GNS Series Sine Wave

Catalog #
Date:
Prepared By:
Type:
Project Name:
Comment:

-

System Overview:

The GNS Series Inverter maintain efficient AC Emergency Power to operate all emergency lighting fixtures at “full-light” output providing superior dependability and security to commercial/¬industrial environments in a small footprint.

The GNS Series Emergency Lighting Inverter from IEP Systems is designed to provide power to emergency and other critical loads in the event of a power failure or brownout situation.

The line voltage output allows the remote fixtures to be located up to 2000 feet from the unit.
Power Factor: .9 leading to .9 lagging

GNS series inverter is designed to occupy a minimum footprint and has a separate compartment for main electronics and for batteries.

The GNS series is a compact, modular emergency lighting inverter. Typical applications include all types of LED, fluorescent, incandescent, quartz re-strike and low voltage lighting. The modular design and low MTTR (mean-time-to-repair) ensure easy maintenance. The GNS is well suited for stairwell, hallway, and outdoor emergency egress lighting, medium size office buildings and warehouses.

GNS Series inverter employs premium (*VRLA) batteries, designed with an expected service life of 10 years per battery manufacturer guidelines.

*VRLA do not need to be watered. Periodic checks, coupled with standard record keeping and maintenance of the inverter would ensure the longevity of the battery module.

Theory of Operation:

The GNS is designed to power the emergency egress lighting at full brightness for 90 minutes. The system is installed between the lighting distribution panel and the emergency circuit (s) and ahead of any local switches. Upon failure of the normal power source to the connected lights, the GNS will continue to power the emergency fixtures connected to it for a minimum of 90 minutes utilizing standard building lighting components. When the normal power is restored the GNS will automatically switch the lighting fixtures back to the normal source and recharge the batteries so that they are ready for the next power outage. The system may also be configured for normally off or for switched load capability as an option.

Applications:

The GNS Series Inverter will operate incandescent, fluorescent, and LED lamps with power factor greater than .9.

*Self ballasted compact fluorescent and replacement LED screw in lamps may be used provided they have rated power factor of .9 or greater.
*we recommend that only Energy Star recognized compact fluorescent or LED lamps be used with this equipment.

Operating Parameters:

Run Time: minimum 90 minutes
Housing: Heavy duty steel construction finished in powder coat paint.

Environment:
Operating temperature: 32F (0C) – 104F (40C)
Altitude: 10,000 feet above sea level without derating
Storage temperature: -20 to 70 degrees C. Note – batteries will require frequent recharging if stored above 35 degrees C.

GNS design will provide full rated VA output from .9 leading to .9
lagging power factor. Loads outside of this power factor will reduce the total
output of the unit depending on the va at that power factor.

Standard features:

- footprint 26W" by 18D" for all models.
- Floor or wall mountable (with optional kit).
- 16 gauge cold-rolled steel construction finished in powder coat paint.
- PWM/MOSFET technology, low THD with high reliability and high efficiency.
- MTTR of less than 30 minutes for any one component.
- ETL listed to UL 924, meets or exceeds the requirements of OSHA, NEC, NFPA and other codes
- Input, one output and battery circuit breakers standard. Additional output breakers are optional.
- Two door access to electrical/electronic cabinet for ease of installation, wiring and maintenance.
- Front mounted meter panel for intuitive system status.
- Basic alarms for overload, overload shutdown, high temperature, near low battery and low battery shutdown.
- 2 knockouts furnished for contractor access.
- 98% efficiency on standby. Fan operation is dependent upon internal temperature and battery condition to elongate fans' useful service life.

Options:

Suffix NOR - Normally off relay 1 required per every 20 amps of load (coil voltage matches input voltage of unit).
Suffix ITP – Input breaker trip alarm
Suffix OTP – Output breaker trip alarm, 1 per output breaker
Suffix BTP – Battery breaker trip alarm
Suffix OCB_ Additional output circuit breakers (note 20 amp output breakers are standard unless otherwise specified.
Suffix R30 - Battery capacity of 30 minutes for when the system is used with a permanently installed emergency generator.
Suffix R120 – Battery capacity of 120 minutes (may require additional enclosures depending on the rating of the unit).
Suffix RS232 -
Suffix 208 or 240 or multiple voltage outputs – may require additional cabinets.

