ILLUMINATOR EM
CENTRAL LIGHTING INVERTER
1000 VA/W through 2800 VA/W

98% Efficiency!
The Illuminator Series EM is a fast transfer Emergency Lighting Inverter utilizing Myers Power Products advanced technology and small footprint design. The Illuminator EM, as well as all of the Myers Power Products fast transfer lighting inverter systems are UL 924 listed and designed to support all lamp sources including fluorescent, incandescent, quartz, halogen, HID, and LED. This allows the use of these types of lamps and luminaires in the design of emergency lighting schemes without the need for quartz restrictors. In addition, all Illuminator Series systems supply a true sine wave output. This allows for the incorporation of all current and future LED technologies into your emergency lighting layout.

The Illuminator Series EM's design incorporates the proven technology of all Myers Power Products lighting inverters and provides the end user with a 98% efficient system. This 98% efficient technology translates into lower utility operating costs and virtually no impact on heating and cooling requirements as compared to all other types of emergency lighting inverter systems.

The small cabinet, with wall or floor mount capabilities, allows the client to install this system virtually anywhere in the building with minimal space requirements. All Myers Power Products lighting inverters perform and log the monthly and yearly tests as required by NFPA standards, and our intelligent front meter panels allows easy access to this information. In addition, this front meter panel displays system status and allows for real time diagnostics of the system’s electronics.

### Applications
- 911 Facilities
- Airports
- Apartment/Condominium Complexes
- Assisted Living Centers, Nursing Homes
- Banks, Financial Institutions
- Casinos
- City, County, State, Federal Buildings
- Grocery Stores/Home Center Stores
- Hospitals
- Hotels, Motels
- Industrial
- Medical Offices
- Military Complexes
- Movie/Performing Art Theaters
- Office Buildings
- Parking Garages
- Prisons
- Race Tracks
- Railroad, Subway, Bus Stations
- Religious Facilities
- Restaurants
- Retail Department Stores
- Schools, Colleges, Day Care Centers
- Shopping Malls
- Sport Facilities
- Toll Booths
- Tunnels and Bridges
- Designed to work with all electronic power factor corrected ballasts.
- Central Inverters can eliminate unit equipment in architecturally sensitive applications.
- Eliminate maintenance costs of individual testing of unit equipment and battery powered ballasts. All tests and diagnostics are performed and recorded automatically.

### System Specifications

#### Input
- **Voltage**: 120 or 277VAC 1-phase 2-wire -10% -15%. Contact factory for all other voltages.
- **Input Power Walk-in**: Contact factory for all other voltages.
- **Input Frequency**: 60Hz, +/- 3%, 50Hz Available upon request
- **Synchronizing slew Rate**: 1Hz per second nominal
- **Harmonic Distortion**: < 10%
- **System Short Circuit Rating**: 65 KAIC

#### Output
- **Voltage**: 120 or 277VAC 1-phase 2-wire. Contact factory for all other voltages.
- **Static Voltage**: Load current change +/-2%, battery discharge +/-12.5%
- **Dynamic Voltage**: +/- 2% for +/-25% load step change, +/-3% for a 50% load step change, recovery within 3 cycles
- **Harmonic Distortion**: < 3% THD for linear load
- **Overload**: Circuit Breaker protected
- **Output Frequency**: 60Hz +/- 0.5Hz during emergency mode
- **Load Power Factor**: .5 lag to .5 lead
- **Inverter Overload Protection**: 380% for 16 line cycles, 125% for 10 minutes
- **Crest Factor**: Optional Distribution Circuit Breaker(s) (1 breaker standard) 3.8

#### Battery
- **Type**: Valve-regulated sealed lead-calcium.
- **Charger**: Microprocessor controlled for various battery types and temperature compensating
- **Protection**: Automatic low-battery disconnect; automatic restart upon utility return.
- **Disconnect**: Circuit Breaker

#### Environmental
- **Altitude**: < 10,000 feet (above sea level) without derating
- **Operating Temperature**: Inverter: 0°C to 40°C (32°F to 104°F)
- **Storage Temperature**: -20°C to 70°C (4°F to 158°F) (electronics only)
- **Relative Humidity**: < 95% (non-condensing)

