

## Inverter with AC Charger (10KW – 40KW) - US

**GN** series



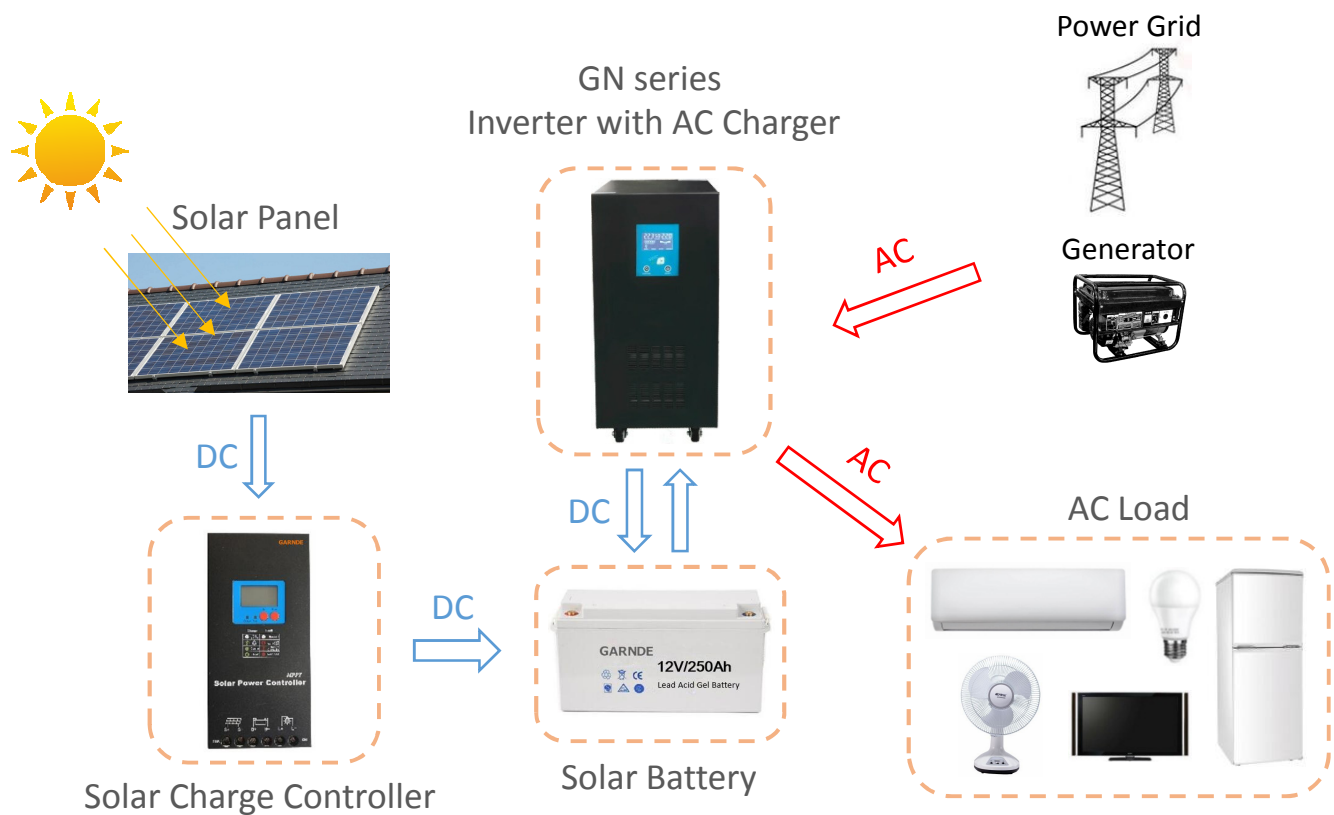
### INTRODUCTION

GN series inverter with AC charger is developed for energy storage solar system or uninterruptible power system (UPS). It is an advanced tool of power conversion. It can supply you with AC power converted from a DC power source, while it also has a battery charger with grid power AC input. GN series inverter with AC charger is a stable power source with low harmonic distortion to ensure the widest use of applications.