Specifications:

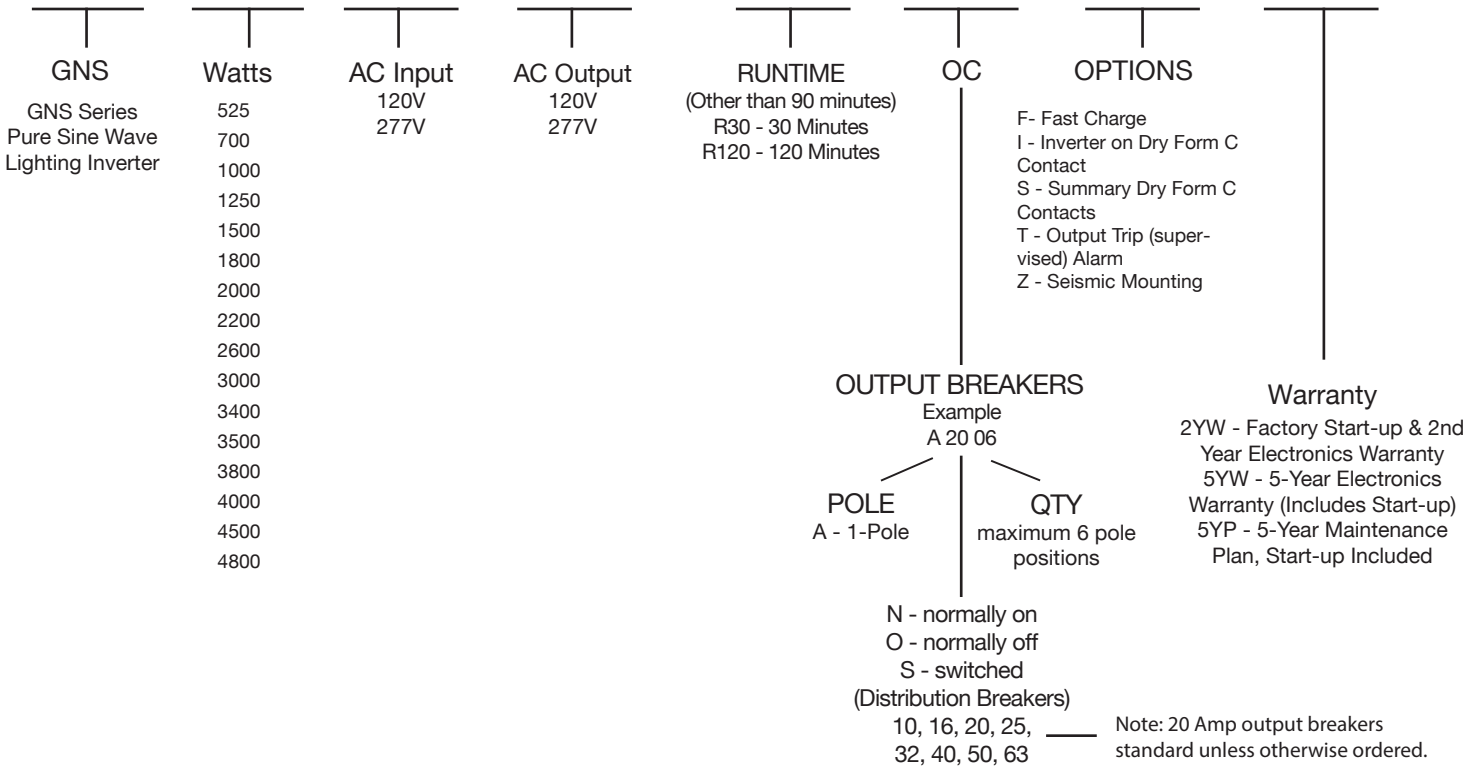
Input:
Voltage: 120 or 277 VAC 2 wire plus ground +/- 15%
Frequency: 60 Hz +/- 3 Hz
Protection: Circuit Breaker

Output:
Voltage: 120 or 277 VAC 2 wire plus ground
Frequency: 60 Hz +/- .5 Hz
THD: > 3% Linear load
Regulation: +/- 3% for 50% load change
Inverter overload: 110% for 5 minutes
Protection: Output Circuit Breaker

Battery:
Type: Premium 10 year design life Valve Regulated Lead Acid (VRLA)
Voltage: See chart for string voltage and number of strings
Protection: Battery circuit breaker

