**New Energy · New Life · New Future**

**Your Trusted Power Of Choice**

**Advanced Solar Energy System Solutions**

# Solar Energy Storage System Solution

## Manufacturer

-Since 2010

**PRODUCT CATALOGUE**

## R&D and Innovation

By continuously innovating to drive enterprise development, we have established two technology centers: the Foshan headquarters experimental base and the Shenzhen software research and development center. We have signed a strategic cooperation agreement with Guangzhou University for industry university research cooperation, and guided by customer needs, we have launched a complete set of household photovoltaic system equipment and information software management programs with excellent performance and high cost-effectiveness.

## Quality and Delivery Capability

The factory has independent intellectual property rights covering an area of over 20000 square meters, with 10 advanced automated production lines and a daily production capacity of about 3000 units. From raw material procurement to product delivery, every step strictly adheres to international quality control standards to ensure high-quality and on-time delivery.

**20000m²**
**Workshop Space**

**300+**
**Employees**

**10+**
**Automatic Production Lines**

**26+**
**Milion USD Investment**

# Product
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NEW ENERGY · NEW LIFE · NEW FUTURE

# MS Portable Energy Storage Power Supply

**300W/500W/1000W/1800W**

## MAIN FEATURES

- Wide input range for communication, pure sine wave output
- High charging/discharging energy efficiency and long cycle life of lithium batteries
- Intelligent air-cooled energy-saving design
- The panel display is simple and easy to operate
- Complete protection functions for overcurrent, overvoltage, overtemperature, short circuit, etc
- Small size, light weight, suitable for outdoor scenes

## Product Specifications

| Model | | MS-30132-HV | MS-50132-HV | MS-10264-HV | MS-50132-LV | MS-10264-LV | MS-1802128-HV |
|---|---|---|---|---|---|---|---|
| AC Input | Rated Voltage | 230VAC | | | 120VAC | | 230VAC |
| | Voltage Range | 90-280VAC | | | 60-145VAC | | 90-280VAC |
| | Frequency Range | 45-65Hz | | | | | |
| | Power Factor | >0.95 | | | | | |
| AC Output | Rated Power | 300W | 500W | 1000W | 500W | 1000W | 1800W |
| | Voltage Range | 230VAC±5V | | | 120VAC±5V | | 208V/220V/230V/240V |
| | Frequency Range | 50Hz±0.5% | | | 60Hz±0.5% | | 50Hz±0.5% |
| | Power Factor | ≥99% | | | | | |
| | Overload Capacity | CP300W,<170VAC shutdown | CP500W,<170VAC shutdown | CP1000W,<170VAC shutdown | CP500W,<85VAC shutdown | CP1000W,<85VAC shutdown | CP1800W,<170VAC power off |
| | Voltage Waveform | pure sine wave | | | | | |
| | Harmonic Distortion (THD) | <3% @ linear load<br><5% non-linear load | | | | | |
| | Convert Time | ≤20ms | | | | | |
| | USB Output | 5V/1A | | | | | |
| PV Input | Voltage Range | 11-55VDC | | | | | 18-110VDC |
| | Rated Power | 300W(Max) | | 550W(Max) | 300W(Max) | 550W(Max) | 1200W(Max) |
| | Maximum Current | 10A(Max) | | 15A(Max) | 10A(Max) | 15A(Max) | |
| | Maximum Charging Current | 80A(Max) | | 100A(Max) | 80A(Max) | 100A(Max) | |
| Battery Characteristics | Battery Type/Rated Voltage | Lithium iron battery/3.2V-206AH | Lithium iron battery/3.2V-314AH | Lithium iron battery/6.4V-314AH | Lithium iron battery/3.2V-314AH | Lithium iron battery/6.4V-314AH | Lithium iron battery/3.2V-314AH*4 |
| | Battery capacity | 659WH | 1004WH | 2009WH | 1004WH | 2009WH | 4019WH |
| | Voltage Range | 3.0-3.65VDC | | 6.0-7.3VDC | 3.0-3.65VDC | 6.0-7.3VDC | 12.0-14.6VDC |
| | Maximum Charging Power | 300W | 500W | 1000W | 400W | 1000W | 1800W |
| | AC+PV Maximum Charging Current | 1-100A(configurable) | 1-140A(configurable) | 1-160A(configurable) | 1-140A(configurable) | 1-160A(configurable) | |
| Other | Communication And Monitoring | USB (serial interface) | | | | | |
| | Working Temperature Range | -10-40℃ | | | | | |
| | Storage Temperature Range | -15-60℃ | | | | | |
| | Humidity Range | 5-95% (no condensation) | | | | | |
| | Noise | ≤50dB | | | | | |
| | Working Altitude | Applicable for ≤ 3000m<br>10% reduction for every 1000m increase (over 3000m) | | | | | |
| Product Dimensions(length*width*height)mm | | 255*135*315 | 255*155*315 | 285*230*315 | 255*155*315 | 285*230*315 | 350*245*401 |
| Packaging Dimensions(length*width*height)mm | | 325*200*350 | 315*220*345 | 355*305*350 | 315*220*345 | 355*305*350 | 395*340*490 |
| Net Weight (KG) | | 7.9 | 10.7 | 19 | 10.7 | 19 | 32 |
| Gross Weight(KG) | | 8.5 | 11.5 | 20 | 11.5 | 20 | 34 |



# AL-S Solar Energy Storage System

**600W/1200W/2200W/3500W/5000W/10000W**

## MAIN FEATURES

- Pure sine wave output
- LifePO4 battery with 10 years service life
- The mains input automatically turns on and activate the LifePO4 battery
- MPPT Controller greatly improving the charging efficiency more than 20%
- Overcharge protection and over discharge protection for a longer battery life
- Safe and reliable with intelligent exhaust fan control

## Product Specifications

| Model | | AL-S600 | AL-S1200 | AL-S2200 | AL-S3500 | AL-S5000 | AL-S10K |
|---|---|---|---|---|---|---|---|
| Inverter | Battery Voltage | 12.8V | 25.6V | | 51.2V | | |
| | In-built Battery Specification | 50AH/12.8V | 50AH/25.6V | 100AH/25.6V | 100AH/51.2V | 100AH/51.2V | 200AH/51.2V |
| | Rated Power | 600W | 1200W | 2200W | 3500W | 5000W | 10000W |
| | Output Voltage | 110/120/220/230/240VAC | | | | | 220/230/240VAC |
| | Output Frequency | 50/60Hz | | | | | |
| | Output Waveform | Pure Sine Wave | | | | | |
| | Input Voltage Range | 73~138/145~275VAC | | 85~138/170~275VAC | | | 170~275VAC |
| | Input Frequency | 45~65Hz | | | | | |
| MPPT Charge | Maximum Photovoltaic Voltage | 100V | | | ≤200V | | |
| | PV Input Range Voltage | 18~100V | 34~100V | | 65~200V | | |
| | Rated Charge Current | 30A | | | | 60A | |
| | Maximum Power | 420Wp | 840Wp | | 1650Wp | 3400Wp | |
| | Voltage Of Floating Charge | 14.2V | 28.4V | | 56.8V | | |
| | MPPT Efficiency | ≥97% | | | | | |
| DC Output | Voltage Of High Voltage Protection | 17V | 34V | | 68V | | |
| | Voltage Of High Voltage Recovery | 15V | 30V | | 60V | | |
| | Voltage Of Low Voltage Recovery | 13V | 26V | | 52V | | |
| | Voltage Of Low Voltage Protection | 11.2V | 22.4V | | 44.8V | | |
| | 5VDC USB Output Port | 2 Units/MAX 2A | | | | | |
| | 12VDC Output Port | 2 Units/MAX 2A | | | | | |
| Other | Heat Dissipation/Cooling | Temperature Control By Intelligent Exhaust Fan | | | | | |
| | Ambient Temperature For Operation | 0~40°C | | | | | -20~50°C |
| | Ambient Temperature For Storage | -25~55°C | | | | | |
| | Operation/Storage Conditions | 0~90%(no condensation) | | | | | |
| | External Dimensions:L*W*H(mm) | 460*182*397 | 485*202*406 | 540*229*464 | 577*350*644 | 627*405*664 | 780*447*724 |
| | Packing Dimensions:L*W*H(mm) | 527*267*470 | 552*277*477 | 570*310*535 | 665*450*825 | 715*505*845 | 875*545*922 |
| | Net Weight (KG) | 13 | 26 | 41.5 | 77 | 112 | 153 |
| | Gross Weight (KG) | 15 | 27.5 | 43 | 97 | 137 | 182 |

# AL Solar Energy Storage System

**300W/500W/1000W/1500W**

## MAIN FEATURES

- Pure sine wave output
- Built in Gel battery
- PV input 18~100VDC/34~100VDC
- MPPT Controller greatly improving the charging efficiency more than 20%
- Overcharge protection and over discharge protection for a longer battery life
- Safe and reliable with intelligent exhaust fan control