## FUNCTIONAL CHARACTERISTICS

- Convert 48V/96V/192V/240V/384V DC power to 110V AC pure sine wave power
- Charge the batteries with grid power AC input, max charging current 15A
- Working mode options by switch: Battery-Priority mode (DC), Grid-Priority mode (AC)
- Wide AC voltage input voltage to endure voltage instability
- LCD real-time display, concise and straightforward
- Over load protection, over voltage protection, low voltage protection, short circuit protection, over temperature protection, reverse polarity protection

## APPLICATION DIAGRAM

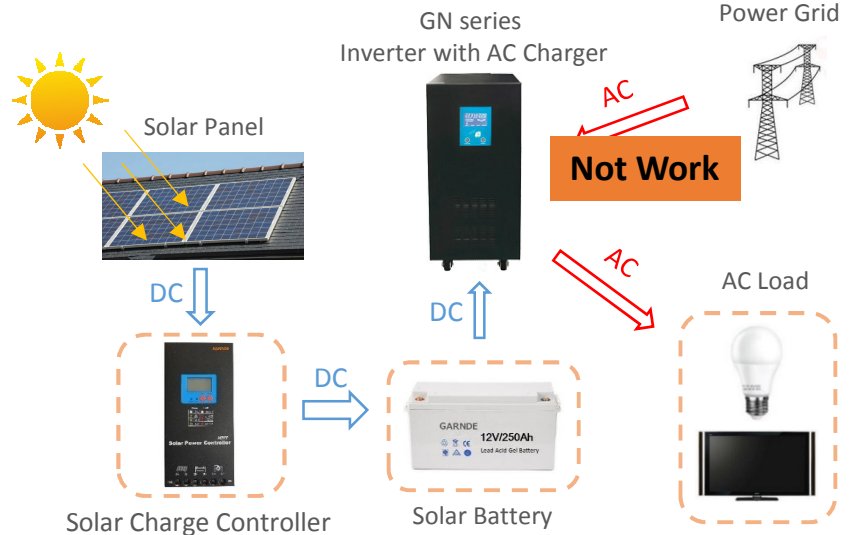


## • Battery-Priority mode (DC)

In Battery-Priority mode, solar panes charge the battery system through solar charge controller.

The inverter convert DC power from battery to AC power to drive the loads.

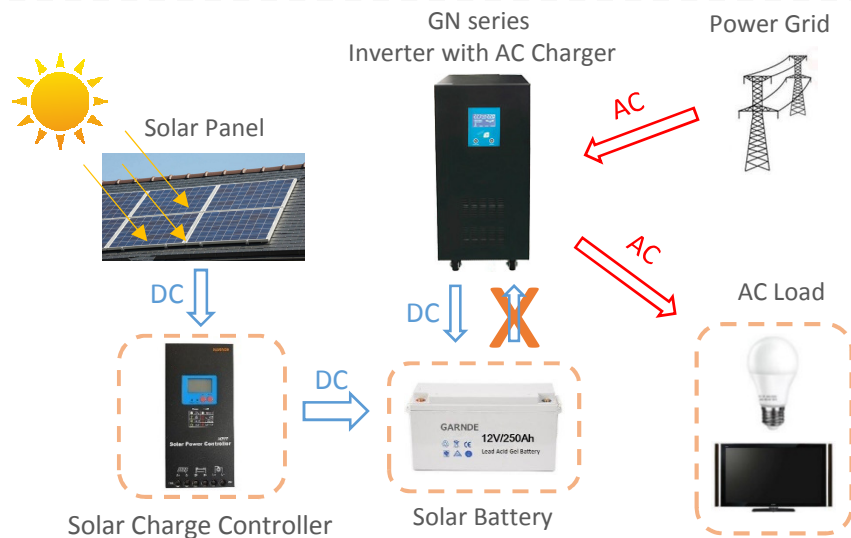
AC power grid is off.



When the battery is discharged, the inverter turn off the battery discharge and turn on the power grid AC charger to charge the battery automatically.

