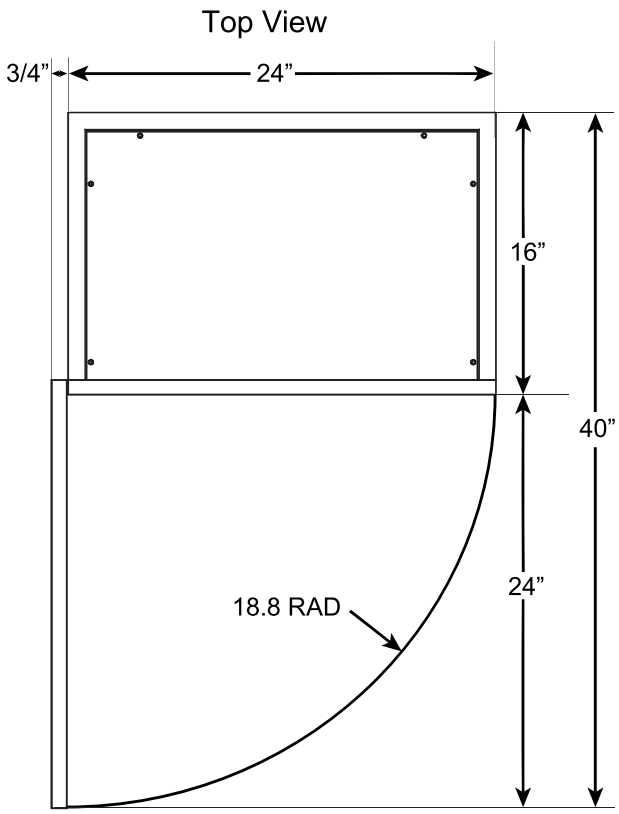
DELIVERY, STORAGE, AND HANDLING
- All products are packaged in a manner to prevent penetration by debris and to allow safe delivery by all modes of ground transportation and air transportation where specified.
- Prior to shipping all products are inspected at the factory for damage.
- Equipment is protected 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.

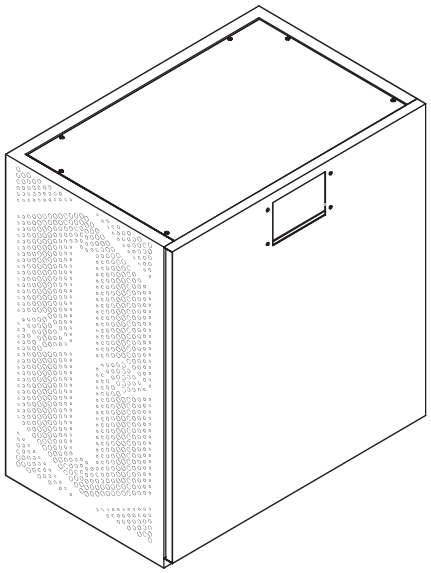
WARRANTY
- One (1) year full warranty on system electronics with phone assisted start-up
- Battery warranty one (1) year with nine (9) years pro-rated, consult factory for extended battery warranties
- Five (5) year power train warranty
- Service contracts available