## Product Specifications

| Model | | AL-300 | AL-500 | AL-1000-12 | AL-1000-24 | AL-1500 |
|---|---|---|---|---|---|---|
| Inverter | Battery Voltage | 12V | | | 24V | |
| | In-built Battery Specification | 1*55AH/12V | | 1*100AH/12V | 2*55AH/12V | 2*100AH/12V |
| | Rated Power | 300W | 500W | 1000W | 1000W | 1500W |
| | Output Voltage | 110/120/220/230/240VAC | | | | 220/230VAC |
| | Output Frequency | 50/60Hz | | | | |
| | Output Waveform | Pure Sine Wave | | | | |
| | Input Voltage | 73~138/145~275VAC | | | 85~138VAC/170~275VAC | |
| | Charge Current | 10A(MAX) | | 15A(MAX) | | |
| Solar Input | Voltage Range | 18~100V | | | 34~100V | |
| | Rated Charge Current | 30A | | | | |
| | Maximum Power | 420Wp | | | 840Wp | |
| | Voltage Of Overcharge Protection | 14.2V | | | 28.4V | |
| | Voltage Of Overcharge Recovery | 14V | | | 28V | |
| | Voltage Of Floating Charge | 13.7V | | | 27.4V | |
| DC Output | Voltage Of High Voltage Protection | 17V | | | 34V | |
| | Voltage Of High Voltage Recovery | 14.5V | | | 29V | |
| | Voltage Of Low Voltage Recovery | 12.5V | | | 25V | |
| | Voltage Of Low Voltage Protection | 11V | | | 22V | |
| | 5VDC USB Output Port | 2 Units/MAX 2A | | | | |
| | 12VDC Output Port | 2 DC ports + backboard 12V terminal block(MAX 8A) | | | | |
| Starting Temperature Of The Exhaust Fan | | >45°C | | | | |
| Ambient Temperature For Operation | | 0~40°C | | | | |
| Ambient Temperature For Storage | | -25~55°C | | | | |
| Operation/Storage Conditions | | 0~90%(no condensation) | | | | |
| Extemal Dimensions:L*W*H (mm) | | 343*225*443 | 423*260*453 | | | 513*310*493 |
| Packing Dimensions:L*W*H(mm) | | 420*290*490 | 520*370*520 | | | 610*420*550 |
| Net Weight (KG) | | 25 | 26.7 | 43 | 46 | 84 |
| Gross Weight (KG) | | 25.6 | 26.8 | 45 | 47.6 | 88 |



# NLB Solar Energy Storage System

**3.6KW/6KW**

## MAIN FEATURES

- Pure sine wave output
- Built-in 1 or 2 MPPT
- Compatible work with LiFePO4 battery via RS485
- LifePO4 battery with 10 years service life
- Wifi remote monitoring optional
- EQ function to optimize battery performance and extend lifecycle

## Product Specifications

| Model | | | NLB-3.6KW | | NLB-6KW | |
|---|---|---|---|---|---|---|
| Rated Power | | | 3600W | | 6000W | |
| LiFePO4 Battery | Specification | | 25.6V-206AH | 25.6V-314AH | 51.2V-206AH | 51.2V-314AH |
| | Battery Capacity | | 5273WH | 8038WH | 10547WH | 16076WH |
| | Stacking Quantity | | built-in | | | |
| MPPT Input | Max PV Input | | 5000W | | 9000W | |
| | PV Input Voltage | | 40~430VDC | | 60~450VDC | |
| | Max Open Circuit Voltage | | 450VDC | | 500VDC | |
| | Charging Current(can be set) | | 100A | | 120A | |
| AC Input | Voltage Ramge | UPS | 170~280VAC | | 170~264VAC | |
| | | INV | 90~280VAC | | 90~280VAC | |
| | Frequency | | 45~65Hz | | | |
| | Charging Current(can be set) | | 100A | | 120A | |
| Inverter Output | Voltage Range(can be set) | | 208/220/230/240VAC±5% | | | |
| | Frequency | | 50/60Hz | | | |
| | Output Wave | | Pure Sine Wave | | | |
| | Conversation Time | | 10ms | | | |
| | Efficiency | | >93% | | >94% | |
| | Overload | | 102~110%/60s;110%~130%/10s;130%~150%/3s;>150%/0.2s | | | |
| Ambient Temperature For Operation | | | -10~50°C | | | |
| Ambient Temperature For Storage | | | -15~60°C | | | |
| Operating/Storage Environment | | | 5~95%Relative humidity(non-condensing) | | | |
| The company reserves the right to change without notice. | | | | | | |

# HDB Stacked Solar Energy Storage System

12KW

## MAIN FEATURES

- Pure sine wave output
- Built-in 2 MPPT
- Compatible work with LiFePO4 battery via RS485
- LifePO4 battery with 10 years service life
- Wifi remote monitoring optional
- EQ function to optimize battery performance and extend lifecycle

## Product Specifications

| Model | | | HDB-12KW |
|---|---|---|---|
| Rated Power | | | 12000W |
| Communication Input | Voltage | | 230/240VAC |
| | Selectable Voltage Range | UPS | 170~280VAC |
| | | INV | 90~280VAC |
| | Frequency Range | | 50/60Hz(Auto sensing) |
| Communication Output | AC Voltage Regulation (Batt .Mode) | | 220/230/240VAC |
| | Surge Power | | 24KW |
| | Efficiency(Peak)PV to INV | | 95% |
| | Efficiency(Peak)Battery to INV | | 94% |
| | Transfer Time | | 10ms |
| | Overlord Capacity | | 1min@102%~125%Load,10s@>125%Load |
| PV Charge | Maximum PV Array Power | | 15000W |
| | MPPT Range Operating Voltage | | 60~450VDC |
| | Maximum PV Array Open Circuit Voltage | | 500VDC |
| | Maximum Charge Current | | 160A |
| | Maximum Efficiency | | 99% |
| Battery And AC Charging | Specification | | 314AH/51.2V |
| | Battery Capacity | | 16076.8WH |
| | Stacking Quantity | | 1~3 |
| | Maximum Charging Current | | 160A |
| AC+PV Charge | Maximum Charge Current | | 160A |
| Opera Ting Environment | Humidity | | 5~95% Relative Humidity(Non-condensing) |
| | Operating Temperature | | 0~55°C |
| | Storage Temperature | | -15~60°C |
| Physical | Communication Interface | | USB/RS232/RS485 |
| Note: Our company has the right of changing this user manual without any information | | | |



# Integrated Solar Storage Hybrid Power System

125KW–241KWh

## MAIN FEATURES

- Combining high power and high capacity
- Multi energy complementarity and flexible configuration
- It can integrate various energy sources such as photovoltaic power generation, diesel generators, and mains power, and achieve intelligent scheduling through an energy management system (EMS)
- Intelligent management and optimization
- The power output can meet the demand of large-scale loads, such as small and medium-sized factories, commercial complexes, or community power supply
- Fast response and seamless switching

## Product Specifications

| Parameter | | SNT125-241KWH-PV250 |
|---|---|---|
| Photovoltaic Parameters | Maximum Input Power | 250.0KW |
| | Maximum Input Voltage | 1000V |
| | MPPT Working Range | 180~950V |
| | MPPT Rated Voltage | 500~850V |
| | Starting Voltage | 200V |
| | Maximum Input Current | 40A*8 |
| | Maximum Short-circuit Current | 55A |
| | Number Of MPPT | 8 groups |
| | Number Of Input Strings Per MPPT Channel | 2*8=16 Route |
| | Photovoltaic MPPT Efficiency | 99% |
| AC Communication Parameters (grid connected end) | Rated Output Power | 125.0KW |
| | Maximum Output Power | 125.0KW |
| | Maximum Charging Power | 125.0KW |
| | Mixed Output Power | 137.0KW |
| | Rated Voltage | 380/400V,3L/N/PE |
| | Rated Frequency | 50/60Hz |
| | Maximum Output Current | 198A |
| | Maximum Three-phase Unbalanced Output | 0~97% |
| | Maximum Bypass Current | 300A |
| | Total Harmonic Distortion Of Current | <3% |
| AC Communication Parameters (off grid end) | Rated Output Power | 125.0KW |
| | Rated Output Voltage | 380/400V,3L/N/PE |
| | Rated Output Frequency | 50/60Hz |
| | Maximum Output Single-phase Apparent Power | 40KW |
| | Off Grid Switching Time | 10ms |
| | Conversion Efficiency | 98.00% |
| Battery Parameters | Battery Parameters Operating Voltage Range | 672-864.0V |
| | Battery Type | Lithium iron phosphate LifePO4 |
| | Battery Model | SF-T768V 314AH |
| | Rated Charging/disCharging Current | 300A/300A |
| | Charging Power | 125.0KW |
| | Battery Count Setting | 15 |
| | Single Pack Battery Capacity | 16.076KWH |
| | Rated Capacity | 241.0KWH |
| Basic Parameters | Temperature Control System Air-cooled Air Conditioner | air-cooled air conditioner |
| | Passive Firefighting | Hot aerosol fire extinguishing device/detector |
| | Working Temperature range | -25~60°C (>45 derating) |
| | Working Altitude | <3000m |
| | Noise Emissions | <30~60dB |
| | Protection Level | IP54 |
| | Relative Humidity Range | 0~95°C (No condensation) |
| | Size (W*H*D) (mm) | 1200*1100*2200 |
| | Packaging Weight | 2600KG |
| | Human Computer Interaction Mode | LCD/APP |
| | Cloud Based Communication Method | Wi-Fi |
| | Display Interface | liquid crystal, LCD, RS485, CAN |
| | Certification | UN38. 3 MSDS CE |
| | Safety Standards | IEC62109-1/-2 |
| | EMC Standard | EN61000-6-1/-3,IEC61000 |
| | Well Network Standard | NRS97, G98/G99, EN50549-1, C10/C11, as 4777, VDE-AR-N4105, VDE0126, IEC62040 |