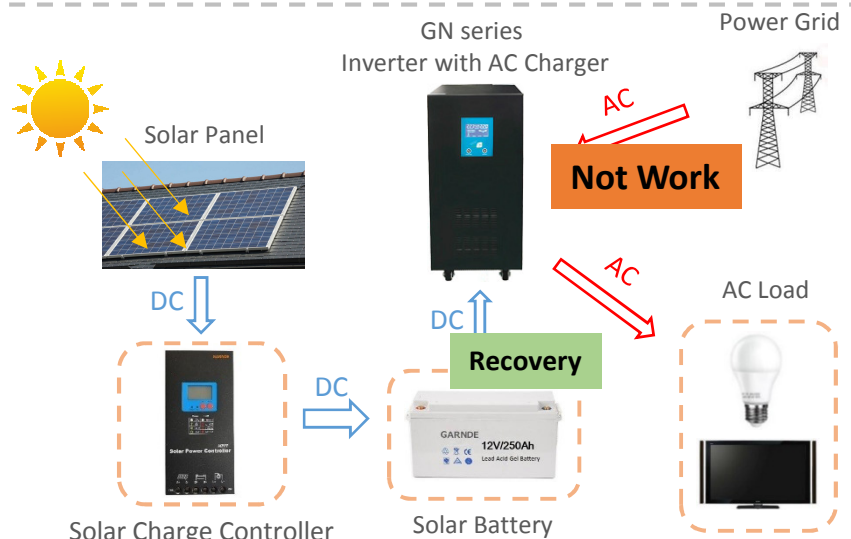
At the same time, the AC power grid drive the loads.

The solar panels are still charging the battery through solar charge controller.



When the battery system is charged. The inverter turn off the power grid AC charger and turn off the AC input automatically.

The solar system back to inverter converting DC power from battery to AC power to drive the loads again.

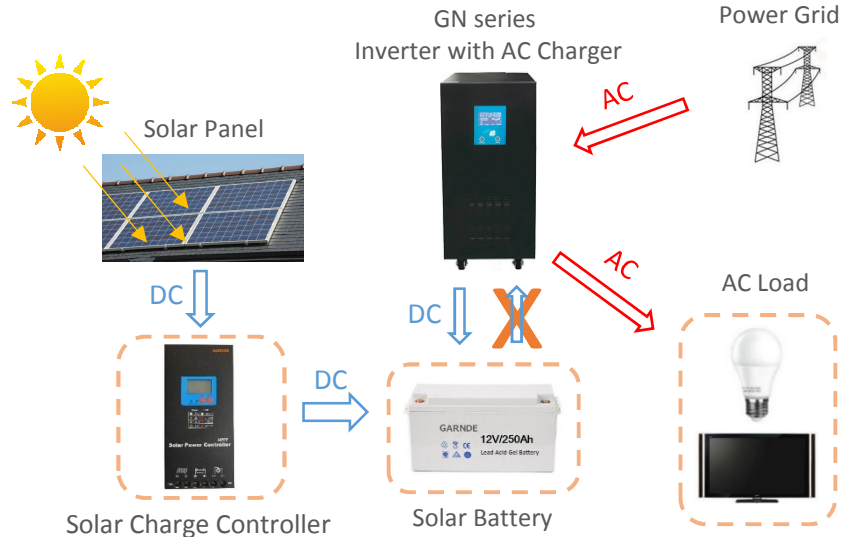


## • Grid-Priority mode (AC)

In Grid-Power-Priority mode, the AC power grid drive the loads and charge the battery system.