#### General
- **Design**: Line interactive PWM inverter type utilizing IGBT technology with 2ms transfer time. 98% efficiency.
- **Generator Input**: Compatible with generators (50kVA or larger).
- **Control Panel**: Microprocessor controlled 4 x 20-character vacuum fluorescent display with touch pad controls/functions & scrolling system status
- **Metering**: Input & Output Voltage, Battery Voltage, Battery & Output Current, Output VA, Temperature, Inverter Wattage.
- **Alarms**: High/Low Battery Charger Fault, Near Low Battery, Low Battery, Low Load Reduction Fault, Output Overload, High/Low AC Input Volts, High Ambient Temperature, Inverter Fault, Output Fault, Optional Circuit Breaker Trip
- **Communications**: Optional Internal or optional external without internal distribution breakers.
- **Manual Maintenance Bypass**: Optional Distribution Circuit Breaker(s) (1 breaker standard)
- **Alarm Contacts**: Optional Summary Form "C" Contacts, Inverter On Contact (IOC) and/or Status Monitoring Contacts.
- **Warranty**: 1 year standard warranty includes all parts, labor, & travel expenses within 48 contiguous states. Up to 10 years prorated warranty on batteries. Extended warranties, preventative maintenance and/or customized service plans are available.
- **Factory Start-up**: Purchase factory start-up & receive 1 additional year of warranty.
- **5 Year Service Plan**: Purchase 5 year service plan & receive free factory start-up.

#### Physical
- **Cabinet**: Freestanding NEMA Type 1; powder coat paint
- **Cooling**: Forced Air, during emergency and high charge mode.
- **Cable Entry Access**: Bottom, Top or Side

---

**Applications Diagram**

Illuminator Series EM

Single Phase 1kW to 2.8kW

(Shown with optional raised floor mounting bracket)
**Electronics Module**

<table>
<thead>
<tr>
<th>Base Model Number</th>
<th>Power Rating (VA/W)</th>
<th>Efficiency (@ full load)</th>
<th>Audible Noise (dBA @ 1m)</th>
<th>Heat Loss (BTU)/HR</th>
</tr>
</thead>
<tbody>
<tr>
<td>EM-1</td>
<td>1000</td>
<td>98%</td>
<td>45</td>
<td>70</td>
</tr>
<tr>
<td>EM-2</td>
<td>1600</td>
<td>98%</td>
<td>45</td>
<td>110</td>
</tr>
<tr>
<td>EM-3</td>
<td>2200</td>
<td>98%</td>
<td>45</td>
<td>150</td>
</tr>
<tr>
<td>EM-4</td>
<td>2800</td>
<td>98%</td>
<td>45</td>
<td>190</td>
</tr>
</tbody>
</table>

**Cabinet Dimensions**

<table>
<thead>
<tr>
<th>Model</th>
<th>Width in/cm</th>
<th>Height in/cm</th>
<th>Depth in/cm</th>
<th>Weight lbs/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>EM-1</td>
<td>25/61.6</td>
<td>28/69.9</td>
<td>11/26.67</td>
<td>121/55</td>
</tr>
<tr>
<td>EM-2</td>
<td>44/109.86</td>
<td>11/26.67</td>
<td>165/75</td>
<td></td>
</tr>
<tr>
<td>EM-3</td>
<td>44/109.86</td>
<td>11/26.67</td>
<td>174/79</td>
<td></td>
</tr>
<tr>
<td>EM-4</td>
<td>55/139.7</td>
<td>11/26.67</td>
<td>203/92</td>
<td></td>
</tr>
</tbody>
</table>

**Batteries**

<table>
<thead>
<tr>
<th>Model</th>
<th>Number of Batteries</th>
<th>Voltage (VDC)</th>
<th>Current (Ampere)</th>
<th>90 Minute Batteries (lbs/kg)</th>
<th>Total System Weight (lbs/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EM-1</td>
<td>4</td>
<td>160/173</td>
<td>48</td>
<td>26</td>
<td>281/128</td>
</tr>
<tr>
<td>EM-2</td>
<td>6</td>
<td>240/199</td>
<td>72</td>
<td>27</td>
<td>405/184</td>
</tr>
<tr>
<td>EM-3</td>
<td>8</td>
<td>320/246</td>
<td>96</td>
<td>27</td>
<td>494/225</td>
</tr>
<tr>
<td>EM-4</td>
<td>10</td>
<td>400/332</td>
<td>120</td>
<td>27</td>
<td>603/274</td>
</tr>
</tbody>
</table>

**Inverter**

IGBT-based inverter with dynamic pulse-by-pulse current limiting and inrush protection. Short circuit and overload protection by microprocessor.

