

# Three Phase Emergency Central Lighting Inverter

The Wave Rider III incorporates state of the art technology with PWM (Pulse Width Modulated), double conversion design for emergency lighting applications. When utility power fails, the Inverter provides uninterrupted output power to the emergency lighting circuits, in compliance with UL924 Life Safety Code for 90 minutes of egress illumination.

The Wave Rider is the best design solution for emergency lighting power for a wide range of commercial and industrial applications.

## KEY FEATURES of the Wave Rider:

- **Double Conversion, fast transfer or stand by systems available to power all lamp types, including HID, LED**
- **Latest technology microprocessor controlled electronics with PWM (Pulse Width Modulated) design for true Sine Wave output.**
- **Automatic monthly and annual self testing**
- **Automatically tests every 30 days and 12 months**
- **Efficiency: 94% Online / 98% Standby - Fast Transfer**
- **Continuous self-diagnostic and self-testing system**
- **LCD backlit panel for comprehensive monitoring of power line conditions and Inverter status**
- **RS232 and RS485 Ports**
- **Optional remote monitoring, including the advanced Global Monitoring System (GMS)**
- **Sealed maintenance-free lead calcium batteries with 10 year prorata warranty**
- **Battery Exerciser**
- **Modular cabinet design for ease of installation, small footprint with shallow 18" depth, convenient front access. Stackable with optional bracket**
- **Generator Compatible**

 **CRUCIAL POWER PRODUCTS**

# Wave Rider™ III

## Three Phase, Emergency Central Lighting Inverter

**Leader in LED!**

Title 24 inspired

### Applications

For a wide range of commercial and industrial applications, from 8,000 to 50,000 watts maximum lighting load.

Typical installations:

- Office Buildings
- Factories
- Hospitals
- Hotels & Motels
- Schools & Universities
- Shopping Centers
- Warehouses
- Casinos
- Airports
- Military Installations
- Apartment Buildings
- Supermarkets
- Train & Bus Terminals



**8 to 50 kW, Three Phase**

**Online or Fast Transfer (under 2ms)**

**HID, Incandescent, Fluorescent, LED  
208Y/120 or 480Y/277 VAC**

**Modular Design, Front Access,  
Small Footprint 18" deep**

**U.L. Listed to UL924 Lighting  
and UL1778 UPS Standards, by CSA**

**A Full Line Power Protection Company.**

# Wave Rider III

## Three Phase, Emergency Central Lighting Inverter

### SPECIFICATIONS

**Power Factor:** 1.0  
**Power Rating:** 8, 12, 16, 20, 24, 32, 40 and 50 KW  
**Input Voltage:** 208Y/120 or 480Y/277 VAC (-20% to +15%)  
**Output Voltages:** 208Y/120 or 480Y/277 VAC  
**Output Frequency (Inverter Operation):** 60 Hz  $\pm$ 0.5 Hz  
**Voltage Regulation:**  $\pm$ 3%, Regulated within CBEMA curve  
**Output Wave Form:** Sine-Wave < 5% THD.  
**Efficiency:** 94% Online / 98% Standby - Fast Transfer  
**Crest Factor:** 3:1 Typical  
**Surge Protection:** The inverter will protect itself and the load against surges as defined in ANSI/IEEE C62.41 Categories A and B.  
**Isolation:** Complete from line. Output neutral bonded to ground  
**Noise Isolation:** -120 dB Common-Mode; -60 dB Transverse-Mode

**Battery:** 10 year pro rated maintenance-free (AGM) battery  
**Recharge Current:** Conforms to UL924 Standards  
**External Battery:** Provisions for hardwire connection of optional external battery cabinets or DC source.  
**Environmental:**  
**Humidity:** 0 - 95% RH w/ no condensation  
**Operating Temperature:** UPS: 0° to 40°C. (32°-104°F) Battery: 20° to 25°C. (68°-77°F)  
**Storage Temperature:** -20° to 25°C. (-4° - 77°F)  
**Altitude:** Up to 10,000 ft  
**Safety Agencies:** CSA Listed to UL1778, UL924, NFPA101, NFPA70, NEC, and OSHA  
**Cabinet Sizes:**  
 Standard Cabinet Layout:  
 Inverter Cab. 39"W x 18"D x 68"H  
 Battery Cab. 51"W x 30.5"D x 70"H