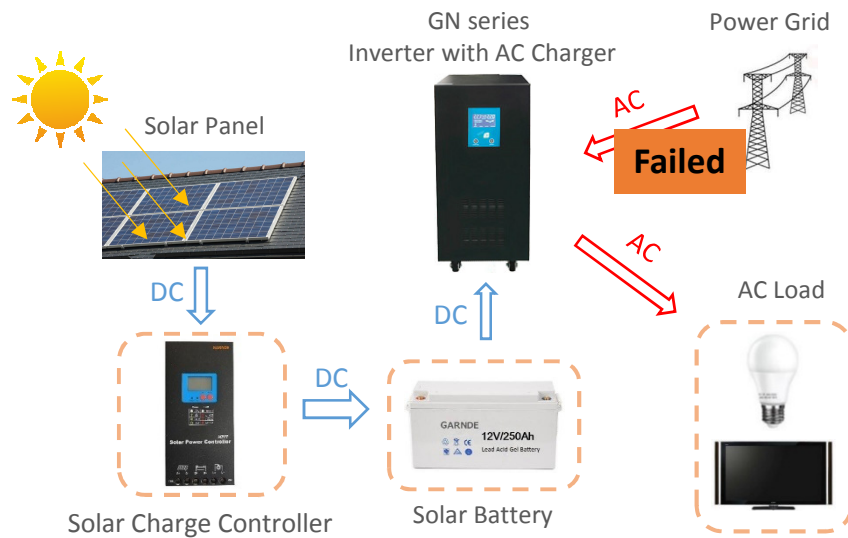
The solar panels also charge the battery system.

the battery system does not discharge.



When the AC power grid is off, the inverter turn on the battery discharge automatically and convert DC power to AC power to drive the loads.

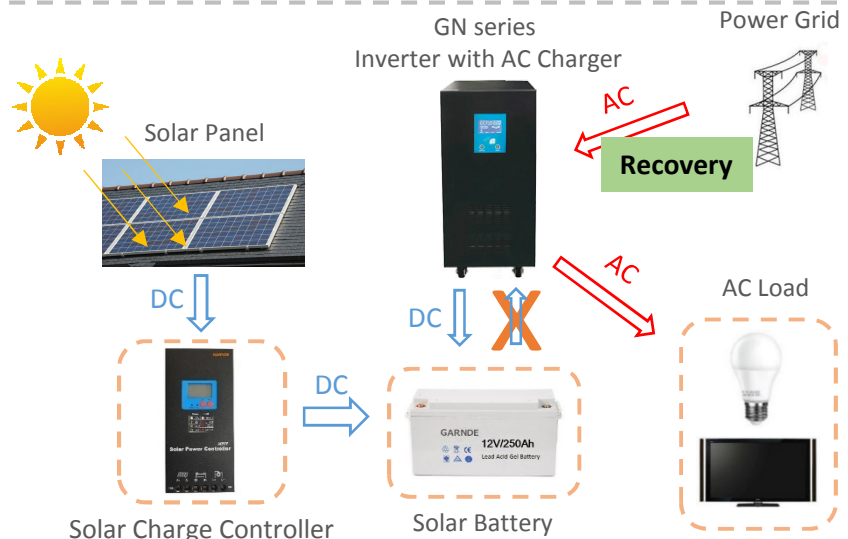
The solar panels keep charging the battery through solar charge controller.



When the AC power grid is recovered, the inverter turn off the battery discharge.

The AC power grid drive the loads and charge the battery.

The solar panels still charge the battery system.



