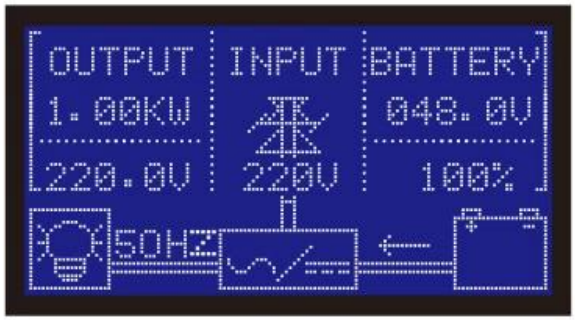
# Introduction

This series of product is a module design of inverter and built-in MPPT controller, which has the advantages of high conversion efficiency, low power consumption and strong load-carrying ability. With intelligent control, customers can set charging mode, (Utility as complementary power) AC first mode or DC first mode, timed inversion mode and timed utility mode, timed on/off sleep mode. This is the currently the most advanced inverter & controller hybrid in the world.



# Application

1. Off-grid solar power system
2. Solar power system with utility as complementary power

# Feature

1. Easy to install. To configure a solar system, customers only need to connect it with solar panels and batteries;

2. **CPU management** ,intelligent control,modular design, User-friendly LCD display;

3. **Built-in MPPT controller, high charging efficiency ( 95%~99%);**

4. **Low power consumption, high conversion efficiency(85%~92%);**

5. Intellectual,multi-function, convenient for customers with different using environment to fully use the solar energy;

6. External battery connection, convenient to expand back-up power time;

7. **Strong load-carrying ability**, low failure rate, easy maintenance and long service life (under proper operation, it may be as long as 5 years);

8. **Perfect protection**: low voltage protection, over voltage protection, overheat protection, short-circuit protection, overloads protection;

9. CE / EMC / LVD/ RoHS Approvals;

10. Two years warranty, life-long technical supports.

# Function

## 1. Charging function

1.1 PV charge the battery, utility will not: when PV and utility are both connected to the machine, only the PV will charge the battery when there is sunlight

1.2 Both PV and utility will charge the battery: when PV and utility are both connected to the machine, AC (utility) will charge the battery. In the meanwhile, PV will also charge the battery if there is sunlight.

## 2. Utility as complementary power function

2.1 AC first , DC standby UPS mode

When both utility and battery are connected to the machine, utility will supply power to the loads prior to the battery. When utility is cut off, the battery will automatically continue to supply power.

2.2 DC first, AC standby UPS mode

When both utility and battery are connected to the inverter, battery will supply power to the loads prior to utility. When battery capacity is not enough, utility will continue to supply power automatically.

## 3. Timing function

3.1 Timed on/off normal working mode and sleep mode: can set specific time when to open normal output and when to close AC output to enter sleep mode.

3.2 Battery and utility switchable mode: can set specific time when to use battery or utility supply power (suitable for areas where electric fee is charged according to period in different intervals).