# NKH Off-grid Hybrid Solar Inverter

**1.2KW/3.6KW/6KW/12KW**

## MAIN FEATURES

- Built-in 1 or 2 MPPT
- Pure sine wave output
- Compatible work with LiFePO4 battery via RS485
- Capable to work without battery
- Wifi remote monitoring optional
- Support multiple output priority: UTL,SOL,SBU,SUB

## Product Specifications

| Model | | | NKH-1200 | NKH-3600 | NKH-6000 | NKH-12K |
|---|---|---|---|---|---|---|
| Rated Power | | | 1200W | 3600W | 6000W | 12000W |
| Parallel Mode (function reserved) | Allow Quantity | | 0 | | 0~6 | |
| Communication Input | Voltage | | 230/240VAC | | | |
| | Selectable Voltage Range | UPS | 170~264VAC | 170~280VAC | 170~280VAC | |
| | | INV | 90~280VAC | 120~280VAC | 90~280VAC | |
| | Frequency Range | | 50/60Hz(Auto sensing) | | | |
| Communication Output | AC Voltage Regulation (Batt .Mode) | | 208/220/230/240VAC | | | 220/230/240VAC |
| | Surge Power | | 2.4KW | 7.2KW | 12KW | 24KW |
| | Efficiency(Peak)PV to INV | | 95% | | | |
| | Efficiency(Peak)Battery to INV | | 94% | | | |
| | Transfer Time | | 10ms | | | |
| | Overlord Capacity | | 1min@102%~110% Load,10s@110%~130% Load, 3s@130%~150% Load 2s@150% Load | | | 1min@102%~125%Load,10s@>125%Load |
| Battery & AC Charge | Battery Voltage | | 12VDC | 24VDC | 48VDC | |
| | Floating Charge Voltage | | 13.5VDC | 27VDC | 54VDC | |
| | Overcharge Protection | | 15.75VDC | 32VDC | 64VDC | 61VDC |
| | Maximum Charge Current | | 60A | 100A | 120A | 160A |
| PV Charge | Maximum PV Array Power | | 1000W | 5000W | 9000W | 15000W |
| | MPPT Range Operating Voltage | | 20~100VDC | 40~430VDC | 60~450VDC | |
| | Maximum PV Array Open Circuit Voltage | | 125VDC | 450VDC | 500VDC | |
| | Maximum Charge Current | | 60A | 100A | 120A | 160A |
| | Maximum Efficiency | | 99% | | | |
| AC+PV Charge | Maximum Charge Current | | 120A | 100A | 120A | 160A |
| Opera Ting Environment | Humidity | | 5~95% Relative Humidity(Non-condensing) | | | |
| | Operating Temperature | | 0~55°C | | | |
| | Storage Temperature | | -15~60°C | | | |
| Physical | Communication Interface | | USB/RS232/RS485 | | | |
| | Dimension(L*W*H)mm | | 260*103*342 | 312*122*436 | 343*122*427 | 389*129*503 |
| | Package Size(L*W*H)mm | | 355*198*435 | 395*215*505 | 425*195*495 | 470*225*565 |
| | Net Weight(KG) | | 4.1 | 7.5 | 9.2 | 15 |

Note: Our company has the right of changing this user manual without any information



# GS Hybrid Solar Inverter (IP65)

**6.5KW**

## MAIN FEATURES

- IP65 protection level design
- Scalable, three-phase parallel operation, flexible application, up to 6 parallel units
- Multiple working modes including off grid, grid connected, and mixed grid
- WIFI remote communication management
- Dedicated generator input interface
- Two photovoltaic inputs

## Product Specifications

| Model | | GS-652048-902A |
|---|---|---|
| Inverter Mode | Rated Output Power | 6500VA/6500W |
| | Rated DC Input Voltage | 48V |
| | Maximum DC Charging/discharging Current | 120A/125A |
| | Output Voltage Waveform | pure sine wave |
| | Rated Output Voltage | 230Vac±5% |
| | Rated Output Frequency | 50±0.3Hz/60±0.3Hz(Adfustable) |
| | Parallel Capability | up to 6 units |
| Mains Mode | Rated Output Power | 6500VA/6500W |
| | Rated DC Input Voltage | 48V |
| | Input Voltage Waveform | Sinusoidal (utility or generator) |
| | Low Voltage Disconnect Low | 230Vac |
| | Reconnect After Voltage Loss | 90Vac±3V(For Home Appliances)/170Vac±3V(For Computers) |
| | Mains Mode | 100Vac±3V(For HomeAppliances)/180Vac±3V(ForComputers) |
| | Input Voltage Range | 90-280Vac |
| | Maximum Grid Charging Current | 120A |
| | High Line Voltage Disconnection | 280Vac±3V |
| | High Line Voltage Reconnection | 270Vac±3V |
| | Maximum AC Input Voltage | 280Vac±3V |
| | Maximum Grid Charging Current | 120A |
| | Rated Input Frequency | 50Hz /60Hz (Auto detection) |
| Photovoltaic Input | Maximum Open Circuit Voltage | 500V |
| | Photovoltaic Voltage Range | 85-450V |
| | Maximum Input Power | 9000W |
| | Maximum Solar Charging Current | 120A |
| | Maximum Charging Current (photovoltaic+grid) | 120A |
| | Maximum Input Current | 27A |
| | Minimum Starting Voltage | 75V |
| General Specifications | Operating Temperature | -10°C~55°C |
| | Storage Ttemperature Range | -15°C~60°C |
| | Product Dimensions (length*width*height)mm | 632*400*196 |
| | Packaging Dimensions (length*width*height)mm | 715*485*270 |

# ES On/Off Grid Solar Inverter

**6.2KW/12KW**

## MAIN FEATURES

- Built-in 1 or 2 MPPT
- Can parallel 1-6 units
- Can operate independently off the grid or in parallel with the grid
- Capable to work without battery
- Detachable dust cover for harsh environment
- Wifi remote monitoring optional

## Product Specifications

| Model | | ES622048-M100-A | ES622048-M100-B | ES123048-M150-A | ES123048-M150-B |
|---|---|---|---|---|---|
| Parallel Mode (function reserved) | Allow Quantity | -A None/-B 1~6 | | | |
| Mains Mode | Nominal Input Voltage | 220/230VAC | | 230VAC | |
| | Input Voltage Range | (170~280VAC)±2%(UPS mode);(90~280VAC)±2%(APL mode) | | | |
| | Frequency | 50/60Hz(Auto detect) | | | |
| | Frequency Range | 47±0.3~55±0.3HZ(50Hz);57±0.3~65±0.3Hz(60Hz) | | | |
| | Max. Efficiency | >95% | | | |
| | Conversion Time (bypass and inverter) | 10ms(typical) | | | |
| | Max. Bypass Overload Current | 40A | | 60A | |
| Inverter Mode | Output Voltage Waveform | Pure Sine Wave | | | |
| | Nominal Output Power | 6200VA/6200W | | 12000VA/12000W | |
| | Power Factor | 1 | | | |
| | Nominal Output Voltage | 230VAC | | | |
| | Output Frequency Range | 50±0.3Hz/60±0.3Hz | | | |
| | Max. Efficiency | >92% | | ≥93% | |
| | Overload Protection | (102%<load<125%) ±10%:report error and turn off the output after 5 minutes<br>(125%<load<150%) ± 10%:report error and turn off the output after 10 seconds<br>Load>150%±10%:report error and turn off the output after 5 seconds | | | |
| | Peak Power | 12000VA | | 24000VA | |
| | Load Motor Capability | 4HP | | 8HP | |
| | Nominal Batteryinput Voltage | 48V(Min. start voltage 44V) | | | |
| | Battery Voltage Range | 40.0~60VDC±0.6VDC(Undervoltage alarm/shutdown voltage/overvoltage alarm/overvoltage recovery...LCD screen can be set) | | | |
| | Save Power Mode | Load≤25W Enter save power mode | | Load≤50W Enter save power mode | |
| Mains Charge | Battery Type | Lead-acid or lithium batteries | | | |
| | Max. Charge Current (configurable) | 80A | | 150A | |
| | Charge Voltage Range | 40~60VDC | | | |
| Solar Charge | Max. PV Open Circuit Voltage | 500VDC | | | |
| | PV Operate Voltage Range | 120~500VDC | | | |
| | MPPT Voltage Range | 90~450VDC | | | |
| | Battery Voltage Range | 40~60VDC | | | |
| | Max.PV Input Power/Current | 6500W/27A | | 9000W*2/27A*2 | |
| | Charge Current Range (configurable) | 0~100A | | 0~150A | |
| Max, Hybrid Charge Current (PV+AC) | Max. Hybrid Charge Current (configurable) | 0~100A | | 0~150A | |
| Certification | Safety Certifcation | CE(IEC62109-1,2) | | | |
| | EMC Certifcation Level | EN61000,C2 | | | |
| | Operate Temperature Range | -15~55°C | | | |
| | Storage Temperature Range | -25~60°C | | | |
| | Humidity Range | 5~95%(Three anti-paint protection) | | | |
| | Noise | ≤60dB | | | |
| | Cooling | Forced air cooling,adjustable wind speed | | | |
| | Communicate | USB/RS485 (/WiFi/GPRS)/Dry node control | | | |
| Dimensions(L*W*H)mm | | 280*100*415 | | 350*120*540 | |
| Package Dimensions(L*W*H)mm | | 385*200*505 | | 460*230*645 | |
| Weight(KG) | | 7.8 | | 18.5 | |