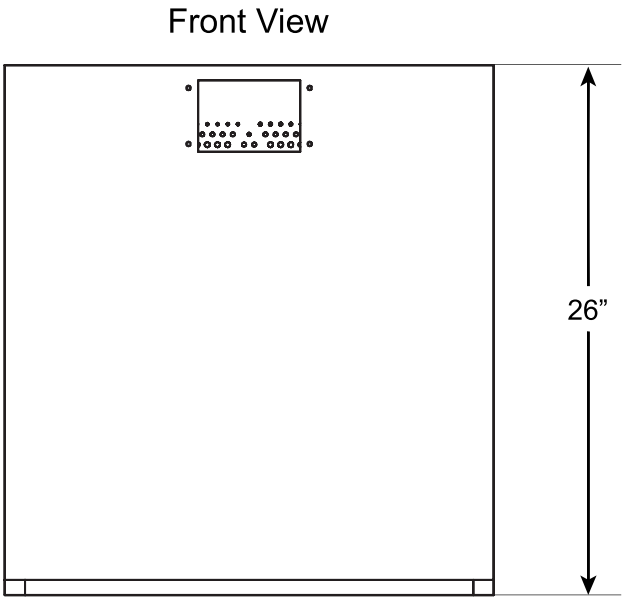
LINE DIAGRAM

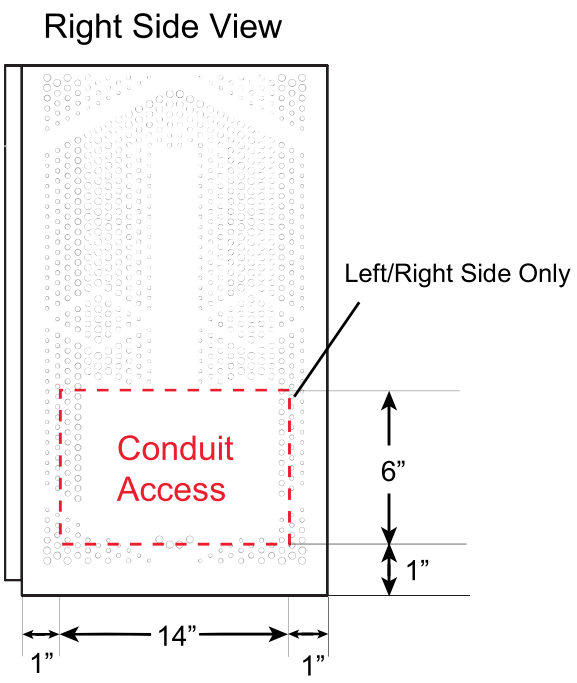


CONDUIT AND CABINET DETAILS









Per code requirements, leave 3” on each side of the cabinet, including the back, and a 3 foot clearance in the front.
*Contact factory for special conduit access arrangements.

FACTORY INSTALLED ACCESSORY DETAILS

ECM – Environmental Control Module
Used to bypass local switching devices (such as wall switches, sensors, or relays) during an outage, ensuring emergency lighting circuits remain energized. One ECM is required per switched circuit or device.

NOF – Normally OFF Output Circuit Breaker
Output circuits that remain off during normal operation and activate only when utility power is lost. Ideal for emergency-only loads that should not operate under normal conditions. Allows for direct connection and distribution from the inverter, eliminating the need for separate external panels.

NOH – Normally OFF "Hold ON"
An output breaker that remains OFF during normal operation but includes a programmable "Hold ON" delay to keep the inverter output active for a set time after utility power is restored. This allows for orderly system shutdowns, delayed equipment restarts, and helps prevent inrush current by coordinating with delayed-action systems such as ATS, BAS, or elevator controls.
The delay is user-configurable in 15-second or 15-minute intervals (e.g., 15 sec, 30 sec, 45 sec, 15 min, 30 min, 45 min).

OCB – Output Circuit Breakers
Output breakers that provide circuit-level protection for connected emergency loads. Allows for direct connection and distribution from the inverter, eliminating the need for separate external panels.

EPO – Emergency Power Off
Provides a means to turn off the inverter output during emergencies or maintenance manually. Typically mounted on the outside of the inverter for immediate access.

RP – Remote Indicator Panel
Wall-mounted panel that displays key inverter status indicators such as AC ON, Inverter ON, and Alarm. Enables remote visibility of inverter operation from locations such as control rooms, maintenance areas, or facility management hubs, supporting quick status checks remotely without accessing the unit directly.

SNMP – SNMP Network Interface Card
Provides network-based monitoring and control of the inverter system using the Simple Network Management Protocol (SNMP). The embedded web interface displays real-time system metrics—including voltage, current, power, alarms, and battery status—via a graphical, interactive Java-based webpage. Users can remotely monitor inverter operation, view energy flow animations, and perform key control functions as if operating the front panel locally.
Supports customizable alarm email notifications triggered by specific fault conditions, with up to three severity levels and user-defined recipients. The interface is available in wired (NET232) or wireless (WI232) configurations and is compatible with standard web browsers on LAN-connected devices.
Note: Email functionality requires a non-authenticated SMTP server. Configuration software and installation tools are provided.

FCON – Form C Contacts
Provides isolated, voltage-free relay outputs (dry contacts) for remote signaling of critical inverter status conditions such as System OK, Alarm Active, and On Battery. Designed for seamless integration with Building Automation Systems (BAS), fire alarm panels, and other remote monitoring equipment.
Each contact operates as a Form C relay (single pole, double throw), which provides normally open (NO) and Normally Closed (NC) contact options. Allowing the system to work with different types of monitoring or safety equipment, depending on how signals need to be sent.

WB – Wall Mounting Brackets
Includes two 21.4" triangular steel support brackets, designed to securely mount the inverter directly to a wall surface. This mounting method suspends the unit off the floor, making it ideal for applications with space constraints or where floor-mounted equipment is impractical. The brackets ensure stable horizontal support and maintain clear access for ventilation and servicing.

OST – Onsite Start-Up
A factory-authorized technician performs an on-site visit to activate and bring the inverter system online. This service includes verification of input (feed) power, load connections, battery condition, and overall system functionality. The technician ensures proper configuration and performs operational testing.
Completion of Onsite Start-Up extends the electronics warranty from 1 year to 2 years.

IDB – Internal Dimmer Bypass
Automatically disables 0-10V dimming and switches lighting to 100% brightness upon power failure. This keeps areas fully lit, regardless of their dimmer settings.

EMB – External Maintenance Bypass Switch
An external switch assembly that allows for maintenance on the inverter without interrupting power to the lighting loads. The make-before-break design connects utility power to the load before disconnecting the inverter, ensuring seamless power transfer. (Not available with integral output circuit breakers.

EW – Extended Warranty Coverage
Extends the warranty coverage on system electronics for the selected duration, with options available on a per-year basis.

SC – Service Contract
Service Contract for preventive and corrective maintenance over the agreed term.

Additional supporting documents can be found on our Website

WALL MOUNT BRACKET DETAILS

Note: Includes left and right hand brackets