## 4. Recording/checking function

4.1 Machine fault checking: can check the machine fault information.

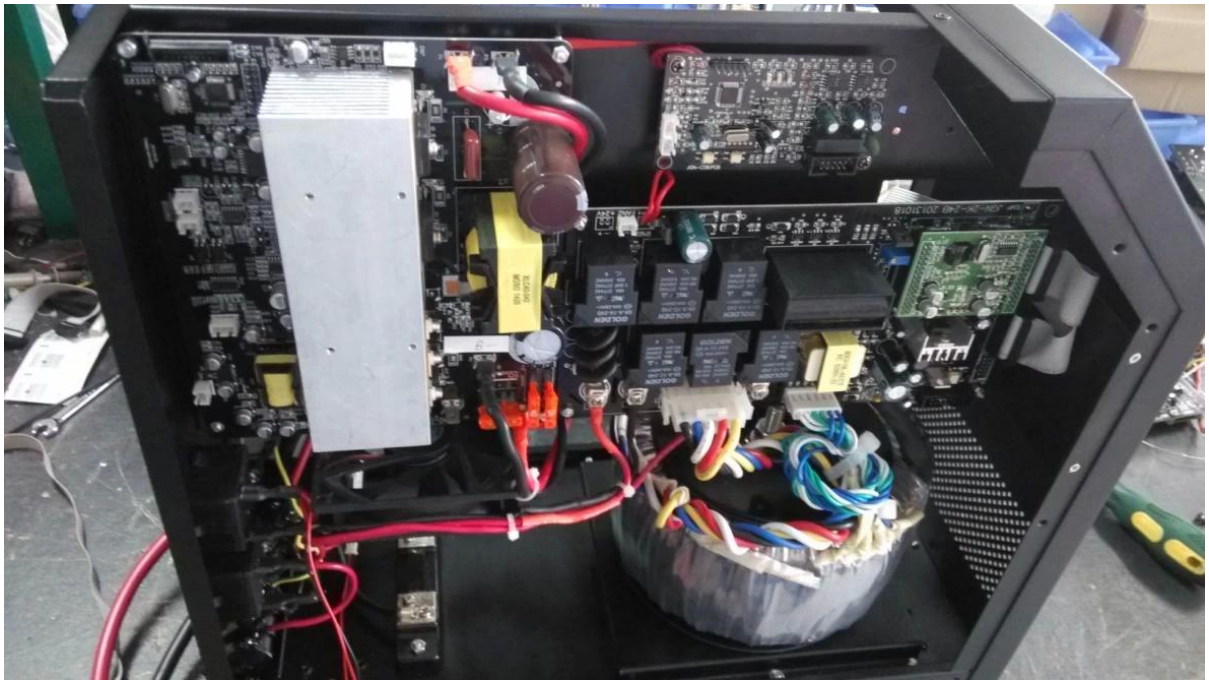
4.2 Discharge time checking: can check the discharge time of the battery.

# Parameter

<table>
<tr><td colspan="2">Parameter Model</td><td>1000W</td><td>1500W</td><td>2000W</td><td>3000W</td><td>4000W</td><td>5000W</td></tr>
<tr><td colspan="2">Rated Output Power</td><td>1000W</td><td>1500W</td><td>2000W</td><td>3000W</td><td>4000W</td><td>5000W</td></tr>
<tr><td colspan="2">Peak Power</td><td>2000W</td><td>3000W</td><td>4000W</td><td>6000W</td><td>8000W</td><td>10000W</td></tr>
<tr><td colspan="2">Battery<br>(Lead-acid battery)</td><td>24V</td><td colspan="3">24V/48V(optional)</td><td colspan="2">48V</td></tr>
<tr><td colspan="8">Charging Parameter</td></tr>
<tr><td colspan="2" rowspan="2">Charge Mode(setting)</td><td colspan="6">PV charge</td></tr>
<tr><td colspan="6">PV charge + utility charge</td></tr>
<tr><td rowspan="5">MPPT Solar Controller</td><td>Voltage</td><td>24V</td><td colspan="3">24V/48V</td><td colspan="2">48V</td></tr>
<tr><td>Current</td><td>20A</td><td>25A</td><td>30A</td><td>40A</td><td>40A</td><td>40A</td></tr>
<tr><td>Max PV Input Voltage</td><td colspan="6">100V</td></tr>
<tr><td>PV Charge Efficiency</td><td colspan="6">95%~99%</td></tr>
<tr><td>Max PV Input Power</td><td rowspan="2">568W</td><td>24V: 710W</td><td>24V: 852W</td><td>24V:1136W</td><td rowspan="2">2272W</td><td rowspan="2">2272W</td></tr>
<tr><td>48V1420W</td><td>48V: 1704W</td><td>48V: 2272W</td></tr>
<tr><td rowspan="2">Utility</td><td>AC Charge Current</td><td colspan="6">0~15A</td></tr>
<tr><td>Charge Mode</td><td colspan="6">3-Stage Charging</td></tr>
</table>