# ES-IP54 On/Off Grid Solar Inverter(EURO)

**6.2KWM12KW**

## MAIN FEATURES

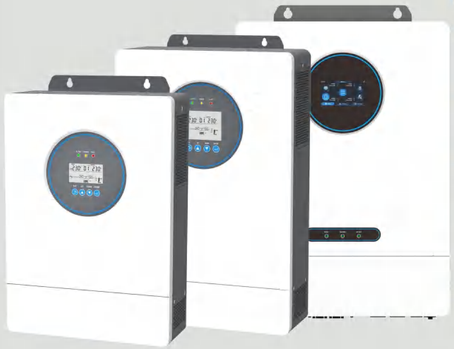
- Intelligent remote monitoring and management
- Can run 6 single-phase or three-phase parallel machines
- Flexible and adjustable input voltage range and charging current
- Dustproof and waterproof design, suitable for complex usage environments
- Wide range of communication input, with anti backflow and grid connection function
- Support battery free working conditions and have segmented intelligent charging and discharging functions

## Product Specifications

| Model | | ES-622048-54A | ES-622048-54B | ES-123048-54A | ES-123048-54B |
|---|---|---|---|---|---|
| Parallel Mode (function reserved) | Allow Quantity | Stand-Alone | Maximum parallel operation of 6 units | Stand-Alone | Maximum parallel operation of 6 units |
| Mains Mode | Nominal Input Voltage | 220/230VAC | | 230VAC | |
| | Input Voltage Range | (170~280VAC)±2%(UPS mode);(90~280VAC)±2%(APL mode) | | | |
| | Frequency | 50/60Hz(Auto detect) | | | |
| | Frequency Range | 47±0.3~55±0.3HZ(50Hz);57±0.3~65±0.3Hz(60Hz) | | | |
| | Max. Efficiency | >95% | | | |
| | Conversion Time (bypass and inverter) | 10ms(typical) | | | |
| | Max. Bypass Overload Current | 40A | | 60A | |
| Inverter Mode | Output Voltage Waveform | Pure Sine Wave | | | |
| | Nominal Output Power | 6200VA/6200W | | 12000VA/12000W | |
| | Power Factor | 1 | | | |
| | Nominal Output Voltage | 230VAC | | | |
| | Output Frequency Range | 50±0.3Hz/60±0.3Hz | | | |
| | Max. Efficiency | >92% | | >93% | |
| | Overload Protection | (102%<load<125%)±10%:report error and turn off the output after 5 minutes<br>(125%<load<150%)±10%:report error and turn off the output after 10 seconds<br>Load>150%±10%:report error and turn off the output after 5 seconds | | | |
| | Peak Power | 12000VA | | 24000VA | |
| | Load Motor Capability | 4HP | | 8HP | |
| | Nominal Batteryinput Voltage | 48V(Min. start voltage 44V) | | | |
| | Battery Voltage Range | 40.0~60VDC±0.6VDC(Undervoltage alarm/shutdown voltage/overvoltage alarm/overvoltage recovery...LCD screen can be set) | | | |
| | Save Power Mode | Load≤25W Enter save power mode | | Load≤50W Enter save power mode | |
| Mains Charge | Battery Type | Lead-acid or lithium batteries | | | |
| | Max. Charge Current (configurable) | 80A | | 150A | |
| | Charge Voltage Range | 40~60VDC | | | |
| Solar Charge | Max. PV Open Circuit Voltage | 500VDC | | | |
| | PV Operate Voltage Range | 120~500VDC | | | |
| | MPPT Voltage Range | 90~450VDC | | | |
| | Battery Voltage Range | 40~60VDC | | | |
| | Max.PV Input Power/Current | 6000W/22A | | 9000W*2/27A*2 | |
| | Charge Current Range (configurable) | 0~100A | | 0~150A | |
| Max, Hybrid Charge Current (PV+AC) | Max. Hybrid Charge Current (configurable) | 0~100A | | 0~150A | |
| Certification | Safety Certifcation | CE(IEC62109-1,2) | | | |
| | EMC Certifcation Level | EN61000,C2 | | | |
| | Operate Temperature Range | -15~55°C | | | |
| | Storage Temperature Range | -25~60°C | | | |
| | Humidity Range | 5~95%(Three anti-paint protection) | | | |
| | Noise | ≤60dB | | | |
| | Cooling | Forced air cooling,adjustable wind speed | | | |
| | Communicate | USB/RS485(/WiFi/GPRS)/Dry node control | | | |
| Other | External Dimensions:L*W*H(mm) | 320*110*455 | | 433*135*592 | |
| | Packing Dimensions:L*W*H(mm) | 415*210*525 | | 510*230*665 | |

# AS On/Off Grid Hybrid Inverter (US)

**3.6KW/6.5KW/7.2KW/12KW**



## MAIN FEATURES

- Built-in 1 or 2 MPPT
- Can parallel 1-6 units
- Can operate independently off the grid or in parallel with the grid
- Capable to work without battery
- Detachable dust cover for harsh environment
- Wifi remote monitoring optional

## Product Specifications

| Model | | AS362048-M80-A | AS362048-M80-B | AS652048-M150-A | AS652048-M150-B | AS722048-M150-A | AS722048-M150-B | AS123048-M200-A | AS123048-M200-B |
|---|---|---|---|---|---|---|---|---|---|
| Parallel Mode (function reserved) | Allow Quantity | -A None/-B 1~6 | | | | | | | |
| Mains Mode | Nominal Input Voltage | 120VAC±5% | | | | 120VAC(L1/N, L2/N)/240VAC(L1/L2) | | | |
| | Input Voltage Range | (90~140VAC)±2% | | | | (85~140VAC)±2% | | | |
| | Frequency | 50/60Hz(Auto Detect) | | | | | | | |
| | Frequency Range | 47±0.3Hz~55±0.3Hz(50Hz); 57±0.3Hz~65±0.3Hz(60Hz) | | | | | | | |
| | Max.Efficiency | >95% | | | | | | | |
| | Conversion Time (bypass and inverter) | 10ms(Typical Value) | | | | | | | |
| | Max.Bypass Overload Current | 40A | | 60A | | 2pole, 50A/50A(L1/L2) | | 2P,63A/63A(L1/L2) | |
| Inverter Mode | Output Voltage Waveform | Pure Sine Wave | | | | | | | |
| | Nominal Output Power | 3600VA/3600W | | 6500VA/6500W | | Split phase:7200VA<br>Single phase: 6000VA | | Split phase:12000VA/12000W<br>Single phase: 7200VA/7200W(limited by the wiring terminals) | |
| | Power Factor | 1 | | | | | | | |
| | Nominal Output Voltage | 120VAC | | | | 120VAC(L1/N,L2/N)/240VAC(L1/L2) | | | |
| | Output Frequency Range | 50±0.3Hz/60±0.3Hz | | | | | | | |
| | Max.Efficiency | >91% | | | | | | | |
| | Overload Protection | (102%<load<125%) ±10%: report error, turn off the output after 5 minutes<br>(125%<load<150%) ±10%: report error, turn off the output after 10 seconds<br>load>150% ±10%: report error,turn off the output after 5 seconds | | | | | | (102%<load<110%) ±5%: report error and turn off the output after 5 minutes<br>(110%<load<125%) ±5%: report error and turn off the output after 10 seconds<br>load>125% ±5%: report error and turn off the output after 5 seconds | |
| | Peak Power | 7200VA | | 12000VA | | Split phase:10800VA Single phase: 10800VA | | Split phase:18000VA Single phase:18000VA | |
| | Load Motor Capability | 2HP | | 5HP | | 4HP | | 6HP | |
| | Nominal Battery Input Voltage | 48V(Min. starting voltage 44V) | | | | 51.2V(Minimum starting voltage 44V) | | | |
| | Battery Voltage Range | 40.0~60Vdc ±0.6Vdc(Undervoltage alarm/shutdown voltage/overvoltage/alarm/overvoltage recovery...LCD screen)(can be set) | | | | 40.0~58.6Vdc ±0.6Vdc (Undervoltage alarm/shutdown voltage/overvoltage alarm /overvoltage recovery...settable on LCD screen) | | | |
| | Save Power Mode | Loads 25W | | | | | | | |
| Mains Charge | Battery Type | Lead-acid or lithium batteries | | | | | | | |
| | Max.Charge Current (configurable) | 40A | | 120A | | | | 160A | |
| | Charge Voltage Range | 40~60VDC | | | | 40~58.6VDC | | | |
| Solar Charge | Max.PV Open Circuit Voltage | 300VDC | | | | 500VDC | | | |
| | PV Operate Voltage Range | 80~300VDC | | | | 90~485VDC | | | |
| | MPPT Voltage Range | 90~260VDC | | | | 90~450VDC | | | |
| | Battery Voltage Range | 40~60VDC | | | | 40~58.6VDC | | | |
| | Max.PV Input Power/Current | 4500W/27A | | 4500W*2/22A*2 | | 4500W*2 | | 9000W*2/27A*2 | |
| | Charge Current Range (configurable) | 0~80A | | 0~150A | | 150A | | 300A | |
| Max.Hybrid Charge Current (PV+AC) | Max.Hybrid Charge Current (configurable) | 0~80A | | 0~150A | | | | 0~220A | |
| Certification | Safety Certification | CE(IEC62109-1.2) | | | | UL1741 | | | |
| | EMC Certification Level | EN61000,C2 | | | | FCC part15,CLASS B | | | |
| | Operate Temperature Range | -15~55°C | | | | | | | |
| | Storage Temperature Range | -25~60°C | | | | | | | |
| | Humidity Range | 5~95%(Three anti-paint protection) | | | | | | | |
| | Noise | ≤60dB | | | | | | | |
| | Cooling | Forced air cooling, adjustable wind speed | | | | | | | |
| | Communicate | USB/RS485(/WiFi/GPRS)/Dry node control | | | | | | | |
| Dimensions(L*W*H)mm | | 280*100*415 | | 350*120*540 | | 580*127*359 | | 450*132*620 | |
| Package Dimensions(L*W*H)mm | | 385*200*505 | | 460*230*645 | | 700*252*470 | | 545*230*715 | |
| Weight(KG) | | 7.8 | | 18.5 | | 18.9 | | 23.8 | |



