

ILLUMINATOR NVM INTERMEDIATE INVERTER

The Illuminator NVM inverter features the industry's smallest cabinetry, even when all optional equipment is incorporated. It can be either wall or floor mounted. Our fast transfer technology is 98% efficient and can support all lamp sources.



FEATURES & SPECIFICATIONS

STANDARD FEATURES

- 98% Efficient (Typical)
- 65KAIC Input Rating
- NFPA 101 Self Testing and Data Logging
- User Programmable with Password Protection
- Automatic Event, Test and Alarm Log
- Compatible with all lighting loads
- Input Circuit Breaker
- One Output Circuit Breaker
- No Break 2ms Transfer Time
- Wall Hung Units (No Mounting Brackets)
- RS-232 Communication Port
- 65kAIC Withstanding Rating

OPTIONAL FEATURES

- Enhanced Communications
 - Expanded Building Management Protocols
 - BACnet or Modbus Communications Interface
 - NEW IoT Connect Cloud Software
- Internal or External Maintenance Bypass
- Summary Form C Contacts
- Status Monitoring Contacts
- Output Circuit Breakers
- Normally Off Output with Variable Time Delay
- Output Trip Alarms
- Remote Summary Alarm Panel
- Wall Brackets, Floor, or Seismic Mounting

SPECIFICATIONS

- Input Voltage: 120, 277, 347VAC 1 Phase 2 Wire Plus Ground
- Output Voltage: 120, 277, 347VAC 1 Phase 2 Wire Plus Ground
- Output Load Power Factor .5 Lag to .5 Lead
- Output Distortion Less than 3% THD for Linear Loads
- Forced Air Cooling Only During Emergency Operation; No Filters Required
- Electronic and Magnetic Ballast Compatible
- Generator Compatibility
- Custom Voltages Available
- 30, 60, 90 and 120 Minute Run Time Standard

APPROVALS

- cUL to CSA 22.2 #141-15

System Display Functions



ADVANCED TECHNOLOGY

Designed with Pure Sine Wave technology, our inverters provide direct AC power and full illumination to all lighting sources. With industry-leading efficiencies, they run cool and reduce the overall operating costs of emergency lighting systems.

DESIGNED WITH THE FIELD IN MIND

The small cabinet, with wall or floor mount capabilities, allows clients to install the system virtually anywhere in the building with minimal space requirements. All lighting inverters perform and log the monthly and yearly tests as required by the national building codes, and the intelligent front meter panel 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.



Meter Functions

- AC Voltage Input
- AC Voltage Output
- AC Current Output
- Battery Voltage
- System Days
- Battery Current
- VA Output
- Inverter Watts
- Ambient Temperature
- Inverter Minutes

Program Functions

- Date
- Time
- Month Test Date / Time
- Yearly Test Date / Time
- Load Fault Reduction Setting
- Low Battery Alarm
- Near Low Battery Alarm
- Low AC Voltage Alarm
- High AC Voltage Alarm
- Ambient Temperature Alarm

Control Functions

- Test Log & Event Log
- 75 Logs Stored
- Date, Time, Duration
- Output Voltage
- Output Current
- Ambient Temperature
- Alarms Preset
- Alarm Log
- 75 Logs Stored
- Date, Time, Alarm Type
- Test
- Buzzer On / Off