**Waveform**

Pure PWM sine wave, less than 3% THD with 0.5 leading and 0.5 lagging loads.

**Construction**

Enclosure is cold-rolled steel with powder coated surface. Front cover is secured with four screws. Flush floor mount cabinet standard. Optional seismic/raised floor mount brackets available.

**Battery Charger**

Temperature compensated with 24 hour recharge for 90 minute system standard.
E-MAIL/MODEM (requires analog phone line)
User can enable/disable and program alarms that will trigger messages to e-mail destinations. User can set up specific alarm events that will alert service or maintenance personnel. The system will transmit monthly and yearly tests per NFPA requirements. Bi-directional communication eases system diagnostics and data retrieval through the RJ-232 serial communication port.

VARIABLE TIME DELAY
Allows for delay of inverter retransfer to continue supplying emergency power to the normally off output for up to 15 minutes after the return of input power.

OUTPUT CIRCUIT BREAKER
Maximum output breakers available: 10 unsupervised (1-pole), 6 supervised (1-pole)

OUTPUT TRIP ALARM
An audible and visual alarm activates when an output distribution circuit breaker is tripped.

MAINTENANCE BYPASS
This device is internally mounted in the system and permits maintenance personnel to easily bypass the inverter and connect direct to the AC utility power. The “make before break” switch isolates the electronics or inverter system to allow performance of routine maintenance or servicing. Inverter bypasses is indicated on user interface panel.

SUMMARY FORM C CONTACTS
Form “C” dry contacts will change state when any system alarm activates. Contacts change state with the following alarms: High/low battery charger fault, near low battery, low battery, load reduction fault, output overload, high/low AC input volts, high ambient temperature, inverter fault, test failure, and optional circuit switch. Remote summary alarm panel.

REMOTE SUMMARY ALARM PANEL
A wall mountable enclosure containing an audible alarm/silence switch and light that will activate upon any system alarm 1000’ maximum distance from inverter.
SYSTEM OPTIONS

E-MAIL/MODEM (requires analog phone line)
User can enable/disable and program alarms that will trigger messages to e-mail destinations. User can set up specific alarm events that will alert service or maintenance personnel. The system will transmit monthly and yearly tests per NFPA requirements. Bi-directional communication eases system diagnostics and data retrieval through the RS-232 serial communication port.

VARIABLE TIME DELAY
Allows for delay of inverter retransfer to continue supplying emergency power to the normally off output for up to 15 minutes after the return of input power.

OUTPUT CIRCUIT BREAKER
Maximum output breakers available: 10 unsupervised (1-pole), 3 supervised (1-pole), 6 supervised (1-pole)

OUTPUT TRIP ALARM
An audible and visual alarm activates when an output distribution circuit breaker is tripped.

MAINTENANCE BYPASS
This device is internally mounted in the system and permits maintenance personnel to easily bypass the inverter and connect directly to the AC utility power. The “make before break” switch isolates the electronics or inverter system to allow performance of routine maintenance or servicing. Inverter bypasses are indicated on user interface panel.

SUMMARY FORM C CONTACTS
Form “C” dry contacts will change state when the inverter transfers to battery operation.

STANDBY BYPASS FORM C CONTACTS
Form “C” dry contacts capable of monitoring system and option statuses (Inverter On, Inverter Off, AC Present, High Temperature, Summary Alarm, System Bypass*, and OTA*)

* Requires purchase of Maintenance Bypass and/or Output Trip Alarm options.

ZONE MONITOR(S)
Monitors AC power presence in a specific zone (area, distribution panel, etc.). Upon loss of power in the zone(s), inverter will turn off, activating ALL normally off (emergency only) circuits. All normally on loads remain on. When power returns in the zone(s), inverter will turn on after its preset delay and normally off loads will turn off. Contact factory for quantity limits per application.