# AS-IP54 On/Off Grid Solar Inverter(US)

**3.6KW/6.5KW/12KW**

## MAIN FEATURES

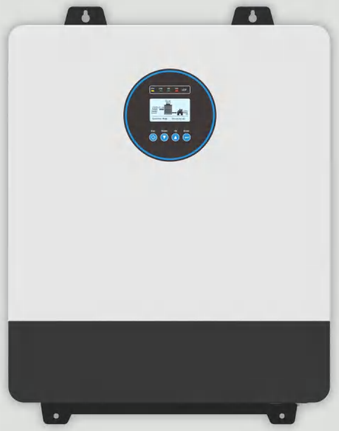
- Built-in 1 or 2 MPPT
- Can parallel 1-6 units
- Can operate independently off the grid or in parallel with the grid
- Capable to work without battery
- Detachable dust cover for harsh environment
- Wifi remote monitoring optional

## Product Specifications

| Model | | AS-362048-54A | AS-362048-54B | AS-652048-54A | AS-652048-54B | AS-123048-54A | AS-123048-54B |
|---|---|---|---|---|---|---|---|
| Parallel Mode (function reserved) | Allow Quantity | -A None/-B 1~6 | | | | | |
| Mains Mode | Nominal Input Voltage | 120VAC±5% | | | | 120VAC(L1/N, L2/N)/240VAC(L1/L2) | |
| | Input Voltage Range | (90~140VAC)±2% | | | | (85~140VAC)±2% | |
| | Frequency | 50/60Hz(Auto detect) | | | | | |
| | Frequency Range | 47±0.3Hz~55±0.3Hz(50Hz); 57±0.3Hz~65±0.3Hz(60Hz) | | | | | |
| | Max.Efficiency | >95% | | | | | |
| | Conversion Time (bypass and inverter) | 10ms(Typical value) | | | | | |
| | Max.Bypass Overload Current | 40A | | 60A | | 2pole, 60A/60A(L1/L2) | |
| Inverter Mode | Output Voltage Waveform | Pure Sine Wave | | | | | |
| | Nominal Output Power | 3600VA/3600W | | 6500VA/6500W | | Split phase:12000VA/12000W<br>Single phase: 7200VA/7200W(limited by the wiring terminals) | |
| | Power Factor | 1 | | | | | |
| | Nominal Output Voltage | 120VAC | | | | 120VAC(L1/N, L2/N)/240VAC(L1/L2) | |
| | Output Frequency Range | 50±0.3Hz/60±0.3Hz | | | | | |
| | Max.Efficiency | >91% | | | | | |
| | Overload Protection | (102%<load<125%)±10%: report error, turn off the output after 5 minutes<br>(125%<load<150%)±10%: report error, turn off the output after 10 seconds<br>load>150%±10%: report error,turn off the output after 5 seconds | | | | (105% < load <110%) ±5%: report error and turn off the output after 5 minutes;<br>(110% < load < 125%) ± 5%: report error and turn off the output after 10 seconds;<br>Load >125% ±5%: report error and turn off the output after 5 seconds; | |
| | Peak Power | 7200VA | | 12000VA | | Split phase: 18000VA; Single phase: 18000VA | |
| | Load Motor Capability | 2HP | | 5HP | | 6HP | |
| | Nominal Battery Input Voltage | 48V(Min. starting voltage 44V) | | | | 51.2V (Minimum starting voltage 44V) | |
| | Battery Voltage Range | 40.0~60VDC±0.6VDC(Undervoltage alarm/shutdown voltage/overvoltage/alarm/overvoltage recovery...LCD screen(can be set) | | | | 40.0~58.6VDC±0.6VDC (Undervoltage alarm/shutdown voltage/overvoltage alarm /overvoltage recovery... settable on LCD screen) | |
| | Save Power Mode | Loads 25W | | | | Load per phase is null or less than 25W enter power-saving mode | |
| Mains Charge | Battery Type | Lead-acid or lithium batteries | | | | | |
| | Max.Charge Current (configurable) | 40A | | 120A | | 160A | |
| | Charge Voltage Range | 40~60VDC | | | | 40~58.6VDC | |
| Solar Charge | Max.PV Open Circuit Voltage | 300VDC | | | | 500VDC | |
| | PV Operate Voltage Range | 80~300VDC | | | | 90~500VDC | |
| | MPPT Voltage Range | 90~260VDC | | | | 80~450VDC | |
| | Battery Voltage Range | 40~60VDC | | | | 40~58.6VDC | |
| | Max.PV Input Power/Current | 4000W/22A | | 4500W*2/22A*2 | | 6000W*2 | |
| | Charge Current Range (configurable) | 0~80A | | 0~150A | | 220A | |
| Max.Hybrid Charge Current (PV+AC) | Max.Hybrid Charge Current (configurable) | 0~80A | | 0~150A | | 0~220A | |
| Certification | Safety Certification | CE(IEC62109-1.2) | | | | UL1741 | |
| | EMC Certification Level | EN61000,C2 | | | | FCC part15, CLASS B | |
| | Operate Temperature Range | -15~55°C | | | | | |
| | Storage Temperature Range | -25~60°C | | | | | |
| | Humidity Range | 5~95%(Three anti-paint protection) | | | | | |
| | Noise | ≤60dB | | | | | |
| | Cooling | Forced air cooling, adjustable wind speed | | | | | |
| | Communicate | USB/RS485(/WiFi/GPRS)/Dry node control | | | | | |
| Other | External Dimensions:L*W*H(mm) | 320*110*465 | | 433*135*592 | | 562*137*714 | |
| | Packing Dimensions:L*W*H(mm) | 425*210*535 | | 510*230*665 | | 640*235*785 | |

# NKF Low Frequency Split Phases Solar Inverter

**3KW/5KW/6.4KW/8KW/10KW**



## MAIN FEATURES

- Dual MCU intelligent control technology, excellent performance
- Input single-phase/split phase options, flexible to cope with various power environments
- The output voltage and frequency can be set, which is convenient and practical
- The unmanned function can be set, and the applicationscenarios are diversified
- Intelligent air-cooled heat dissipation, efficient and energy-saving
- Comprehensive protection and alarm functions, safe and reliable

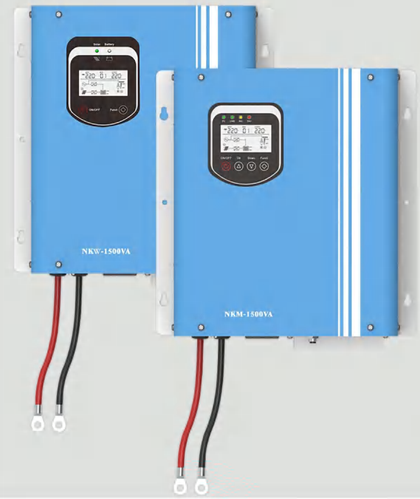
## Product Specifications

| Model | | NKF-302024 | NKF-302048 | NKF-502048 | NKF-642048 | NKF-802048 | NKF-103048 |
|---|---|---|---|---|---|---|---|
| Inverter | Rated Power | 3KW | | 5KW | 6.4KW | 8KW | 10KW |
| | Peak Power | 9KW | | 15KW | 19.2KW | 24KW | 30KW |
| | Rated Battery Voltage | 24V | 48V | | | | |
| Controller MPPT | Charging Current | 60A | | 120A | | | |
| | Photovoltaic Input Interface | 60A*1 route | | 60A*2 route(120A) | | | |
| | Maximum Photovoltaic Input Power | 1440W | 2880W | 2880W*2 | | | |
| | Photovoltaic Input Voltage Range | 30V-180V(24V system); 60V-180V(48V system) | | | | | |
| | Conversion Efficiency | ≈99% | | | | | |
| | Unattended Mode | In shutdown state: MPPT rechargeable when there is sunlight, achieving unmanned photovoltaic operation | | | | | |
| AC Input | Municipal Power Input | (L1-N)110VAC:80~130VAC | | | | | |
| | Voltage Range | (L1-N-L2)220VAC:160~260VAC/130~280VAC | | | | | |
| | Input Frequency Of Mains Power | 45Hz~65Hz(intelligent automatic detection) | | | | | |
| | Municipal Power Charging Current | Adjustable | | | | | |
| AC Output | Inverted Output Waveform | pure sine wave | | | | | |
| | Inverter Output Efficiency | ≈90% | | | | | |
| | Inverter Output Voltage | (L1-N,L2-N):110VAC<br>(L1-L2):220VAC | | | | | |
| | Inverter Output Frequency | 50Hz/60Hz Adjustable | | | | | |
| | Energy Saving Mode Loss | 5W | | | | | |
| Working Mode | Inverter Working Mode | City power priority mode, battery priority mode, energy-saving mode, unmanned operation, generator mode | | | | | |
| Battery Parameters | Support Battery Types | Lead acid battery/colloidal battery/lithium iron phosphate/ternary lithium battery/battery customization | | | | | |
| | Custom Parameters For Batteries | Constant voltage charging, float charging, battery recovery, mains power recovery, low voltage alarm, low voltage protection | | | | | |
| | Battery Charging Method | Lead acid: three-stage charging, constant current, constant voltage,<br>float charging Lithium battery: constant current, constant voltage | | | | | |
| | The number of lithium battery strings is optional | Lithium iron phosphate: 3.2V monomer, ternary lithium battery: 3.7V monomer | | | | | |
| Protect | Low Battery Voltage | Battery undervoltage/overvoltage/overload protection/high temperature protection/charging method protection, etc | | | | | |
| Display | LED Display | Mains power status, inverter status, charging status, alarm | | | | | |
| | Screen Display | Working status, input/output voltage, photovoltaic information display, inverter parameter settings, etc | | | | | |
| | Display Language | Chinese/English | | | | | |
| Convert time | | <10ms | | | | | |
| Cooling Method | | Intelligent temperature control | | | | | |
| Communication | | WIFI(RS485)/BMS(RS485) dry contact | | | | | |
| Operating Temperature | | -10°C~40°C | | | | | |
| Altitude | | ≤3000m | | | | | |