Order Information:

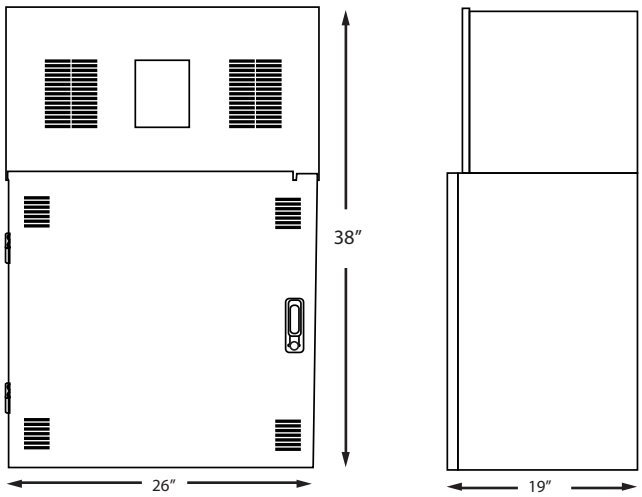
GNS 700 120 120 OPTIONS



Size	Batteries	Volts	S = Series SP = Series Parallel	Total Weight
525	2	24 V	S	153
700	4	48 V	S	193
1000	4	48 V	S	444
1250	4	48 V	S	516
1500	4	48 V	S	516
1800	8	48 V	SP	648
2000	8	48 V	SP	648
2200	8	48 V	SP	648
2600	8	96 V	S	792
3000	8	96 V	S	792
3400	8	96 V	S	792
3500	16	96 V	SP	918
3800	16	96 V	SP	1126
4000	16	96 V	SP	1126
4500	16	96 V	SP	1126
4800	16	96 V	SP	1126

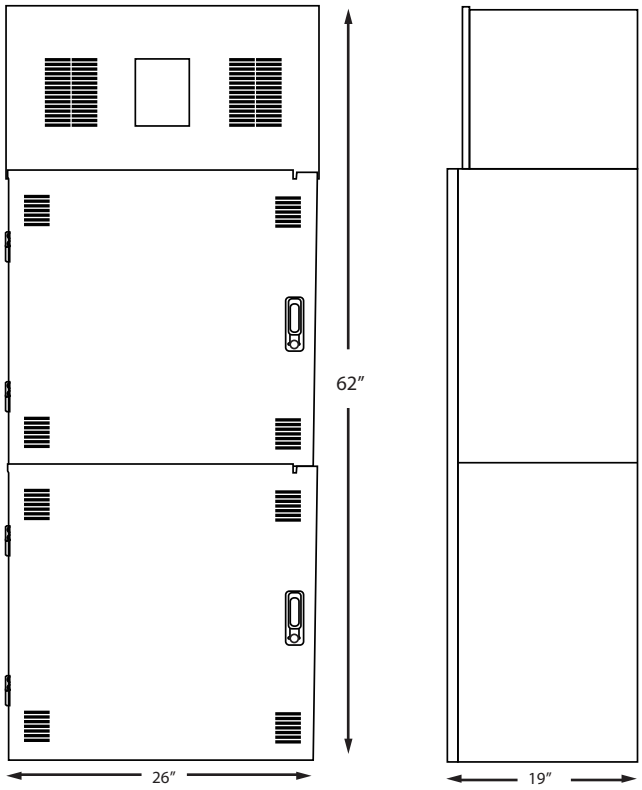
Dimensions for A:

Cabinet Profile A up to 3.4kW
26W X 38H x 19D



Dimensions for B:

Cabinet Profile B Up to 4.8kW
26W X 62H x 19D



Typical Instilations:

- Airports
- Apartments/Condominum Complexes
- Assisted Living Centers
- Banks, Financials
- Casinos
- City, County, State, Federal Buildings
- Grocery Stores
- Hospitals
- Hotels
- Industrial
- Medical Offices
- Military Complexes
- Movie Theaters
- Office Buildings
- Parking Garages
- Prisons
- Race Tracks
- Train, Subway, Bus Stations
- Religious Facilities
- Resturants
- Department Stores
- Schools, Colleges
- Shopping malls
- Sport facilities
- Superstores
- Tunnel and Toll Bridges