# Inverter with AC Charger 10KW - US

## GN series

### TECHNICAL SPECIFICATIONS

| Model                  |                     | GN10K-96-110                                                                                                                                                                                             | GN10K-192-110 |
|------------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Working Mode Options   |                     | Grid-Priority mode (AC) / Battery-Priority mode (DC)                                                                                                                                                     |               |
| Output                 | Rated Power         | 10KW                                                                                                                                                                                                     |               |
|                        | Surge Power         | 20KW                                                                                                                                                                                                     |               |
|                        | AC Voltage          | 110V                                                                                                                                                                                                     |               |
|                        | AC Voltage Range    | 100 - 120V                                                                                                                                                                                               |               |
|                        | Waveform            | Pure sine wave                                                                                                                                                                                           |               |
|                        | Frequency           | 60Hz ± 1Hz                                                                                                                                                                                               |               |
|                        | Communication       | RS232/RS485                                                                                                                                                                                              |               |
|                        | Efficiency          | ≥ 85%                                                                                                                                                                                                    |               |
| DC Input               | DC Voltage          | 96V                                                                                                                                                                                                      | 192V          |
| Grid Power<br>AC Input | AC Voltage          | 85-135V                                                                                                                                                                                                  |               |
|                        | Frequency           | 60Hz ± 5Hz                                                                                                                                                                                               |               |
| Battery Charging       | Charging Current    | Max 15A                                                                                                                                                                                                  |               |
| Protection             | Over-load           | In Battery-Priority mode, overload exceeds 110%, automatically shutdown in 30 s; Overload exceeds 120%, automatically shutdown in 2 s. (In Grid-Priority mode, no shutdown if overload, just keep noise) |               |
|                        | Short-circuit       | Output short-circuit, automatically shutdown after keeping noise in 20 s                                                                                                                                 |               |
|                        | Battery             | High or low voltage protection                                                                                                                                                                           |               |
|                        | Reverse polarity    | Reverse polarity protection                                                                                                                                                                              |               |
| Others                 | Transfer Time       | ≤ 4ms                                                                                                                                                                                                    |               |
|                        | Display             | LCD                                                                                                                                                                                                      |               |
|                        | Working Temperature | -10°C - 50°C                                                                                                                                                                                             |               |
|                        | Cooling Fan         | Temperature Control                                                                                                                                                                                      |               |
|                        | Noise               | ≤ 55dB                                                                                                                                                                                                   |               |
|                        | Dimensions          | 485 x 300 x 646 mm / 19.1 x 11.8 x 25.4 inches                                                                                                                                                           |               |
|                        | Net Weight          | 66 kgs / 146 lbs                                                                                                                                                                                         |               |
|                        | Packing             | CTN: 550 x 365 x 785 mm, 1 pc, 76 kgs / 21.7 x 14.4 x 30.9 inches, 1 pc, 168 lbs                                                                                                                         |               |
|                        | Warranty            | 3 years                                                                                                                                                                                                  |               |

# Inverter with AC Charger 12KW - US

## GN series

### TECHNICAL SPECIFICATIONS

| Model                  |                     | GN12K-96-110                                                                                                                                                                                             | GN12K-192-110 |
|------------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Working Mode Options   |                     | Grid-Priority mode (AC) / Battery-Priority mode (DC)                                                                                                                                                     |               |
| Output                 | Rated Power         | 12KW                                                                                                                                                                                                     |               |
|                        | Surge Power         | 24KW                                                                                                                                                                                                     |               |
|                        | AC Voltage          | 110V                                                                                                                                                                                                     |               |
|                        | AC Voltage Range    | 100 - 120V                                                                                                                                                                                               |               |
|                        | Waveform            | Pure sine wave                                                                                                                                                                                           |               |
|                        | Frequency           | 60Hz ± 1Hz                                                                                                                                                                                               |               |
|                        | Communication       | RS232/RS485                                                                                                                                                                                              |               |
|                        | Efficiency          | ≥ 85%                                                                                                                                                                                                    |               |
| DC Input               | DC Voltage          | 96V                                                                                                                                                                                                      | 192V          |
| Grid Power<br>AC Input | AC Voltage          | 85-135V                                                                                                                                                                                                  |               |
|                        | Frequency           | 60Hz ± 5Hz                                                                                                                                                                                               |               |
| Battery<br>Charging    | Charging Current    | Max 15A                                                                                                                                                                                                  |               |
| Protection             | Over-load           | In Battery-Priority mode, overload exceeds 110%, automatically shutdown in 30 s; Overload exceeds 120%, automatically shutdown in 2 s. (In Grid-Priority mode, no shutdown if overload, just keep noise) |               |
|                        | Short-circuit       | Output short-circuit, automatically shutdown after keeping noise in 20 s                                                                                                                                 |               |
|                        | Battery             | High or low voltage protection                                                                                                                                                                           |               |
|                        | Reverse polarity    | Reverse polarity protection                                                                                                                                                                              |               |
| Others                 | Transfer Time       | ≤ 4ms                                                                                                                                                                                                    |               |
|                        | Display             | LCD                                                                                                                                                                                                      |               |
|                        | Working Temperature | -10°C - 50°C                                                                                                                                                                                             |               |
|                        | Cooling Fan         | Temperature Control                                                                                                                                                                                      |               |
|                        | Noise               | ≤ 55dB                                                                                                                                                                                                   |               |
|                        | Dimensions          | 600 x 300 x 800 mm / 23.6 x 11.8 x 31.5 inches                                                                                                                                                           |               |
|                        | Net Weight          | 102 kgs / 225 lbs                                                                                                                                                                                        |               |
|                        | Packing             | CTN: 665 x 365 x 830 mm, 1 pc, 115 kgs / 26.2 x 14.4 x 32.7 inches, 1 pc, 254 lbs                                                                                                                        |               |
| Warranty               | 3 years             |                                                                                                                                                                                                          |               |

