

# LOW FREQUENCY SOLAR INVERTER

## PV2900 HP Series

1~6KW | AC 230V | MPPT80A | WIFI | BMS | Dual output



### Dual Output for Smart Load Management

Dual outputs enable intelligent load management and improve system efficiency.

### High-Efficiency MPPT Solar Charging

Built-in 80A MPPT controller for fast and efficient solar charging.

### Full Protection

Provides overload, short-circuit, and other protections to ensure system safety.

### Remote Monitoring & Battery Communication

Optional WiFi functionality, supporting LiFePO<sub>4</sub> battery BMS communication (CAN port).

### Battery Compatibility

Supports both lead-acid and lithium batteries for versatile applications.

### Flexible Settings & Utility Management

Adjustable charging voltage/current and low-voltage shutdown, supports power-save mode, utility/battery priority, voltage/frequency adjustment, and utility charging switch.

### MAIN PARAMETER

| MODEL                                 | PV29-1012 HP  | PV29-1024 HP | PV29-1512 HP | PV29-1524 HP | PV29-2012 HP | PV29-2024 HP | PV29-3024 HP | PV29-3048 HP | PV29-4024 HP | PV29-4048 HP | PV29-5048 HP | PV29-6048 HP |
|---------------------------------------|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Nominal Battery System Voltage        | 12VDC   | 24VDC        | 12VDC        | 24VDC        | 12VDC        | 24VDC        | 24VDC        | 48VDC        | 24VDC        | 48VDC        | 48VDC        | 48VDC        |
| <b>INVERTER OUTPUT</b>                |   |              |              |              |              |              |              |              |              |              |              |              |
| Rated Power                           | 1 KW  |              | 1.5 KW       |              | 2 KW         |              | 3 KW         |              | 4 KW         |              | 5 KW         | 6 KW         |
| Surge Rating                          | 3000VA  |              | 4500VA       |              | 6000VA       |              | 9000VA       |              | 12000VA      |              | 15000VA      | 18000VA      |
| Capable Of Starting Electric Motor    | 1P  |              | 1P           |              | 1.5P         |              | 2P           |              | 2P           |              | 3P           | 3P           |
| Nominal Output Voltage RMS            | 220V / 230V / 240VAC (±10% RMS)   |              |              |              |              |              |              |              |              |              |              |              |
| Inverter Efficiency (Peak)            | >88%  |              |              |              |              |              |              |              |              |              |              |              |
| Line Mode Efficiency                  | >95%  |              |              |              |              |              |              |              |              |              |              |              |
| Power Factor                          | 1.0   |              |              |              |              |              |              |              |              |              |              |              |
| Typical Transfer Time                 | 10ms(max)   |              |              |              |              |              |              |              |              |              |              |              |
| Overload                              | 100% < Load < 110% (alarm 5min then stop output and fault code 07)<br>110% < Load < 125% (alarm 60s then stop output and fault code 07)<br>Load > 125% (alarm 10s then stop output and fault code 07) |              |              |              |              |              |              |              |              |              |              |              |
| <b>AC INPUT</b>                       |   |              |              |              |              |              |              |              |              |              |              |              |
| Voltage                               | 230VAC  |              |              |              |              |              |              |              |              |              |              |              |
| Selectable Voltage Range              | 155~265VAC(For personal computers)  |              |              |              |              |              |              |              |              |              |              |              |
| Frequency Range                       | 50Hz / 60Hz(Auto sensing) 40~80Hz   |              |              |              |              |              |              |              |              |              |              |              |
| <b>BATTERY</b>                        |   |              |              |              |              |              |              |              |              |              |              |              |
| Minimum Start Voltage                 | (10V / 10.5V / 11V / 11.5V/ 12V )+0.5V for 12VDC mode (*2 for 24VDC, *4 for 48VDC)  |              |              |              |              |              |              |              |              |              |              |              |
| Low Battery Voltage Alarm             | (10V / 10.5V / 11V / 11.5V/ 12V )+0.5V for 12VDC mode (*2 for 24VDC, *4 for 48VDC)  |              |              |              |              |              |              |              |              |              |              |              |
| Low Battery Voltage Cut Off           | 10V / 10.5V / 11V / 11.5V/ 12V for 12VDC mode (*2 for 24VDC, *4 for 48VDC)  |              |              |              |              |              |              |              |              |              |              |              |
| High Battery Voltage Alarm            | (12-14.5V)+1V for 12VDC mode (*2 for 24VDC, *4 for 48VDC)   |              |              |              |              |              |              |              |              |              |              |              |
| High Battery Voltage Recover          | (12-14.5V)+0.5V for 12VDC mode (*2 for 24VDC, *4 for 48VDC)   |              |              |              |              |              |              |              |              |              |              |              |
| Energy Saving Mode                    | Load ≤50±20W(120V)/100±20W(220V)  |              |              |              |              |              |              |              |              |              |              |              |
| <b>CHARGER</b>                        |   |              |              |              |              |              |              |              |              |              |              |              |
| Output Voltage                        | Depends on battery type   |              |              |              |              |              |              |              |              |              |              |              |
| Overcharge Protection S.D.            | 15.5VDC for 12VDC mode (*2 for 24VDC mode, *4 for 48VDC mode)   |              |              |              |              |              |              |              |              |              |              |              |
| Maximum Charge Current                | 30A   | 20A          | 45A          | 25A          | 60A          | 30A          | 40A          | 20A          | 60A          | 30A          | 35A          | 40A          |
| <b>PAYPASS &amp; PROTECTION</b>       |   |              |              |              |              |              |              |              |              |              |              |              |
| Input Voltage Waveform                | Sine wave (grid or generator)   |              |              |              |              |              |              |              |              |              |              |              |
| Nominal Input Frequency               | 50Hz or 60Hz  |              |              |              |              |              |              |              |              |              |              |              |
| Overload Protection (SMPS Load)       | Circuit breaker   |              |              |              |              |              |              |              |              |              |              |              |
| Output Short Circuit Protection       | Circuit breaker   |              |              |              |              |              |              |              |              |              |              |              |
| AC Input Breaker                      | 1-3K/30A  |              |              |              |              |              | 4-6K/50A     |              |              |              |              |              |
| <b>SOLAR CHARGER</b>                  |   |              |              |              |              |              |              |              |              |              |              |              |
| Maximum PV Array Power                | 1250W   | 2500W        | 1250W        | 2500W        | 1250W        | 2500W        | 2500W        | 5000W        | 2500W        | 5000W        | 5000W        | 5000W        |
| Maximum PV Charge Current             | 80A±4A  |              |              |              |              |              |              |              |              |              |              |              |
| DC Voltage                            | 12V/24V/48V auto work   |              |              |              |              |              |              |              |              |              |              |              |
| MPPT Range @ Operating Voltage        | 15~95VDC@12V/ 30~230VDC@24V/ 60~230VDC@48V  |              |              |              |              |              |              |              |              |              |              |              |
| Maximum PV Array Open Circuit Voltage | 245VDC  |              |              |              |              |              |              |              |              |              |              |              |
| Standby Power Consumption             | <2W   |              |              |              |              |              |              |              |              |              |              |              |