LOAD CONTROL RELAYS
Used to bypass an emergency lighting load’s control device (“switch mechanism” such as a wall switch, dimmer, photocell, time clock, etc.). The connected “switched” emergency load(s) are powered by utility through the load control relay(s). The inverter monitors AC utility and transfers when utility fails, automatically forcing load control relay(s) to activate and bypass the “switch mechanism” to loads. “Switch mechanism” remains bypassed and loads are powered by the inverter until restoration of utility power at which time “switched” loads are returned to their previous state. Contact factory for quantity limits per application.

NORMALLY OFF OUTPUT
This output circuit is dedicated for emergency-only equipment. Emergency-only equipment operates during power outages and when the inverter is on battery back up. This option leaves the selective load off circuits off during normal utility power conditions.

INVERTER ON FORM C CONTACT
Form “C” dry contacts that will change state when the inverter transfers to battery operation.

STATUS MONITORING FORM C CONTACTS
Form “C” dry contacts capable of monitoring system and option statuses (Inverter On, Inverter Off, AC Present, High Temperature, Summary Alarm, System Bypass*, and OTA*)

* Requires purchase of Maintenance Bypass and/or Output Trip Alarm options.

SYSTEM DISPLAY FUNCTIONS

METER FUNCTIONS
- AC Voltage Input
- AC Voltage Output
- AC Current Output
- Battery Voltage
- System Days

PROGRAM FUNCTIONS
- Date
- Time
- Month Test Date/Time
- Yearly Test Date/Time
- Load Fault Reduction Setting

CONTROL FUNCTIONS
- Test Log & Event Log (75 Logs Stored): Date, Time, Duration, Output Voltage, Output Current, Ambient Temperature and Alarms Present
- Alarm Log (75 Logs Stored): Date, Time, Alarm Type, Test, Buzzer On/Off
- Low Battery Alarm
- Near Low Battery Alarm
- Low AC Voltage Alarm
- High AC Voltage Alarm
- Ambient Temperature Alarm
- Battery Current
- VA Output
- Inverter Watts
- Ambient Temperature
- Inverter Minutes

PROGRAM OPTIONS
- Date
- Time
- Month Test Date/Time
- Yearly Test Date/Time
- Load Fault Reduction Setting

CONTROL OPTIONS
- Test Log & Event Log (75 Logs Stored): Date, Time, Duration, Output Voltage, Output Current, Ambient Temperature and Alarms Present
- Alarm Log (75 Logs Stored): Date, Time, Alarm Type, Test, Buzzer On/Off
- Low Battery Alarm
- Near Low Battery Alarm
- Low AC Voltage Alarm
- High AC Voltage Alarm
- Ambient Temperature Alarm
- Battery Current
- VA Output
- Inverter Watts
- Ambient Temperature
- Inverter Minutes

OPTIONS
- A - Remote Summary Alarm Panel
- C - Status Monitoring Dry Form C Contacts
- D - Drip Trip (NEMA 2)
- E - E-Mail Modem
- I - Inverter On Dry Form C Contacts
- L - Load Control Relay
- M - Maintenance Bypass
- S - Summary Fault
- T - Drip Trip (NEMA 2)
- W - Wall Mount Brackets
- X - Zone Monitoring
- Z - Seismic/Raised Floor Mounting Bracket

ORDERING GUIDE

SYSTEM TYPE
EM - Illuminator Series “EM”

BATTERY TYPE
5 - Standard (VRLA)

VOLTAGE (INPUT / OUTPUT)
- 120 - 120
- 208 - 120/277
- 480 - 240/208/120
- 277 - 277
- 72 - 277/277
- 208 - 120/240
- 208 - 120/208
- 2 - Output Voltages

AMP RATING
- 208 – 120/208
- 208 – 240
- 208 – 120
- 208 – 277
- 208 – 240/277
- 208 – 277
- 208 – 120/240
- 208 – 120/208
- 208 – 120/277
- 208 – 277

QUANTITY
01 – 103

ACCESSORIES
- MOD - Modem
- DBP+4A - External Maintenance Bypass Switch
- E-MAIL/MODEM (requires analog phone line)
- SNMP - Network Interface Device

