



**Renewable Energy  
Solution**



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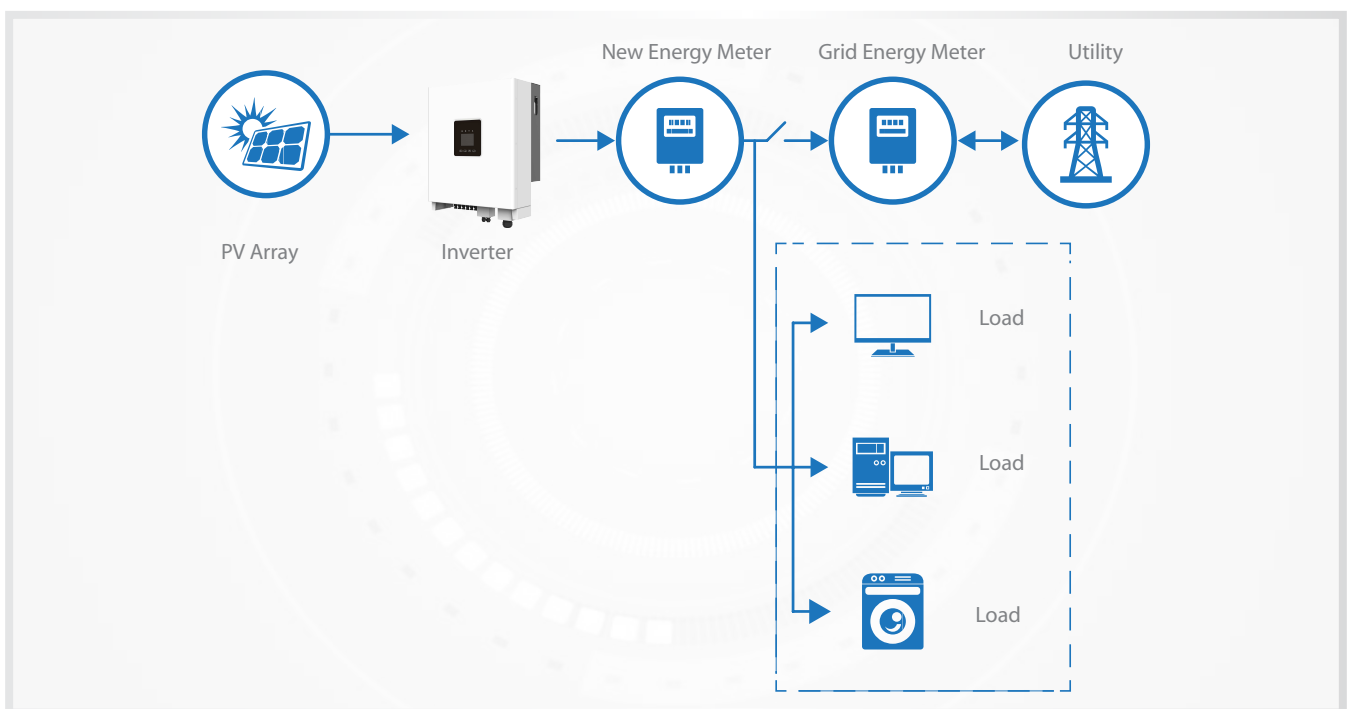
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# DISTRIBUTED PV POWER SOLUTION

Distributed photovoltaic power station can make full use of idle roofs, beaches, agricultural greenhouses, etc. by connecting to the user's grid, it can maximize self-consumption and release power transmission pressure.

## System Solution







## PV String Inverter Series Products

### Application Scenarios:

#### Household PV Roof

- Residential roof: single or multi orientation of roof Solution: Small, safe and reliable string inverter solution, let smart PV into thousands of households

#### Industrial and Commercial Rooftop PV Power Station :

- Large industrial rooftops: warehouses, large industrial complexes, or public buildings.
- Medium industrial roof: schools, shopping malls, hospitals, small factories etc Solution: Intelligent operation and maintenance system solution; Reasonable utilization of roof to increase revenue.

#### Large PV Power Station:

- Application of complex terrain: complex terrain, rolling hills etc Solution: Multi-channel MPPT string inverters solution to solve the orientation inconsistent problem and shelter in morning and night
- The application of PV on lake, PV on agriculture: High humidity, high protection requirement for electrical system Solution: IP65 protection + flexible cluster installation solution to adapt the special installation environment





## Single-phase String Inverter

SSI3000-IP/SSI3600-IP/SSI4000-IP/SSI4600-IP/  
SSI5000-IP/SSI6000-IP

### Economical:

- More power, more earnings, more PV power (135% installation) and higher temperature derating ( $\geq 45^{\circ}\text{C}$ )
- High efficiency inverter topology with the maximum efficiency up to 98.2%
- Advanced control algorithms and high adaptation ability to the grid, improving the stability of power generation system