# Inverter with AC Charger 15KW - US

## GN series

### TECHNICAL SPECIFICATIONS

| Model                  |                     | GN15K-192-110                                                                                                                                                                                            | GN15K-240-110 |
|------------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Working Mode Options   |                     | Grid-Priority mode (AC) / Battery-Priority mode (DC)                                                                                                                                                     |               |
| Output                 | Rated Power         | 15KW                                                                                                                                                                                                     |               |
|                        | Surge Power         | 30KW                                                                                                                                                                                                     |               |
|                        | AC Voltage          | 110V                                                                                                                                                                                                     |               |
|                        | AC Voltage Range    | 100 - 120V                                                                                                                                                                                               |               |
|                        | Waveform            | Pure sine wave                                                                                                                                                                                           |               |
|                        | Frequency           | 60Hz ± 1Hz                                                                                                                                                                                               |               |
|                        | Communication       | RS232/RS485                                                                                                                                                                                              |               |
|                        | Efficiency          | ≥ 85%                                                                                                                                                                                                    |               |
| DC Input               | DC Voltage          | 192V                                                                                                                                                                                                     | 240V          |
| Grid Power<br>AC Input | AC Voltage          | 85-135V                                                                                                                                                                                                  |               |
|                        | Frequency           | 60Hz ± 5Hz                                                                                                                                                                                               |               |
| Battery<br>Charging    | Charging Current    | Max 15A                                                                                                                                                                                                  |               |
| Protection             | Over-load           | In Battery-Priority mode, overload exceeds 110%, automatically shutdown in 30 s; Overload exceeds 120%, automatically shutdown in 2 s. (In Grid-Priority mode, no shutdown if overload, just keep noise) |               |
|                        | Short-circuit       | Output short-circuit, automatically shutdown after keeping noise in 20 s                                                                                                                                 |               |
|                        | Battery             | High or low voltage protection                                                                                                                                                                           |               |
|                        | Reverse polarity    | Reverse polarity protection                                                                                                                                                                              |               |
| Others                 | Transfer Time       | ≤ 4ms                                                                                                                                                                                                    |               |
|                        | Display             | LCD                                                                                                                                                                                                      |               |
|                        | Working Temperature | -10°C - 50°C                                                                                                                                                                                             |               |
|                        | Cooling Fan         | Temperature Control                                                                                                                                                                                      |               |
|                        | Noise               | ≤ 55dB                                                                                                                                                                                                   |               |
|                        | Dimensions          | 600 x 300 x 800 mm / 23.6 x 11.8 x 31.5 inches                                                                                                                                                           |               |
|                        | Net Weight          | 108 kgs / 238 lbs                                                                                                                                                                                        |               |
|                        | Packing             | CTN: 665 x 365 x 830 mm, 1 pc, 121 kgs / 26.2 x 14.4 x 32.7 inches, 1 pc, 267 lbs                                                                                                                        |               |
|                        | Warranty            | 3 years                                                                                                                                                                                                  |               |