# NKW/NKM Solar Inverter

**1KW**




## MAIN FEATURES

- Wall-mounted with battery cable
- Built-in MPPT 40A PV Input 100VDC
  Built-in PWM 30A PV Input 25/50VDC
- Compatible work with LiFePO4 battery via RS485
- Low frequency(Built in ring transformer)
- Support multiple output priority: SBU,SUB
- EQ function to optimize battery performance and extend lifecycle

## Product Specifications

| Model | | NKW-1000E | | NKM-1000E | |
|---|---|---|---|---|---|
| Power Rating | | 1000W | | 1000W | |
| Storage Battery | Rated Voltage | 12VDC | 24VDC | 12VDC | 24VDC |
| | Battery Type | Can be set | | | |
| AC Input | Charge Current | 0~30A | | 0~25A | 0~15A |
| | Voltage Range | 73~138/145~275VAC | | | |
| | Frequency | 45~65Hz | | | |
| AC Output | Voltage Range | 100/110/120(VAC)<br>200/210/220/230/240(VAC) | | | |
| | Frequency | 50/60Hz±1%(inversion mode) | | | |
| | Output Waveform | Pure Sine Wave | | | |
| | Change-over | <10ms(typical load) | | | |
| | Productiveness | >85%(80% resistive load) | | | |
| | Overload | 110~120%/30s;>160%/300ms | | | |
| | Protection Function | Battery over voltage and low voltage protection,overload protection,<br>short circuit protection,overtemperature protection,etc | | | |
| MPPT Solar Energy Controller | MPPT Voltage Range | / | | 18~100VDC | 34~100VDC |
| | Maximum Solar Panel Input Power | | | 570Wp | 1130Wp |
| | Floating Charging Voltage | | | 13.75VDC | 27.5VDC |
| | Balanced Charging Voltage | | | 14.2VDC | 28.4VDC |
| | Machine Efficiency | | | ≥99% | |
| | Rated Charging | | | 40A(Max) | |
| The PWM Solar Energy Controller | Maximum PV Voltage | 25VDC | 50VDC | / | |
| | Charging Voltage Range | 10~25VDC | 20~50VDC | | |
| | Rated Charging Current | 30A | | | |
| | Overcharge Protection Voltage | 14.2VDC | 28.4VDC | | |
| | Overcharge Recovery Voltage | 14VDC | 28VDC | | |
| | Floating Charging Voltage | 13.7VDC | 27.4VDC | | |
| Operating Ambient | | -15~50°C | | | |
| Storage Environment | | -20~50°C | | | |
| Operating/Storage | | And 0~90% without condensation | | | |
| Appearance Dimensions:L*W*H(mm) | | 308*130*332 | | | |
| Package Dimensions:L*W*H(mm) | | 350*200*390 | | | |
| Weight(KG) | | 9.5/10.5 | | 9.7/10.7 | |

# NKM Low Frequency Solar Inverter

**1KW/2KW/3KW/5KW/6KW/8KW/10KW**

## MAIN FEATURES

- Pure sine wave both 110V~240V
- Built-in MPPT 40A PV Input 150VDC
  Built-in MPPT 60A/100A PV Input 200VDC
- Compatible work with LiFePO4 battery via RS485
- Low frequency(Built in square transformer)
- Communication interface:RS232/RS485/Dry contact
- EQ function to optimize battery performance and extend lifecycle

## Product Specifications

| Model | | NKM-1000 | NKM-2000 | NKM-3000 | NKM-5000 | NKM-6000 | NKM-8000 | NKM-10000 |
|---|---|---|---|---|---|---|---|---|
| Power Rating | | 1000W | 2000W | 3000W | 5000W | 6000W | 8000W | 10000W |
| Battery | Rated Voltage | 12/24VDC | 24VDC | 24/48VDC | 48VDC | | 48/72/96VDC | |
| | AC Charge Current | 12V:0~25A<br>24V:0~15A | 0~30A | 24V:0~35A<br>48V:0~25A | 0~30A | 0~35A | 0~40A | |
| | Battery Type | Can be set | | | | | | |
| Input | Voltage Range | 73~138/145~275VAC | 85~138/170~275VAC | | | | | |
| | Frequency | 45~65Hz | | | | | | |
| Output | Voltage Range | 110V(can be set):100/110/120VAC; 220V(can be set):200/210/220/230/240VAC | | | | | 220V(canbeset):<br>200/210/220/230/240VAC | |
| | Frequency | 50/60Hz±1%(Inverter mode) | | | | | | |
| | Output Wave | Pure Sine Wave | | | | | | |
| | Conversion Time | <10ms(Typical load) | | | | | | |
| | Efficiency | >85%(80% Resistive load) | | | | | | |
| | Overload | 110~120%/60s;120~130%/10s<br>130~150%/2s;>150%/500ms | | | | | | |
| | Protection | Battery overvoltage/low voltage,overload,short circuit protection,overtemperature protection,etc. | | | | | | |
| Solar Controller | MPPT Voltage Range | 12VDC:18~200VDC;24VDC:34~200VDC;48VDC:65~200VDC | | | | | | |
| | Max.PV Input Power | 12VDC/40A:570W<br>24VDC/40A:1130W | 12VDC/60A:900W;24VDC/60A:1700W<br>48VDC/60A:3400W;48VDC/100A:5400W | | | | 48VDC/100A:5400W | |
| | Rated Charge Current | 40A(Max) | 60A(Max) | | 100A(Max) | | | |
| | MPPT Efficiency | ≥99% | | | | | | |
| | Average Charging Voltage<br>(lead acid battery) | 12V: 14.2VDC;24V:28.4VDC;48V:56.8VDC | | | | | 48V:56.8VDC | |
| | Floating Charge Voltage | 12V:13.75VDC;24V:27.5VDC;48V:55VDC | | | | | 48V:55VDC | |
| Operating Ambient Temperature | | 0~40°C | | | | | | |
| Storage Ambient Temperature | | -15~50°C | | | | | | |
| Operating/Storage Environment | | 0~90°C No Condensation | | | | | | |
| Dimensions:L*W*H(mm) | | 321*125*420 | 461*170*545 | | | | 452*252*582 | |
| Packing Size: L*W*H(mm) | | 380*205*515 | 555*260*645 | | | | 525*315*650 | |

Note: Our company has the right of changing this user manual without any information



# SN Low Frequency Inverter(IGBT)

**5KW/10KW/15KW/20KW**

## MAIN FEATURES

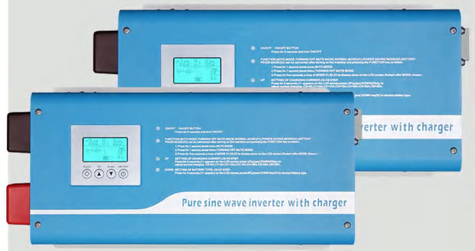
- Pure sine wave 110VAC or 220VAC
- Compatible work with LiFePO4 battery via RS485
- Low frequency(Built in strip transformer)
- Support multiple output priority:SBU,SUB
- Communication interface:RS232/RS485/Dry contact
- EQ function to optimize battery performance and extend lifecycle

## Product Specifications

| Model | | SN-5000 | SN-10K | SN-15K | SN-20K |
|---|---|---|---|---|---|
| Rated Power | | 5000W | 10000W | 15000W | 20000W |
| Battery | Rated Voltage | 96/192VDC | | 192/220/240VDC | |
| | Charge Current | 10~20A | | | |
| | Low Voltage Protection | 84/168VDC | | 168VDC | |
| | Charging Voltage | 96VDC:108VDC<br>192VDC:217VDC | | 192VDC:217VDC<br>220VDC:248VDC<br>240VDC:276VDC | |
| Input | Voltage Range | 88~132/176~264VAC | | | |
| | Frequency | 45~65Hz | | | |
| Output | Voltage Range | 110/220VAC±5%(Inversion mode) | | | |
| | Frequency | 50/60Hz±1%(Inversion mode) | | | |
| | Output Wave | Pure Sine Wave | | | |
| | Conversion Time | <10ms(Typical load) | | | |
| | Efficiency | >85%(100% Resistive Load) | >90%(100% Resistive Load) | | |
| | Overload | 110~120%/60s;120~130%/10s<br>130~150%/2s;>150%/500ms | | | |
| | Protection Function | Battery overvoltage protecion, battery undervoltage protection,overload,protection,<br>short circuit protection,overtemperature protection, etc. | | | |
| | Ambient Temperature For Operation | 0~40°C | | | |
| | Ambient Temperature For Storage | -15~50°C | | | |
| | Operation/Storage Ambient | 0~90% No Condensation | | | |
| | Product Dimensions:L*W*H(mm) | 555*368*695 | | | 655*383*795 |
| | Gross Weight (KG) | 80 | 110 | 150 | 170 |