ORDERING GUIDE

| SERIES | VOLTAGE INPUT-OUTPUT | CAPACITY RATING [W]* | BATTERY TYPE | OUTPUT BREAKERS ¹ | | | | OPTIONS |
|--------|-------------------------------------|----------------------|---------------|-------------------------------------|------------------|------------|--|--------------------------|
| | | | | OUTPUT | VOLTAGE/POLES | AMP RATING | QUAN-TITY ² | |
| NVM30 | A-A - 120 INPUT; 120 OUTPUT | 1 000 | S - STAN-DARD | D - NORMALLY ON F - NORMALLY OFF | A - 120V 1-POLE | 10 | T01 | STANDARD FEATURES |
| NVM60 | 120 OUTPUT | 1 600 | | | B - 208V 2-POLES | 16 | T02 | |
| NVM90 | A-AE - 120 INPUT; 120/277 OUTPUT | 2 200 | | | C - 240 | 20 | T03 | DT - DRIP TOP (NEMA 2) |
| NVM120 | B-A - 208 INPUT; 120 OUTPUT | 2 800 | | | E - 277 | 25 | T04 | OPTIONAL FEATURES |
| | C-AC - 240 INPUT; 120/240 OUTPUT | | | H - 347 | 32 | T05 | BBM - INTERNAL MAINTENANCE BYPASS (BREAK-BEFORE-MAKE) | |
| | E-A - 277 INPUT; 120 OUTPUT | | | | 40 | T06 | BL - CIRCUIT BREAKER LOCK(S) | |
| | E-E - 277 INPUT; 277 OUTPUT | | | | 50 | | BS - BATTERY STRAPPING | |
| | E-EA - 277 INPUT; 277/120 OUTPUT | | | | 63 | | BTM - BATTERY TEMPERATURE MONITOR | |
| | B-AC - 208 INPUT; 120/240 OUTPUT | | | | | | L - LOAD CONTROL RELAY (LINE VOLT-AGE DIMMER OR SWITCH BYPASS) | |
| | B-AB - 208 INPUT; 120/208 OUTPUT | | | | | | MBB - INTERNAL MAINTENANCE BYPASS (MAKE-BEFORE-BREAK) | |
| | H-H - 347 INPUT; 347 OUTPUT | | | | | | O - OUTPUT TRANSFER DELAY | |
| | | | | | | | P - REMOTE STATUS PANEL (REQUIRES OPTION C) | |
| | | | | | | | RA - REMOTE SUMMARY ALARM PANEL | |
| | | | | | | | S - SUMMARY FAULT FORM C CONTACTS | |
| | | | | | | | PICK 1 | |
| | | | | | | | BIP - BACNET IP | |
| | | | | | | | IOT - IOT INVERTER CLOUD CONNECT | |
| | | | | | | | MIP - MODBUS TCP/IP | |
| | | | | | | | MOUNTING OPTION PICK 1 | |
| | | | | | | | BLANK - STANDARD WALL | |
| | | | | | | | FL - FLOOR MOUNT BRACKET (ADDS 4" TO TOTAL SYSTEM HEIGHT) | |
| | | | | | | | SM - SEISMIC / RAISED FLOOR (ADDS 4" TO TOTAL SYSTEM HEIGHT) | |
| | | | | | | | W - WALL MOUNT BRACKETS | |

¹ Output breakers are optional

² Maximum out breakers available:

1 000-2 800 W: 6 supervised

347 V : 14 supervised

³ Anchorage based on calculations. For systems requiring OSHPD/Withstand testing, please contact the factory

* Capacity changes with runtime. See list below.

| CAPACITY RATING AS PER ORDERING GUIDE | ACTUAL CAPACITY RATING [KW] | | | |
|---------------------------------------|-----------------------------|-------|-------|--------|
| | NVM30 | NVM60 | NVM90 | NVM120 |
| 1 000 | 1 | 1 | 0.9 | 0.8 |
| 1 600 | 1.6 | 1.6 | 1.44 | 1.28 |
| 2 200 | 2.2 | 2.2 | 1.98 | 1.76 |
| 2 800 | 2.8 | 2.8 | 2.52 | 2.24 |