WARRANTY
- 2YW - Factory Start-Up Extended 2-Year Electronics Warranty
- 5YW - 5-Year Preventative Maintenance Plan, Start-Up Included
- SVW - 5-Year Extended Electronics Warranty, Start-Up Included
- SMP - Service Monitoring Plan

Example Model Number: 1-EM-4-S-BA2006-T-S-M-2YW
**SYSTEM SPECIFICATIONS**

**INVERTER**
- IGBT-based inverter with dynamic pulse-by-pulse current limiting and inrush protection.
- Short circuit and overload protection by microprocessor.

**WAVEFORM**
- Pure PWM sine wave, less than 3% THD with 0.5 leading and 0.5 lagging loads.

**CONSTRUCTION**
- Enclosure is cold-rolled steel with powder coated surface.
- Front cover is secured with four screws.
- Flush floor mount cabinet standard.
- Optional seismic/raised floor mounting brackets available.

**BATTERY CHARGER**
- Temperature compensated with 24 hour recharge for 90 minute system standard.

**SMALL FOOTPRINT**
- 11" (Depth) x 25" (Wide) for 1000VA/W model
- 25" (Wide) for 1600 and 2200VA/W models
- 55" (High) for 2800VA/W model

**ELECTRONICS MODULE**
- Base Model Number
- Power Rating (VA/W)
- Efficiency (@ full load)
- Audible Noise (dBA @ 1m)
- Heat Loss (BTU)/HR

<table>
<thead>
<tr>
<th>Base Model Number</th>
<th>Power Rating (VA/W)</th>
<th>Efficiency (@ full load)</th>
<th>Audible Noise (dBA @ 1m)</th>
<th>Heat Loss (BTU)/HR</th>
</tr>
</thead>
<tbody>
<tr>
<td>EM-1 1000</td>
<td>98%</td>
<td>25/61.6</td>
<td>28/69.9</td>
<td>11/26.67</td>
</tr>
<tr>
<td>EM-2 1600</td>
<td>98%</td>
<td>25/61.6</td>
<td>44/109.86</td>
<td>11/26.67</td>
</tr>
<tr>
<td>EM-3 2200</td>
<td>98%</td>
<td>25/61.6</td>
<td>44/109.86</td>
<td>11/26.67</td>
</tr>
<tr>
<td>EM-4 2800</td>
<td>98%</td>
<td>25/61.6</td>
<td>55/139.7</td>
<td>11/26.67</td>
</tr>
</tbody>
</table>

**BATTERIES**
- (90 Minutes @ Full Load)
- Number of Batteries
- Voltage (VDC)
- Current (Amperes)

<table>
<thead>
<tr>
<th>90 Minute Batteries</th>
<th>Total System Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>160/73</td>
<td>281/128</td>
</tr>
<tr>
<td>240/109</td>
<td>405/184</td>
</tr>
<tr>
<td>320/146</td>
<td>494/225</td>
</tr>
<tr>
<td>400/182</td>
<td>603/274</td>
</tr>
</tbody>
</table>

**SYSTEM DESIGN FEATURES**

**INVERTER**
- IGBT-based inverter with dynamic pulse-by-pulse current limiting and inrush protection. Short circuit and overload protection by microprocessor.

**WAVEFORM**
- Pure PWM sine wave, less than 3% THD with 0.5 leading and 0.5 lagging loads.

**CONSTRUCTION**
- Enclosure is cold-rolled steel with powder coated surface.
- Front cover is secured with four screws. Flush floor mount cabinet standard. Optional seismic/raised floor mount brackets available.