KW	INPUT - OUTPUT	KVA Model Number	DC Volts	BTU/ Hr	Total Weights (lbs)	
					Inverter Cab.	(Qty) Battery Cab.
8	208Y/120 - 208Y/120 480Y/277 - 480Y/277 480Y/277 - 208Y/120	WR010B05LHT3-VA WR010H09LHT3-VA WR010H05LHT3-VA	192	3032	(1 Cabinet) 1083 lbs	39W x 18D x 68H (1 Cabinet) 1392 lbs
12	208Y/120 - 208Y/120 480Y/277 - 480Y/277 480Y/277 - 208Y/120	WR015B05LHT3-VA WR015H09LHT3-VA WR015H05LHT3-VA	192	4549	(1 Cabinet) 1446 lbs	51W x 30.5D x 70H (1 Cabinet) 3224 lbs
16	208Y/120 - 208Y/120 480Y/277 - 480Y/277 480Y/277 - 208Y/120	WR020B05LHT3-VA WR020H09LHT3-VA WR020H05LHT3-VA	192	6066	(1 Cabinet) 1679 lbs	51W x 30.5D x 70H (1 Cabinet) 3560 lbs
20	208Y/120 - 208Y/120 480Y/277 - 480Y/277 480Y/277 - 208Y/120	WR025B05LHT3-VA WR025H09LHT3-VA WR025H05LHT3-VA	288	7582	(1 Cabinet) 1679 lbs	51W x 30.5D x 70H (1 Cabinet) 4545 lbs
24	208Y/120 - 208Y/120 480Y/277 - 480Y/277 480Y/277 - 208Y/120	WR030B05LHT3-VA WR030H09LHT3-VA WR030H05LHT3-VA	288	9098	(1 Cabinet) 1719 lbs	51W x 30.5D x 70H (1 Cabinet) 4568 lbs
32	208Y/120 - 208Y/120 480Y/277 - 480Y/277 480Y/277 - 208Y/120	WR040B05LHT3-VA WR040H09LHT3-VA WR040H05LHT3-VA	312	12131	(1 Cabinet) 2066 lbs	51W x 30.5D x 70H (2 Cabinets) 8664 lbs
40	208Y/120 - 208Y/120 480Y/277 - 480Y/277 480Y/277 - 208Y/120	WR050B05LHT3-VA WR050H09LHT3-VA WR050H05LHT3-VA	552	15164	(1 Cabinet) 2463 lbs	51W x 30.5D x 70H (2 Cabinets) 8800 lbs
50	208Y/120 - 208Y/120 480Y/277 - 480Y/277 480Y/277 - 208Y/120	WR062B05LHT3-VA WR062H09LHT3-VA WR062H05LHT3-VA	552	18000	(1 Cabinet) 2565 lbs	51W x 30.5D x 70H (3 Cabinets) 12700 lbs

\* Total Weights are approximate.  
 Standard Battery Back-up time is 90 minutes @ full load.  
 Other back-up times are available - contact factory.

### STANDARD FEATURES

- On-Line Central Lighting Inverter
- Back-lit LCD Display (4 lines) for monitoring
- RS 232 & RS 485 ports for metering, measuring and diagnostic.
- Pre-wired for Global Monitoring System (GMS)
- High Frequency PWM with Digital Signal Processing Technology
- Make Before Break Internal Maint. Bypass Switch
- Input and Output Circuit Breaker
- Generator Compatible with Automatic Governor (Slew Rate 2Hz/sec.)
- Inverter Test Switch
- Battery Breaker
- Stackable Cabinets
- Battery Management Software
- Automatically tests every 30 days and 12 months.

### OPTIONS

- Fast Transfer (Under 2ms)
- Secondary Auxiliary Circuit Breakers (up to 14 one-pole OCB's): Normally On, Normally Off, Normally Off w/ Delay, Trip Alarm
- Form 'C' Contacts (5), (N.o.)
- Secondary Normally On/Off Terminal Block selection
- Remote Status Panel Unit with Audible Alarm and Silence Switch
- Local Audible Alarm with Silence Switch
- Input Current Harmonic Filter, 10% & 5% (This option will not be offer with Secondary Auxiliary Circuit Breakers)
- Make Before Break External Maint. Bypass Switch
- Main Input and/or Output Circuit Breaker (with custom KAIC)
- Built-in Secondary Distribution
- External Attachable Panelboard (20-42 poles)
- EMI Filter
- Input Transient Voltage Surge Suppressor (TVSS)
- Harmonic Tolerance (up to K-50)
- Stackable Cabinet Rack to save floor space
- Certified Zone 4 Seismic Bracket
- Extended Warranty and Service Plans
- **G-Battery (Sealed Lead-Calcium VRLA Battery):** Maintenance free battery that requires no addition of water over the life of the battery. **20-years Warranty Life at 77°F (25°C).** Warranty is two-years full replacement plus an additional eighteen years pro-rata.
- **Global Monitoring System (GMS)**
- LOCAL**
  - Local PC via RS232 and RS485
  - Event logging up to 500
- REMOTE**
  - **Dial-up**
    - Voice (10 event logging), numeric pager
    - Voice, data, fax, pager, PC, e-mail, event logging up to 500
    - Voice, data, fax, pager, PC, e-mail, and measurement (500 event logging plus graphic)
  - **Web/SNMP:** System status, measurement, alarm notification, event logging and password protected configuration.

Consult Factory for more features and choices of remote communication.



14000 S. Broadway, Los Angeles, CA 90061  
 Tel: (800) 244-4069 • Fax: (800) 246-2346  
 www.crucialpower.com  
 email: info@crucialpower.com