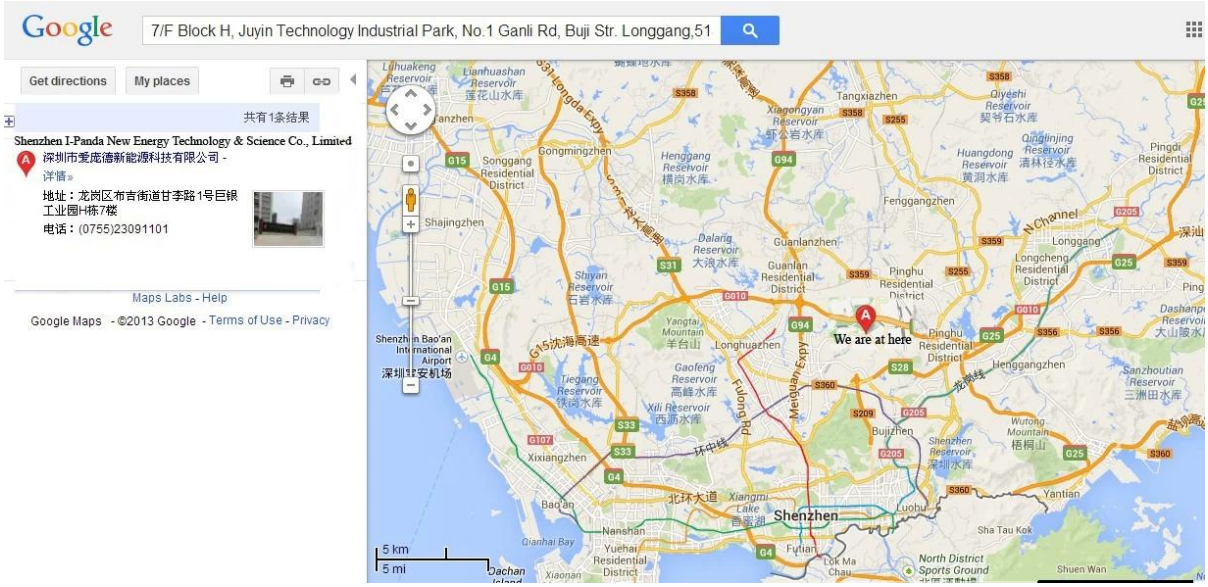
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Inversion parameter** | | | | | | | |
| AC Output | Voltage | 220V±3% or 230V±3 or 240V±3% or 100V±3% or 110V±3% （optional） | | | | | |
| | Frequency | 50Hz±0.5 or 60Hz±0.5 （optional） | | | | | |
| Output wave type | | Pure sine wave output, waveform distortion rate≤3 | | | | | |
| Overload ability | | （120% 1 min, （130% 10s | | | | | |
| Power Consumption (under normal working mode) | | 0.4A | 24V: 0.5A<br>48V: 0.4A | 24V: 0.7A<br>48V: 0.45A | 24V: 0.7A<br>48V: 0.5A | 0.6A | 0.65A |
| Power Consumption (under sleep mode) | | 1-6W | | | | | |
| Inverter Conversion Efficiency | | 85%~92% | | | | | |
| **Utility Mode** | | | | | | | |
| AC Input | Voltage | 220V±35% or 110V+35%（optional） | | | | | |
| | Frequency | The same as utility | | | | | |
| AC Output | Voltage | 220V±5% or 110V+5%（optional） | | | | | |
| | Frequency | The same as utility | | | | | |
| Overload Ability | | （120% 1 min）（130% 10s | | | | | |
| **(AC first or DC first) priority** | | | | | | | |
| UPS Output（setting） | | AC first, DC standby | | | | | |
| | | DC first, AC standby | | | | | |
| Switch Time | | （5ms （AC to DC / DC to AC） | | | | | |
| Power On （setting） | | Set by users | | | | | |
| | | Timed open / close AC output automatically | | | | | |
| **General Parameter** | | | | | | | |
| Display | Display Mode | LCD+LED | | | | | |
| | Display Information | Input voltage, output voltage, output frequency, battery capacity, Load condition, Status Information | | | | | |
| Protection | | Overload output, short-circuit, high-voltage input, low-voltage input, overheat | | | | | |
| Environment | Temperature | -10℃（50℃ | | | | | |
| | humidity | 10%（90% | | | | | |
| | Altitude | ≤4000m | | | | | |
| Size W×D×H(mm) | | 438*208*413 | | | | 450*246*468 | |
| Packing Size W×D×H(mm) | | 520*310*460 | | | | 540*300*518 | |
| Net Weight (kg) | | 15 | 17 | 19 | 25 | 34 | 35 |
| Gross Weight (kg) | | 16 | 18 | 20 | 27 | 40 | 41 |

# Inner photo



## Company photo

I-Panda爱熊德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7/F Block H, Juyin Technology Industrial Park, No.1 Ganli Rd, Buji Str. Longgang,51
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深圳市爱庞德新能源科技有限公司 -
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深圳宝安机场
5 km
5 mi