# FT Low Frequency Inverter

**1KW/2KW/3KW/5KW/6KW/8KW/10KW/12KW**




## MAIN FEATURES

- Pure sine wave
- Compatible work with LiFePO4 battery via RS485
- Low frequency(Built in ring transformer)
- Support multiple output priority: SBU,SUB
- Communication interface:RS232/RS485/Dry contact
- EQ function to optimize battery performance and extend lifecycle

## Product Specifications

| Model | | FT-1000 | FT-2000 | FT-3000 | FT-5000 | FT-6000 | FT-8000 | FT-10K | FT-12K |
|---|---|---|---|---|---|---|---|---|---|
| Rated Power | | 1000W | 2000W | 3000W | 5000W | 6000W | 8000W | 10000W | 12000W |
| Battery | Rated Voltage | 12/24/48VDC | | 24/48VDC | | 48VDC | 48/72/96VDC | | 48V |
| | Charge Current | 30A(default) -CO-C6 | | | | | | | |
| | Battery Type | U0~U7 | | | | | | | |
| AC Input | Voltage Range | 85~138/170~275VAC | | | | | | | 130~280VAC<br>160~260VAC |
| | Frequency | 45~65Hz | | | | | | | |
| AC Output | Voltage Range | 100/110/120VAC<br>200/210/220/230/240VAC | | | | | 220/230/240VAC | | 200/210/220/230/240VAC |
| | Frequency | 50/60Hz±1%(Inversion mode) | | | | | | | |
| | Output Wave | Pure Sine Wave | | | | | | | |
| | Conversion Time | <10ms(Typical load) | | | | | | | |
| | Efficiency | >85%(80% resistive load) | | | | | | | |
| | Overload | 110~120%/60s;120~130%/10s<br>130~150%/2s;>150%/500ms | | | | | | | |
| | Protection Function | Battery overvoltage protection,battery undervotage protection,overload,protection,<br>short circuit protection,overtemperature protection,etc. | | | | | | | |
| | Ambient Temperature For Operation | 0~40°C | | | | | | | |
| | Ambient Temperature For Storage | -15~50°C | | | | | | | |
| | Operation/Storage Ambient | 0~90% No Condensation | | | | | | | |
| Machine Size: L*W*H (mm) | | 486*247*179 | | | 555*307*189 | | 653*332*260 | | 717*230*360 |
| Package Size: L*W*H (mm) | | 550*310*230 | | | 640*370*240 | | 715*365*310 | | 785*305*415 |

# FTB Low Frequency Inverter

**0.5KW/1KW/1.5KW/2KW/3KW/4KW/5KW/6KW**

## MAIN FEATURES

- Pure sine wave
- Compatible work with LiFePO4 battery via RS485
- Low frequency(Built in ring transformer)
- Support multiple output priority: SBU,SUB
- Communication interface:RS232/RS485/Dry contact
- EQ function to optimize battery performance and extend lifecycle

## Product Specifications

| Model | | FTB-500 | FTB-1000 | FTB-1500 | FTB-2000 | FTB-3000 | FTB-4000 | FTB-5000 | FTB-6000 |
|---|---|---|---|---|---|---|---|---|---|
| Rated Power | | 500W | 1000W | 1500W | 2000W | 3000W | 4000W | 5000W | 6000W |
| Battery | Rated Voltage | 12/24VDC | | | 12/24/48VDC | 24/48VDC | | | 48VDC |
| Input | Voltage Range | 73~138VAC<br>145~275VAC | 85~138VAC/170~275VAC | | | | | | |
| | Frequency | 45~65Hz | | | | | | | |
| Output | Voltage Range | 110/220VAC±5%(Inversion mode) | | | | | | | |
| | Frequency | 50/60Hz±1%(Inversion mode) | | | | | | | |
| | Output Wave | Pure Sine Wave | | | | | | | |
| | Conversion Time | <10ms(Typical load) | | | | | | | |
| | Efficiency | >85%(80% resistive load) | | | | | | | |
| | Overload | 110~120%/60s;120~130%/10s<br>130~150%/2s;>150%/500ms | | | | | | | |
| | Protection Function | Battery overvoltage protection, battery undervoltage protection, overload, protection,<br>short circuit protecion, overtemperature protecion, etc. | | | | | | | |
| | Ambient Temperature For Operation | 0~40°C | | | | | | | |
| | Ambient Temperature For Storage | -15~50°C | | | | | | | |
| | Operation/Storage Ambient | 0~90% No Condensation | | | | | | | |
| Product Size:L*W*H(mm) | | 302*122*188 | 316*149*215 | 432*210*330 | | | 551*215*344 | | |
| Package Size: L*W*H(mm) | | 375*195*260 | 410*215*280 | 498*305*402 | | | 622*315*416 | | |
| Net Weight (KG) | | 5.8 | 8.2 | 16 | 18.5 | 20.7 | 25 | 32 | 32 |
| Gross Weight (KG) | | 7 | 9 | 23 | 25.5 | 27.5 | 27 | 42 | 35 |

# CM MPPT Solar Charging Controller

**30A/40A/60A/100A/120A**

## MAIN FEATURES

- Excellent heat dissipation design and intelligent controlled
- Innovative maximum power point tracking technology,the conversion rate of up to 97%
- Quick scan of the entire I-V curve.Efficient track the maximum power point
- Three types of lead-acid battery,sealed,colloid,open type battery and lithiumbattery series charging procedures are optional
- With the functions of over charge,over discharge,overload and short circuitautomatic protection
- With RS485 communicate interface.It can communicate with multiple and the uppercomputers,which is convenient to check the operating parameters of the controller

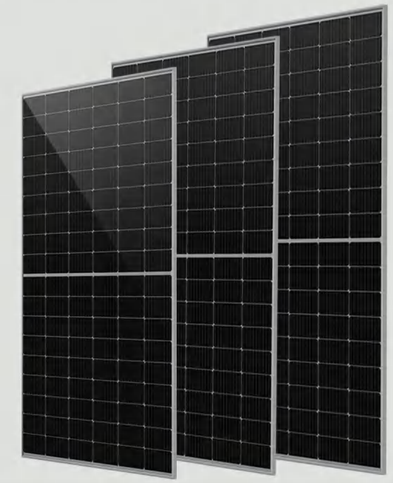
## Product Specifications

| Model | | | CM-30A | CM-40A | CM-60A | CM-100A | CM-120A |
|---|---|---|---|---|---|---|---|
| Charging Mode | | | MPPT Automatic Maximum Power Point Tracking | | | | |
| Charging Method | | | Three stages:Constant Current (MPPT), Balanced Charging, Floating Charge | | | | |
| System Type | 12/24/48V | | Automatic Identification/Manual Setting | | | | |
| System Identification Voltage Range | 12V System | | 9~15VDC | | | | |
| | 24V System | | 18~30VDC | | | | |
| | 48V System | | 36~60VDC | | | | |
| Soft Start Time | 12/24/48V | | ≤10s | | | | |
| Dynamic Response Recovery Time | 12/24/48V | | ≤500us | | | | |
| Static Power | 12/24/48V | | ≤2W | | | | ≤3W |
| Machine Efficiency | 12/24/48V | | ≥96.5% | | | | |
| PV Module Utilization | 12/24/48V | | ≤99% | | | | ≤99.97% |
| Input Characteristics | MPPT Operating Voltag Range | 12V System | 18~150VDC | | 18~200VDC | | |
| | | 24V System | 34~150VDC | | 34~200VDC | | |
| | | 48V System | 65~150VDC | | 65~200VDC | | |
| | Maximum Solar Panel Input Power | 12V System | 420W | 570W | 900W | 1350W | 1650W |
| | | 24V System | 840W | 1130W | 1700W | 2750W | 3300W |
| | | 48V System | 1650W | 2270W | 3400W | 5400W | 6600W |
| Output Characteristics | Optional Battery Type(Default is lead-acid maintenance-free battery) | 12/24/48V | Lead-acid maintenance-free Battery,Gel Battery,Lithium Battery (Can also be customized for other types of battery) | | | | |
| | Current Limiting Protection | 12/24/48V | 32A | 42A | 62A | 102A | 103A |
| | Temperature Accuracy | 12/24/48V | ±0.02%/°C | | | | |
| | Temperature Compensation | 12/24/48V | 14.2V-(Maximum Temperature -25°C)*0.3 | | | | |
| | Output Regulation Accuracy | 12/24/48V | ≤±15% | | | | |
| Protection | Input Low Voltage Protection | | Reference Input Characteristics | | | | |
| | Input High Voltage Protection | | Reference Input Characteristics | | | | |
| | Short Circuit Protection | | After 5 trial starts will enter the protection state,Restart Recovery | | | | |
| | Temperature Protection | | 90°C | | | | |
| | Temperature Rise Protection | | Reduce Power Output When Exceed 85°C | | | | |
| Other Parameters | Noise | | ≤50dB | | | | |
| | Heat Dissipation Method | | Forced air cooling,fan speed is adjusted by temperature | | | | |
| | Class Of Protection | | IP21 | | | | |
| | Humidity | | 0~90%RH(No condensation) | | | | |
| PV Module Configuration | System Battery Voltage | | PV module load voltage (Recommended Value) | | | | |
| | 12V System | | 18~120V(36V module*3 string, 42V module*2 string) | | | 18~200V(36V module*3 string, 42V module*2 string) | |
| | 24V System | | 54~150V(36V module*3 string, 42V module*2 string) | | | 36~200V(36V module*4 string, 42V module*3 string) | |
| | 48V System | | 72~200V(36V module*4 string, 42V module*3 string) | | | 65~200V(36V module*5 string, 42V module*4 string) | |



