Project _____ Type _____

Catalogue n° _____ Date _____

ILLLUMINATOR NVP
SINGLE PHASE INVERTER

The Illuminator NVP is a fast transfer central inverter system. The system features a single-cabinet design for units up to 16.7 kW, reducing the footprint and installation cost. With advanced communication features, the NVP offers the total solution.

FEATURES & SPECIFICATIONS

STANDARD FEATURES

- 98% Efficient (Typical)
- PWM/IGBT Technology
- Microprocessor Control
- User Programmable with Password Protection
- Automatic Event, Test & Alarm Log
- RS232 Communications Port
- Input Circuit Breaker
- 2ms Transfer Time
- Low Audible Noise
- Space-Saving, Single Cabinet Design
- 65kAIC Withstanding Rating

OPTIONAL FEATURES

- Enhanced Communications
  - Expanded Building Management Protocols
  - BACnet or Modbus Communications Interface
  - IoT Connect Cloud Software
- Internal Maintenance Bypass
- Summary Alarm Dry Form C Contacts
- Status Monitoring Dry Form C Contacts
- Remote Meter Panel
- Output Circuit Breakers
  - 1500-5000W: 8 supervised
  - 6000-16700W: 18 supervised
- Factory Startup and Training
- Normally Off Output
- Output Trip Alarms
- Remote Summary and Remote Status Alarm Panels

SPECIFICATIONS

- Input 120, 277, 347VAC 1 Phase 2 Wire Plus Ground
- Output 120, 277, 347VAC 1 Phase 2 Wire Plus Ground
- Output Load Power Factor .5 Lag to.5 Lead
- Compatible with all LED Drivers
- Forced Air Cooling Only During Emergency Operation, No Filters Required
- Output Distortion Less than 3% THD for Linear Loads
- Generator Compatibility
- Custom & Mixed Voltages Available
- 30, 60, 90 and 120 minutes runtime available

APPROVALS

- cUL to CSA 22.2 #141-15

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System Display Functions

The NVP Series is an uninterruptible lighting inverter. It transfers to inverter mode (battery power) when utility power is interrupted for less than 2ms. The line interactive design eliminates excessive transfers to battery power. The NVP Series is designed for all lighting loads.

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

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ORDERING GUIDE

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SERIES	VOLTAGE INPUT-OUTPUT	CAPACITY RATING (W)*	BATTERY TYPE	OUTPUT BREAKERS[1]				OPTIONS	
				OUTPUT	VOLTAGE/POLES	AMP RATING	QUANTITY[2]		
NVP30	A-A - 120 INPUT; 120 OUTPUT	1 500	S - STANDARD	O - NORMALLY ON	A - 120	10	T01	**STANDARD FEATURES**	
NVP60	A-AE - 120 INPUT; 120/277 OUTPUT	2 250		F - NORMALLY OFF	B - 208	16	T02	C -	STATUS MONITORING CONTACTS DRY FORM C
NVP90	B-A - 208 INPUT; 120 OUTPUT	3 000			C - 240	20	T03	DT -	DRIP TOP (NEMA 2)
NVP120	C-AC - 240 INPUT; 120/240 OUTPUT	3 750			E - 277	25	T04	**OPTIONAL FEATURES**	
	E-A - 277 INPUT; 120 OUTPUT	5 000			H - 347	32	T05	BBM -	INTERNAL MAINTENANCE BYPASS (BREAK-BEFORE-MAKE)
	E-E - 277 INPUT; 277 OUTPUT	6 000				40	T06	BL -	CIRCUIT BREAKER LOCK(S)
	E-EA - 277 INPUT; 277/120 OUTPUT	8 000				50	T07	BTM -	BATTERY TEMPERATURE MONITOR
	B-AC - 208 INPUT; 120/240 OUTPUT	10 000				63	T08	F -	FAST CHARGE
	H-H - 347 INPUT; 347 OUTPUT	12 500					T09	I -	INVERTER ON DRY FORM C CONTACTS
		16 700					T10	L -	LOAD CONTROL INTERFACE (DIMMER / SWITCH BYPASS)
							T11	MBB -	INTERNAL MAINTENANCE BYPASS (MAKE-BEFORE-BREAK)
							T12	O -	OUTPUT TRANSFER DELAY
							T13	P -	REMOTE STATUS PANEL (REQUIRES OPTION C)
							T14	R -	REMOTE METER PANEL
							T15	RA -	REMOTE SUMMARY ALARM PANEL
							T16	S -	SUMMARY DRY FORM C CONTACTS
							T17	SM -	SEISMIC BRACING/MOUNTING[3]
							T18	PICK 1	
								BIP -	BACNET IP
								IOT -	IOT INVERTER CLOUD CONNECT
								MIP -	MODBUS TCP/IP

[1] Output breakers are optional
[2] Maximum output breakers available:
1 500-5 000 W: 8 supervised poles
6 000-16 700 W: 18 supervised poles
Combinations of 1 and 2 pole breakers available (consult factory)
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)			
	NVP30	NVP60	NVP90	NVP120
1 500	1.5	1.5	1.39	1.28
2 250	2.25	2.25	2.08	1.91
3 000	3	3	2.78	2.55
3 750	3.75	3.75	3.47	3.19
5 000	5	5	4.63	4.25
6 000	6	6	5.55	5.1
8 000	8	8	7.4	6.8
10 000	10	10	9.25	8.5
12 500	12.5	12.5	11.6	10.6
16 700	16.7	16.7	15.4	14.2