**BATTERY CHARGER**
- Temperature compensated with 24 hour recharge for 90 minute system standard.

**BATTERIES**
- Maintenance-free sealed lead calcium VRLA with ten year design life.

**SMALL FOOTPRINT**
- 11" (Depth) x 25” (Wide) for 1000VA/W
- 28" (Wide) for 1600 and 2200VA/W models
- 55" (High) for 2800VA/W model

**USER INTERFACE DISPLAY**
- Self-testing and self-diagnostics per NFPA and UL standards.
- Memory logs of over 1525 parameters contained in Test, Event and Fault logs. Easy to read alpha-numeric display with user-friendly keypad integrates system’s Meter, Alarm, Control and Program functions.
The Illuminator Series EM is a fast transfer Emergency Lighting Inverter utilizing Myers Power Products advanced technology and small footprint design. The Illuminator EM, as well as all of the Myers Power Products fast transfer lighting inverter systems are UL 924 listed and designed to support all lamp sources including fluorescent, incandescent, quartz, halogen, HID, and LED. This allows the use of these types of lamps and luminaires in the design of emergency lighting schemes without the need for quartz restrike. In addition, all Illuminator Series systems supply a true sine wave output. This allows for the incorporation of all current and future LED technologies into your emergency lighting layout.

The Illuminator Series EM’s design incorporates the proven technology of all Myers Power Products lighting inverters and provides the end user with a 98% efficient system. This 98% efficient technology translates into lower utility operating costs and virtually no impact on heating and cooling requirements as compared to all other types of emergency lighting inverter systems.

The small cabinet, with wall or floor mount capabilities, allows the client to install this system virtually anywhere in the building with minimal space requirements. All Myers Power Products lighting inverters perform and log the monthly and yearly tests as required by NFPA standards, and our intelligent front meter panels allows easy access to this information. In addition, this front meter panel displays system status and allows for real time diagnostics of the system’s electronics.

APPLICATONS

• 911 Facilities
• Airports
• Apartment/Condominium Complexes
• Assisted Living Centers, Nursing Homes
• Banks, Financial Institutions
• Casinos
• City, County, State, Federal Buildings
• Grocery Stores/Home Center Stores
• Hospitals
• Hotels, Motels
• Industrial
• Medical Offices
• Military Complexes
• Movie/Performing Art Theaters
• Office Buildings
• Parking Garages
• Prisons
• Race Tracks
• Railroad, Subway, Bus Stations
• Religious Facilities
• Restaurants
• Retail Department Stores
• Schools, Colleges, Day Care Centers
• Shopping Malls
• Sport Facilities
• Toll Booths
• Tunnels and Bridges
• Designed to work with all electronic power factor corrected ballasts.
• Central Inverters can eliminate unit equipment in architecturally sensitive applications.
• Eliminate maintenance costs of individual testing of unit equipment and battery powered ballasts. All tests and diagnostics are performed and recorded automatically.

THE ILLUMINATOR SERIES EM SYSTEM SPECIFICATIONS

INPUT

<table>
<thead>
<tr>
<th>Voltage</th>
<th>120 or 277VAC 1-phase 2-wire -10% -15%. Contact factory for all other voltages.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Power Walk-in</td>
<td>Walk-in limiting inrush current to less than 125%, 10 times for 1 line cycle</td>
</tr>
<tr>
<td>Input Frequency</td>
<td>60Hz, +/- 3%, 50Hz Available upon request</td>
</tr>
<tr>
<td>Synchronizing Slew Rate</td>
<td>1Hz per second nominal</td>
</tr>
<tr>
<td>Harmonic Distortion</td>
<td>&lt; 10%</td>
</tr>
<tr>
<td>System Short Circuit Rating</td>
<td>65 KIC</td>
</tr>
</tbody>
</table>

OUTPUT

<table>
<thead>
<tr>
<th>Voltage</th>
<th>120 or 277VAC 1-phase 2-wire. Contact factory for all other voltages.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Static Voltage</td>
<td>Load current change +/-2%, battery discharge +/-12.5%</td>
</tr>
<tr>
<td>Dynamic Voltage</td>
<td>+/- 2% for +/-25% load step change, +/-3% for a 50% load step change, recovery within 3 cycles</td>
</tr>
<tr>
<td>Harmonic Distortion</td>
<td>&lt; 3% THD for linear load</td>
</tr>
<tr>
<td>Overload</td>
<td>Circuit Breaker protected</td>
</tr>
<tr>
<td>Output Frequency</td>
<td>60Hz +/- .05Hz during emergency mode</td>
</tr>
<tr>
<td>Load Power Factor</td>
<td>.5 lag to .5 lead</td>
</tr>
<tr>
<td>Inverter Overload</td>
<td>380% for 16 line cycles, 125% for 10 minutes</td>
</tr>
<tr>
<td>Protection</td>
<td>Optional Distribution Circuit Breaker(s) (1 breaker standard)</td>
</tr>
<tr>
<td>Crest Factor</td>
<td>3.8</td>
</tr>
</tbody>
</table>