OPTION TABLE

| OPTION CODE | OPTION NAME | DESCRIPTION |
|-------------|--|--|
| BBM | INTERNAL MAINTENANCE BYPASS BREAK BEFORE MAKE | TOGGLE SWITCH DESIGNED TO DISCONNECT INVERTER FROM ELECTRICAL SYSTEM FOR MAINTENANCE (BREAK BEFORE MAKE) |
| BIP | BACNET IP | "MSTP" ALLOW UPLOAD OF FMP DATA VIA RS232 INTERMEDIATE DEVICE. THIS INFO CAN THEN BE DOWNLOADED TO CUSTOMER DEVICE. ALLOWS DIRECT COMMUNICATION VIA IP |
| BL | OUTPUT CIRCUIT BREAKER LOCK(S) | ALLOWS CUSTOMER TO LOCK THE OUTPUT CIRCUIT BREAKER IN ON OR OFF POSITION |
| BS | BATTERY STRAPPING | STRAPPING OF THE BATTERIES TO STOP MOVEMENT |
| BTM | BATTERY TEMPERATURE MONITOR | 1. WARNING ALARM: WARNS WHEN BATTERY TEMPERATURE IS GETTING TOO HIGH. 2. ABSOLUTE ALARM: WHEN TEMPERATURE REACHES HIGH TEMP THIS SHUTS DOWN THE STRING OF BATTERIES WHERE THE HOT BATTERY IS. |
| C | STATUS MONITORING CONTACTS | 5 FORM C DRY CONTACTS: 1. SYSTEM IN BYPASS 2. SUMMARY ALARM: ANY ALARM IN THE FMP 3. OUTPUT TRIP ALARM 4. UTILITY FAILURE 5. INVERTER ON |
| DT | DRIP TOP (NEMA 2) | METAL PIECE DESIGNED TO DIRECT FALLING WATER AWAY FROM THE UNIT |
| EMBP | EXTERNAL MAINTENANCE BYPASS (MAKE-BEFORE-BREAK) | MAINTENANCE BYPASS SWITCH MOUNTED EXTERNAL TO THE SYSTEM (CANNOT USE WITH OUTPUT CIRCUIT BREAKERS) |
| FL | FLOOR MOUNT BRACKET (ADD 4" TO HEIGHT OF SYSTEM) | ALLOWS CLIENT TO GET THE EM OFF THE FLOOR |
| IOT | IOT INVERTER CONNECT CLOUD COMMUNICATION | SYSTEM USING THE CLOUD TO ALLOW MONITORING OF MULTIPLE SYSTEMS IN ONE LOCATION |
| L | LOAD CONTROL RELAY DIMMER OR BYPASS SWITCH | LOAD CONTROL RELAY (LINE VOLTAGE DIMMER OR SWITCH BYPASS) |
| MBB | INTERNAL MAINTENANCE BYPASS MAKE BEFORE BREAK | TOGGLE SWITCH DESIGNED TO DISCONNECT INVERTER FROM ELECTRICAL SYSTEM FOR MAINTENANCE (MAKE BEFORE BREAK) |
| MIP | MODBUS TCP/IP | "MSTP" ALLOW UPLOAD OF FMP DATA VIA RS232 INTERMEDIATE DEVICE. THIS INFO CAN THEN BE DOWNLOADED TO CUSTOMER DEVICE. ALLOWS DIRECT COMMUNICATION VIA IP |
| O | OUTPUT TRANSFER DELAY | DEVICE DESIGNED TO DELAY TRANSFER ADJUSTABLE 0-75 SECONDS, FACTORY SET AT 3 SECONDS. USED WHEN CONTROL SYSTEM CANNOT DETECT THE FAST TRANSFER |
| P | REMOTE STATUS PANEL (STATUS ALARMS, REQUIRES C OPTION) | SINGLE GANG BOX SHOWING STATUS OF ALARMS, REQUIRES C OPTION |
| R | REMOTE METER PANEL | FULL SIZE METER PANEL MOUNTED REMOTELY IN A NEMA 1 ENCLOSURE |
| RA | REMOTE SUMMARY ALARM PANEL | LED INDICATOR AND SOUND ALERT |
| S | SUMMARY FAULT FORM C CONTACTS | RELAY CONTACT SHOWING ANY ALARM |
| SM | SEISMIC MOUNTING | INSTRUCTIONS AND HARDWARE FOR MOUNTING SYSTEM IN STANDARD SEISMIC APPLICATIONS |
| T | OUTPUT TRIP ALARM | ALARMS WHEN ANY OUTPUT CIRCUIT BREAKER IS TRIPPED |
| W | WALL MOUNT BRACKET | BRACKET FOR MOUNTING SYSTEM ON THE WALL |