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
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)
F	FAST CHARGE	ALLOWS THE SYSTEM TO RECHARGE IN 12 HOURS FROM LVD
I	INVERTER ON DRY FORM C CONTACT	FORM C DRY CONTACT WHICH OPENS WHEN INVERTER IS ON
IOT	IOT INVERTER CONNECT CLOUD COMMUNICATION	SYSTEM USING THE CLOUD TO ALLOW MONITORING OF MULTIPLE SYSTEMS IN ONE LOCATION
L	LOAD CONTROL RELAY (LINE VOLTAGE DIMMER OR SWITCH BYPASS)	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 0-7.5 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

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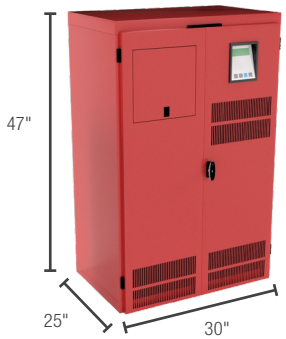
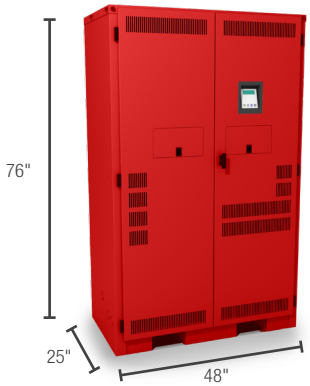
DIMENSIONS





POWER RATING (KW) 30 MIN.	VOLTAGE IN-OUT (VAC)	CABINET DIMENSIONS				BATTERIES		TOTAL SYSTEM WEIGHT
		WIDTH (IN)	HEIGHT (IN)	DEPTH (IN)	WEIGHT (LBS)	NO. OF BATTERIES	WEIGHT (LBS)	
1.5	120 OR 277	30	47	25	215	4	146	361
	347		69		339			485
2.25	120 OR 277	30	47	25	230	6	218	448
	347		69		354			572
3	120 OR 277	30	47	25	235	8	291	526
	347		69		365			656
3.75	120 OR 277	30	47	25	240	10	364	604
	347		69		376			740
5	120 OR 277	30	47	25	280	12	437	717
	347		69		425			862
6	120 OR 277	48	76	25	605	15	546	1 151
	347	78			784			1 330
8	120 OR 277	48	76	25	640	20	728	1 368
	347	78			832			1 560
10	120 OR 277	48	76	25	785	12	860	1 645
	347	78			990			1 850
12.5	120 OR 277	48	76	25	805	15	1 076	1 881
	347	78			1 025			2 101
16.7	120 OR 277	48	76	25	885	20	1 434	2 319
	347	78			1 120			2 554

POWER RATING (KW)			VOLTAGE IN-OUT	CABINET DIMENSIONS				BATTERIES		TOTAL SYSTEM WEIGHT
60 MIN.	90 MIN.	120 MIN.	(VAC)	WIDTH (IN)	HEIGHT (IN)	DEPTH (IN)	WEIGHT (LBS)	NO. OF BATTERIES	WEIGHT (LBS)	
1.5	1.39	1.28	120 OR 277	30	47	25	215	4	287	502
			347		69		339			626
2.25	2.08	1.91	120 OR 277	30	47	25	230	6	430	660
			347		69		354			784
3	2.78	2.55	120 OR 277	30	47	25	235	8	574	809
			347		69		365			939
3.75	3.47	3.19	120 OR 277	30	47	25	240	10	717	957
			347		69		376			1 093
5	4.63	4.25	120 OR 277	30	47	25	280	12	860	1 140
			347		69		425			1 285
6	5.55	5.1	120 OR 277	48	76	25	605	15	1 076	1 681
			347	78			784			1 860
8	7.4	6.8	120 OR 277	48	76	25	640	20	1 434	2 074
			347	78			832			2 266
10	9.25	8.5	120 OR 277	48	76	25	785	24	1 721	2 506
			347	78			990			2 711
12.5	11.6	10.6	120 OR 277	48	76	25	805	30	2 151	2 956
			347	78			1 025			3 176
16.7	15.4	14.2	120 OR 277	48	76	25	885	40	2 868	3 753
			347	78			1 120			3 988

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.

HEAT LOSS TABLE

30 MINUTE RUN TIME		60 MINUTE RUN TIME		90 MINUTE RUN TIME		120 MINUTE RUN TIME	
OUPUT RATING (KW)	HEAT LOSS (BTU/H)	OUPUT RATING (KW)	HEAT LOSS (BTU/H)	OUPUT RATING (KW)	HEAT LOSS (BTU/H)	OUPUT RATING (KW)	HEAT LOSS (BTU/H)
1.50	102	1.50	102	1.39	95	1.28	87
2.25	153	2.25	153	2.08	142	1.91	130
3.00	205	3.00	205	2.78	189	2.55	174
3.75	256	3.75	256	3.47	237	3.19	217
5.00	341	5.0	341	4.63	315	4.25	290
6.00	409	6.0	409	5.55	379	5.10	348
8.00	546	8.0	546	7.40	505	6.80	464
10.0	682	10.0	682	9.25	631	8.50	580
12.5	853	12.5	853	11.6	789	10.6	725
16.7	1 139	16.7	1 139	15.4	1 054	14.2	968

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