# Inverter with AC Charger 20KW - US

**GN** series

## TECHNICAL SPECIFICATIONS

| Model                  |                     | GN20K-192-110                                                                                                                                                                                            | GN20K-240-110 |
|------------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Working Mode Options   |                     | Grid-Priority mode (AC) / Battery-Priority mode (DC)                                                                                                                                                     |               |
| Output                 | Rated Power         | 20KW                                                                                                                                                                                                     |               |
|                        | Surge Power         | 40KW                                                                                                                                                                                                     |               |
|                        | AC Voltage          | 110V                                                                                                                                                                                                     |               |
|                        | AC Voltage Range    | 100 - 120V                                                                                                                                                                                               |               |
|                        | Waveform            | Pure sine wave                                                                                                                                                                                           |               |
|                        | Frequency           | 60Hz ± 1Hz                                                                                                                                                                                               |               |
|                        | Communication       | RS232/RS485                                                                                                                                                                                              |               |
|                        | Efficiency          | ≥ 85%                                                                                                                                                                                                    |               |
| DC Input               | DC Voltage          | 192V                                                                                                                                                                                                     | 240V          |
| Grid Power<br>AC Input | AC Voltage          | 85-135V                                                                                                                                                                                                  |               |
|                        | Frequency           | 60Hz ± 5Hz                                                                                                                                                                                               |               |
| Battery<br>Charging    | Charging Current    | Max 15A                                                                                                                                                                                                  |               |
| Protection             | Over-load           | In Battery-Priority mode, overload exceeds 110%, automatically shutdown in 30 s; Overload exceeds 120%, automatically shutdown in 2 s. (In Grid-Priority mode, no shutdown if overload, just keep noise) |               |
|                        | Short-circuit       | Output short-circuit, automatically shutdown after keeping noise in 20 s                                                                                                                                 |               |
|                        | Battery             | High or low voltage protection                                                                                                                                                                           |               |
|                        | Reverse polarity    | Reverse polarity protection                                                                                                                                                                              |               |
| Others                 | Transfer Time       | ≤ 4ms                                                                                                                                                                                                    |               |
|                        | Display             | LCD                                                                                                                                                                                                      |               |
|                        | Working Temperature | -10°C - 50°C                                                                                                                                                                                             |               |
|                        | Cooling Fan         | Temperature Control                                                                                                                                                                                      |               |
|                        | Noise               | ≤ 55dB                                                                                                                                                                                                   |               |
|                        | Dimensions          | 600 x 300 x 800 mm / 23.6 x 11.8 x 31.5 inches                                                                                                                                                           |               |
|                        | Net Weight          | 113 kgs / 249 lbs                                                                                                                                                                                        |               |
|                        | Packing             | CTN: 665 x 365 x 830 mm, 1 pc, 130 kgs / 26.2 x 14.4 x 32.7 inches, 1 pc, 287 lbs                                                                                                                        |               |
| Warranty               | 3 years             |                                                                                                                                                                                                          |               |



# Inverter with AC Charger 30KW - US

**GN** series

## TECHNICAL SPECIFICATIONS

| Model                  |                     | GN30K-240-110                                                                                                                                                                                             |
|------------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Working Mode Options   |                     | Grid-Priority mode (AC) / Battery-Priority mode (DC)                                                                                                                                                      |
| Output                 | Rated Power         | 30KW                                                                                                                                                                                                      |
|                        | Surge Power         | 60KW                                                                                                                                                                                                      |
|                        | AC Voltage          | 110V                                                                                                                                                                                                      |
|                        | AC Voltage Range    | 100 - 120V                                                                                                                                                                                                |
|                        | Waveform            | Pure sine wave                                                                                                                                                                                            |
|                        | Frequency           | 60Hz ± 1Hz                                                                                                                                                                                                |
|                        | Communication       | RS232/RS485                                                                                                                                                                                               |
|                        | Efficiency          | ≥ 85%                                                                                                                                                                                                     |
| DC Input               | DC Voltage          | 240V                                                                                                                                                                                                      |
| Grid Power<br>AC Input | AC Voltage          | 85-135V                                                                                                                                                                                                   |
|                        | Frequency           | 60Hz ± 5Hz                                                                                                                                                                                                |
| Battery<br>Charging    | Charging Current    | Max 15A                                                                                                                                                                                                   |
| Protection             | Over-load           | In Battery-Priority mode, overload exceeds 110%, automatically shutdown in 30 s ; Overload exceeds 120%, automatically shutdown in 2 s. (In Grid-Priority mode, no shutdown if overload, just keep noise) |
|                        | Short-circuit       | Output short-circuit, automatically shutdown after keeping noise in 20 s                                                                                                                                  |
|                        | Battery             | High or low voltage protection                                                                                                                                                                            |
|                        | Reverse polarity    | Reverse polarity protection                                                                                                                                                                               |
| Others                 | Transfer Time       | ≤ 4ms                                                                                                                                                                                                     |
|                        | Display             | LCD                                                                                                                                                                                                       |
|                        | Working Temperature | -10°C - 50°C                                                                                                                                                                                              |
|                        | Cooling Fan         | Temperature Control                                                                                                                                                                                       |
|                        | Noise               | ≤ 55dB                                                                                                                                                                                                    |
|                        | Dimensions          | 720 x 435 x 1120 mm /28.3 x 17.1 x 44.1 inches                                                                                                                                                            |
|                        | Net Weight          | 135 kgs / 298 lbs                                                                                                                                                                                         |
|                        | Packing             | CTN: 790 x 505 x 1260 mm, 1 pc, 150 kgs / 31 x 20 x 50 inches, 1 pc, 331 lbs                                                                                                                              |
|                        | Warranty            | 3 years                                                                                                                                                                                                   |