DIMENSIONS



| POWER RATING [KW] | VOLTAGE IN-OUT [VAC] | CABINET DIMENSIONS | | | | BATTERIES | | TOTAL SYSTEM WEIGHT |
|-------------------|----------------------|--------------------|-------------|------------|--------------|------------------|--------------|---------------------|
| | | WIDTH (IN) | HEIGHT (IN) | DEPTH (IN) | WEIGHT (LBS) | NO. OF BATTERIES | WEIGHT (LBS) | |
| 1 | 120 OR 277 | 24.25 | 27.5 | 10.5 | 121 | 4 | 93 | 214 |
| | 347 | | 43.25 | | 199 | | | 292 |
| 1.6 | 120 OR 277 | 24.25 | 43.25 | 10.5 | 165 | 6 | 139 | 304 |
| | 347 | | 55 | | 237 | | | 376 |
| 2.2 | 120 OR 277 | 24.25 | 43.25 | 10.5 | 171 | 8 | 186 | 357 |
| | 347 | | 55 | | 237 | | | 423 |
| 2.8 | 120 OR 277 | 24.25 | 55 | 10.5 | 203 | 10 | 232 | 435 |
| | 347 | | 70.75 | | 281 | | | 513 |

| POWER RATING [KW] | | | VOLTAGE IN-OUT [VAC] | CABINET DIMENSIONS | | | | BATTERIES | | TOTAL SYSTEM WEIGHT |
|-------------------|---------|----------|----------------------|--------------------|-------------|------------|--------------|------------------|--------------|---------------------|
| 60 MIN. | 90 MIN. | 120 MIN. | | WIDTH (IN) | HEIGHT (IN) | DEPTH (IN) | WEIGHT (LBS) | NO. OF BATTERIES | WEIGHT (LBS) | |
| 1 | 0.9 | 0.8 | 120 OR 277 | 24.25 | 27.5 | 10.5 | 121 | 4 | 146 | 267 |
| | | | 347 | | 43.25 | | 199 | | | 345 |
| 1.6 | 1.44 | 1.28 | 120 OR 277 | 24.25 | 43.25 | 10.5 | 165 | 6 | 218 | 383 |
| | | | 347 | | 55 | | 237 | | | 455 |
| 2.2 | 1.98 | 1.76 | 120 OR 277 | 24.25 | 43.25 | 10.5 | 171 | 8 | 291 | 462 |
| | | | 347 | | 55 | | 237 | | | 528 |
| 2.8 | 2.52 | 2.24 | 120 OR 277 | 24.25 | 55 | 10.5 | 203 | 10 | 364 | 567 |
| | | | 347 | | 70.75 | | 281 | | | 645 |

HEAT LOSS TABLE

| 30 MINUTE RUN TIME | | 60 MINUTE RUN TIME | | 90 MINUTE RUN TIME | | 120 MINUTE RUN TIME | |
|--------------------|-------------------|--------------------|-------------------|--------------------|-------------------|---------------------|-------------------|
| OUTPUT RATING [KW] | HEAT LOSS [BTU/H] | OUTPUT RATING [KW] | HEAT LOSS [BTU/H] | OUTPUT RATING [KW] | HEAT LOSS [BTU/H] | OUTPUT RATING [KW] | HEAT LOSS [BTU/H] |
| 1.00 | 68 | 1.00 | 68 | 0.90 | 61 | 0.80 | 55 |
| 1.60 | 109 | 1.60 | 109 | 1.44 | 98 | 1.28 | 87 |
| 2.20 | 150 | 2.20 | 150 | 1.98 | 135 | 1.76 | 120 |
| 2.80 | 191 | 2.80 | 191 | 2.52 | 172 | 2.24 | 153 |

Data is based upon tests performed in a controlled environment. Actual performance can vary depending on operating conditions. All products are subject to change or may be discontinued any time without notice.