### OTHER PARAMETER

| MODEL  | PV29-1012 HP | PV29-1024 HP | PV29-1512 HP | PV29-1524 HP | PV29-2012 HP | PV29-2024 HP | PV29-3024 HP | PV29-3048 HP | PV29-4024 HP | PV29-4048 HP | PV29-5048 HP | PV29-6048 HP |
|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <b>MECHANICAL SPECIFICATIONS</b>   |              |              |              |              |              |              |              |              |              |              |              |              |
| Machine Dimension(W*H*D) (mm)  | 309*460*196  |              |              |              |              |              | 309*545*200  |              |              |              |              |              |
| Package Dimensions(W*H*D)(mm)  | 610*310*400  |              |              |              |              |              | 695*310*400  |              |              |              |              |              |
| N.W (kg)   | /            |              |              |              |              |              | /            |              |              |              |              |              |
| G.W (kg)   | /            |              |              |              |              |              | /            |              |              |              |              |              |
| <b>OTHER</b>   |              |              |              |              |              |              |              |              |              |              |              |              |
| Operating Temperature Range  | 0°C ~ 40°C   |              |              |              |              |              |              |              |              |              |              |              |
| Storage Temperature  | -15°C ~ 60°C |              |              |              |              |              |              |              |              |              |              |              |
| Audible Noise  | 60dB MAX     |              |              |              |              |              |              |              |              |              |              |              |
| Display  | LED+LCD      |              |              |              |              |              |              |              |              |              |              |              |
| Standard Warranty  | 2 year       |              |              |              |              |              |              |              |              |              |              |              |
| <b>CERTIFICATION &amp; STANDARDS</b>   |              |              |              |              |              |              |              |              |              |              |              |              |
| CE-EMC+LVD (EN6100-6-3:2007, EN6100-6-1:2017+EN IEC62109-1:2010, EN IEC62109-2:2011) |              |              |              |              |              |              |              |              |              |              |              |              |

\*The technical specifications of this document are subject to change without any notice