# Inverter with AC Charger 40KW - US

**GN** series

## TECHNICAL SPECIFICATIONS

| Model                  |                     | GN40K-384-110                                                                                                                                                                                                   |
|------------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Working Mode Options   |                     | Grid-Priority mode (AC) / Battery-Priority mode (DC)                                                                                                                                                            |
| Output                 | Rated Power         | 40KW                                                                                                                                                                                                            |
|                        | Surge Power         | 80KW                                                                                                                                                                                                            |
|                        | AC Voltage          | 110V                                                                                                                                                                                                            |
|                        | AC Voltage Range    | 100 - 120V                                                                                                                                                                                                      |
|                        | Waveform            | Pure sine wave                                                                                                                                                                                                  |
|                        | Frequency           | 60Hz ± 1Hz                                                                                                                                                                                                      |
|                        | Communication       | RS232/RS485                                                                                                                                                                                                     |
|                        | Efficiency          | ≥ 85%                                                                                                                                                                                                           |
| DC Input               | DC Voltage          | 384V                                                                                                                                                                                                            |
| Grid Power<br>AC Input | AC Voltage          | 85-135V                                                                                                                                                                                                         |
|                        | Frequency           | 60Hz ± 5Hz                                                                                                                                                                                                      |
| Battery<br>Charging    | Charging Current    | Max 15A                                                                                                                                                                                                         |
| Protection             | Over-load           | In Battery-Priority mode, overload exceeds 110%, automatically shutdown in 30 s ;<br>Overload exceeds 120%, automatically shutdown in 2 s. (In Grid-Priority mode, no<br>shutdown if overload, just keep noise) |
|                        | Short-circuit       | Output short-circuit, automatically shutdown after keeping noise in 20 s                                                                                                                                        |
|                        | Battery             | High or low voltage protection                                                                                                                                                                                  |
|                        | Reverse polarity    | Reverse polarity protection                                                                                                                                                                                     |
| Others                 | Transfer Time       | ≤ 4ms                                                                                                                                                                                                           |
|                        | Display             | LCD                                                                                                                                                                                                             |
|                        | Working Temperature | -10°C - 50°C                                                                                                                                                                                                    |
|                        | Cooling Fan         | Temperature Control                                                                                                                                                                                             |
|                        | Noise               | ≤ 55dB                                                                                                                                                                                                          |
|                        | Dimensions          | 720 x 435 x 1120 mm /28.3 x 17.1 x 44.1 inches                                                                                                                                                                  |
|                        | Net Weight          | 160 kgs / 353 lbs                                                                                                                                                                                               |
|                        | Packing             | CTN: 790 x 505 x 1260 mm, 1 pc, 180 kgs / 31 x 20 x 50 inches, 1 pc, 397 lbs                                                                                                                                    |
|                        | Warranty            | 3 years                                                                                                                                                                                                         |

# **GARNDE**

**Garnde Solar Energy Corp.**

1377 Jianlan Road, Hi-tech Zone

Ningbo 315000, Zhejiang, China

Tel: +86 574 8901 9228

Email: [admin@garnde.com](mailto:admin@garnde.com)

[www.garnde.com](http://www.garnde.com)