BATTERY

<table>
<thead>
<tr>
<th>Type</th>
<th>Valve-regulated sealed lead-calcium.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charger</td>
<td>Microprocessor controlled for various battery types and temperature compensating</td>
</tr>
<tr>
<td>Disconnect</td>
<td>Automatic low-battery disconnect; automatic restart upon utility return.</td>
</tr>
</tbody>
</table>

ENVIRONMENTAL

<table>
<thead>
<tr>
<th>Altitude</th>
<th>&lt; 10,000 feet (above sea level) without derating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature</td>
<td>Inverter: 0° to -40°C (32° to 104°F) Battery: 20° to 30°C (68° to 86°F) per UL-924</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-20° to 70°C (4° to 158°F) (electronics only)</td>
</tr>
<tr>
<td>Relative Humidity</td>
<td>&lt; 95% (non-condensing)</td>
</tr>
</tbody>
</table>

GENERAL

<table>
<thead>
<tr>
<th>Design</th>
<th>Line interactive PWM inverter type utilizing IGBT technology with 2ms transfer time. 98% efficiency.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generator Input</td>
<td>Compatible with generators (50kVA or larger).</td>
</tr>
<tr>
<td>Control Panel</td>
<td>Microprocessor controlled 4 x 20-character vacuum fluorescent display with touch pad controls/functions &amp; scrolling system status</td>
</tr>
<tr>
<td>Metering</td>
<td>Input &amp; Output Voltage, Battery Voltage, Battery &amp; Output Current, Output VA, Temperature, Inverter Wattage.</td>
</tr>
<tr>
<td>Alarms</td>
<td>High/Low Battery Charger Fault, Near Low Battery, Low Battery, Load Reduction Fault, Output Overload, High/Low AC Input Volts, High Ambient Temperature, Inverter Fault, Optional Circuit Breaker Trip</td>
</tr>
<tr>
<td>Communications</td>
<td>RS-232 port (DB9). Optional E-mail/modem, SNMP.</td>
</tr>
<tr>
<td>Maintenance Bypass</td>
<td>Optional Internal or optional external without internal distribution breakers.</td>
</tr>
<tr>
<td>Alarm Contacts</td>
<td>Optional Summary Form “C” Contacts, Inverter On Contact (IOC) and/or Status Monitoring Contacts.</td>
</tr>
<tr>
<td>Warranty</td>
<td>Optional Summary Form “C” Contacts, Inverter On Contact (IOC) and/or Status Monitoring Contacts.</td>
</tr>
<tr>
<td>Factory Start-up</td>
<td>1 year standard warranty includes all parts, labor, &amp; travel expenses within 48 contiguous states. Up to 10 years prorated warranty on batteries.</td>
</tr>
<tr>
<td>5 Year Service Plan</td>
<td>Extended warranties, preventative maintenance and/or customized service plans are available.</td>
</tr>
<tr>
<td></td>
<td>Purchase factory start-up &amp; receive 1 additional year of warranty.</td>
</tr>
<tr>
<td></td>
<td>Purchase 5 year service plan &amp; receive free factory start-up.</td>
</tr>
</tbody>
</table>

PHYSICAL

<table>
<thead>
<tr>
<th>Cabinet</th>
<th>Freestanding NEMA Type 1; powder coat paint</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooling</td>
<td>Forced Air, during emergency and high charge mode.</td>
</tr>
<tr>
<td>Cable Entry</td>
<td>Bottom, Top or Side</td>
</tr>
<tr>
<td>Access</td>
<td>Front</td>
</tr>
</tbody>
</table>
Illuminator Series E/IE
Single Phase
1.5KVA to 15.7KVA

Illuminator Series CR/DR
Single and Three Phase
Outdoor System 3KVA to 8KVA

Illuminator Series CIII
Three phase
4.8KVA to 50KVA

Three phase
4.8KV to 50KV

98% Efficiency!