# Solar Panel

**200W/300W/430W/590W**



## MAIN FEATURES

- Higher powern generation better LCOE
- n-type with very Lower LID
- Better Temperature Coefficient
- Better low irradiance response
- Double electroluminescence(EL) tests, Carefully inspected before and after lamination to guarantee fault-free modules

## Product Specifications

| Model | | 200W | 300W | 430W | 590W |
|---|---|---|---|---|---|
| Electrical Parameters at STC | Maximum Power (Pmax/W) | 200 | 300 | 430 | 590 |
| | Open Circuit Voltage(Voc/V) | 24.18 | 35.73 | 38.49 | 51.02 |
| | Short Circuit Current(Isc/A) | 9.72 | 10.32 | 14.23 | 14.47 |
| | Maximun Power Voltage(Vmp/V) | 21.8 | 30.8 | 31.88 | 42.37 |
| | Maximum Power Current(Imp/A) | 9.17 | 9.74 | 13.49 | 13.69 |
| | Module Efficiency(%) | 19.7 | 20.7 | 22.02 | 22.45 |
| Temperature Characteristics | NOCT | 45±2°C | | | |
| | Temp Coefficient of Voc | -0.275%/°C | | | |
| | Temp Coefficient of Isc | +0.046%/°C | | | |
| | Temp Coefficient of Pmax | -0.350%/°C | | | |
| Maximum Rating | Output Tolerance | ±3% | | | |
| | Operating Temperature | -40°C~+85°C | | | |
| Specifications | Weight(kg) | 11 | 14.5 | 24.7 | 28.4 |
| | Dimension(mm) | 1480*680*30 | 1560*880*30 | 1722*1134*30 | 2278*1134*30 |
| | Maximum System Voltage | 1000V | | 1500V | |
| | Junction Box | IP67 | | IP68 | |
| | Frame | Aluminum Alloy | | | |
| | Cable | 4mm²/700mm | 4mm²/900mm | 4mm²/300mm | 4mm²/350mm |
| | Connector | MC4 Compatible | | | |
| | Application Level | Class A | | | |

# BL Lithium Iron Phosphate Battery

**2.5KWH/5KWH/10KWH/16KWH**

## MAIN FEATURES

- Flexible expansion, easy installation, saving time and cost
- Equipped with REPT LFP batteries and multiple safety
- UN38.3/MSDS/DG Package
- Reduce electric bill and maximize your solar investment with battery storage
- Built-in BMS safety for home
- Built-in automatic fire extinguishing device

## Product Specifications

| Model | | BL-2500L | BL-5000LE | BL-5000L | BL-10000L | BL-15000LP |
|---|---|---|---|---|---|---|
| Voltage | | 25.6V | | 51.2V | | |
| Capacity | | 100Ah | 200Ah | 100Ah | 200Ah | 314Ah |
| Rated Power | | 2560W | 5120W | | 10240W | 16076.8W |
| Maximum Number Of Parallel Machines | | 15 | 16 | | | |
| Display | | SOC status indicator light, LED indicator light, LCD display screen | | | | |
| Communication | | RS485,CAN,RS232 | | | | |
| Inverter Protocol (customizable) | | pylon,growatt,voltronic,must,goodwe... | | | | |
| Service Life | | 25°C ambient temperature environment @ 6000 cycles | | | | |
| Recommended Charging Voltage | | 29.2V | | 58.4V | | |
| Discharge Termination Voltage | | 20V | | 40V | | |
| Standard Working Current | Charge | 50A | 100A | 50A | 100A | |
| | Discharge | | | | | |
| Maximum Continuous Operating Current | Charge | 100A | 200A | 100A | 200A | |
| | Discharge | | | | | |
| BMS Cut-off Voltage | Charge | 29.2V (cell 3.65V) | | 58.4V (cell 3.65V) | | |
| | Discharge | 20V (cell 2.5V) | | 40V (cell 2.5V) | | |
| Operation Temperature | Charge | 0~45°C | | | | |
| | Discharge | -15~55°C | | | | |
| Storage Temperature | | -5~35°C | | | | |
| Shipping Voltage | | ≥25.6V(within 30 days of shipment) | | ≥51.2V(within 30 days of shipment) | | |
| Shell Material | | Cold rolled plate 1.2mm | | | Cold rolled plate 1.5mm | |
| Battery Size:L*W*H(mm) | | 380*145*500 (Excluding bracket) | 440*145*640 (Excluding bracket) | 440*145*640 (Excluding bracket) | 480*225*700 (Excluding bracket) | 480*238*780 (Excluding rollers and brackets) |
| Packaging Size:L*W*H(mm) | | 475*250*595 | 535*250*735 | 535*250*735 | 575*330*795 | 575*340*950 |
| Net Weight(KG) | | 25 | 45 | 45 | 85 | 125/130 |
| Gross Weight(KG) | | 27 | 50 | 50 | 90 | 130/135 |
| Additional Features(optional) | | WiFi, Bluetooth | | | | |



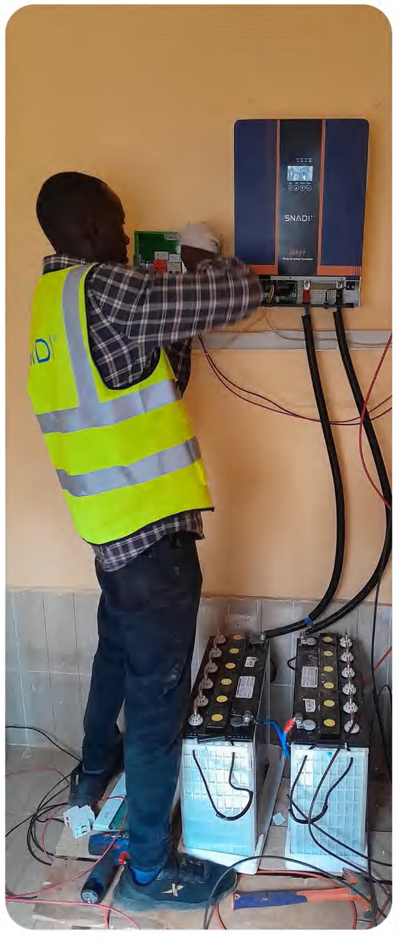
# LiFePO4 Battery 12.8~25.6V

**12.8V(50AH/100AH/200AH/300AH)/25.6V(50AH/100AH/200AH)**

## MAIN FEATURES

- The whole module is non-toxic, non-polluting and environmentally friendly
- Cathode material is made from LiFePO4 with safety performance and long cycle life
- Battery management system(BMS)has protection functions includingover-discharge,over-charge, over-current and high/low temperature
- Small size and light weight, comfortable for installation and maintenance

## Product Specifications

| Electrical Voltage | | 12.8V | | | | 25.6V | | |
|---|---|---|---|---|---|---|---|---|
| Electrical Specifications | Nominal Capacity | 50AH | 100AH | 200AH | 300AH | 50AH | 100AH | 200AH |
| | Energy | 640WH | 1280WH | 2560WH | 3840WH | 1280WH | 2560WH | 5120WH |
| | Resistance | ≤20mΩ | | | | | | |
| | Efficiency | 99% | | | | | | |
| | Self Discharge | Monthly<3% | | | | | | |
| Discharge Specifications | Maximum Continuous Discharge Current | 50A | 100A | 200A | 200A | 50A | 100A | 200A |
| | Peak Discharge Current | 100A | 200A | 400A | 400A | 100A | 200A | 400A |
| | Discharge Cut-off Voltage | 10V | | | | 20V | | |
| Charging Specifications | Recommended Charging Current | 25A | 50A | 100A | 100A | 25A | 50A | 100A |
| | Maximum Charging Current | 50A | 100A | 200A | 200A | 50A | 100A | 200A |
| | Maximum Charge Voltage | 14.6V | | 14.2~14.6V | | 29.2V | | |
| | Charging Current (-20~10°C) | ≤0.05°C | | | | | | |
| Mechanical Specifications | Size (L*W*H)mm | 229*138*208 | 260*167*210 | 502*186*243 | 384*194*255 | 330*175*220 | 521*238*218 | 521*268*218 |
| | Weight(KG) | 7.5 | 12.8 | 22 | 28 | 12 | 22 | 45 |
| | Terminal Type | M8 screw | | | | | | |
| | Housing Material | ABS shell | | | | | | |
| | Protection Grade | IP65 | | | | | | |
| | Cell Type | Square aluminum shell | | | | | | |
| Temperature Specifications | Discharge Temperature | -20~60°C | | | | | | |
| | Charge Temperature | 0~55°C | | | | | | |
| | Storage Temperature | -20~40°C | | | | | | |
| | BMS High Temperature | 80°C | | | | | | |
| | Reconnect Temperature | 50°C | | | | | | |

# Case
## Show