### Safety and Reliability:

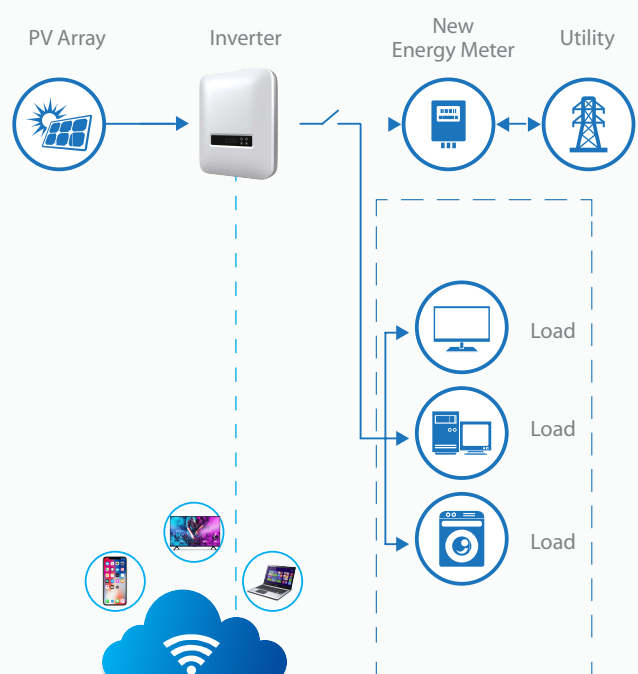
- Aluminum alloy die-casting integrated chassis, capable of operating in harsh natural environment.
- Super-wide operating temperature range:  $-40^{\circ}\text{C} \sim 60^{\circ}\text{C}$ , being the industry's first cold-resistant inverter

### Minimal Installation Costs:

- Small size, easy to install and use
- Natural cooling, ensuring low environmental noise

### Intelligent Management:

- Intelligent cloud platform monitoring, realizing onekey APP real-time monitoring
- Support RS485, GPRS, WIFI and other communication methods
- Smart feed-in control via smart meter



## Technical Specification :

| Items                                   | SSI3000-IP  | SSI3600-IP | SSI4000-IP | SSI4600-IP | SSI5000-IP | SSI6000-IP |
|---|---|------------|------------|------------|------------|------------|
| DC Input                                |   |            |            |            |            |            |
| Max. PV Power (kW)                      | 4.05  | 4.86       | 5.4        | 6.21       | 6.75       | 8.1        |
| Max. PV Input Voltage (Vdc)             | 600   |            |            |            |            |            |
| Max. PV Input Current (A)               | 22A (2x11A)   |            |            |            |            |            |
| No. of MPPTs/Total Strings              | 2/2   |            |            |            |            |            |
| MPPT Voltage Range (Vdc)                | 100~550   |            |            |            |            |            |
| Start Up Voltage (Vdc)                  | 120   |            |            |            |            |            |
| MPPT Efficiency                         | 99.9%   |            |            |            |            |            |
| AC Output                               |   |            |            |            |            |            |
| Nominal AC Output Power (kW)            | 3   | 3.6        | 4          | 4.6        | 5          | 6          |
| Maximum Output Power (kW)               | 3.3   | 3.96       | 4.4        | 5.06       | 5.5        | 6.0        |
| Nominal AC Voltage (Vac)                | 220/230   |            |            |            |            |            |
| Rated Output Current (A)                | 13.6  | 16.4       | 18.2       | 20.9       | 22.7       | 27.3       |
| Maximum Output Current (A)              | 15.0  | 18.0       | 20.0       | 23.0       | 25.0       | 27.3       |
| Nominal Grid Frequency (Hz)             | 50/60   |            |            |            |            |            |
| Grid Frequency Range (Hz)               | 45~55/55~65   |            |            |            |            |            |
| Power Factor                            | >0.99 (full load)   |            |            |            |            |            |
| PF Adjustable Range                     | 0.8 (leading)-0.8 (lagging)   |            |            |            |            |            |
| THDI                                    | <3% (nominal power)   |            |            |            |            |            |
| Efficiency                              |   |            |            |            |            |            |
| Max. Efficiency                         | 98.1%   | 98.3%      | 98.3%      | 98.3%      | 98.3%      | 98.3%      |
| European Efficiency                     | 97.7%   | 97.9%      | 97.9%      | 97.9%      | 97.9%      | 97.9%      |
| Protection                              |   |            |            |            |            |            |
| Anti-islanding                          | Yes   |            |            |            |            |            |
| Smart Feed-in Control                   | Yes   |            |            |            |            |            |
| DC Reversed Connection                  | Yes   |            |            |            |            |            |
| AC ShortCircuit                         | Yes   |            |            |            |            |            |
| Leakage Current Protection              | Yes   |            |            |            |            |            |
| Surge Protection                        | Yes   |            |            |            |            |            |
| DC Switch                               | Optional  |            |            |            |            |            |
| PV Fault Detect                         | Yes   |            |            |            |            |            |
| Standard & Certification (upon request) | IEC62109-1/-2, EN62109-1/-2, AS4777.2-2015, G83/2 G59/3 VDE4105 EN50438 AS 62040 CGC/CQC CE |            |            |            |            |            |
| Others                                  |   |            |            |            |            |            |
| Dimension (W×H×D) (mm)                  | 360×420×125   |            |            |            |            |            |
| Weight (kg)                             | 11  | 11.5       |            |            |            |            |
| IP Grade                                | IP65  |            |            |            |            |            |
| Inverter design                         | Transformerless   |            |            |            |            |            |
| Noise emission (typical)(dB)            | ≤25   |            |            |            |            |            |
| Self Power Consumption at Night         | <1 W  |            |            |            |            |            |
| Cooling Mode                            | Natural cooling   |            |            |            |            |            |
| Maximum Operating Altitude              | 4000m (>2000m derating)   |            |            |            |            |            |
| Operating Temperature Range°(C)         | -40~60  |            |            |            |            |            |
| Operating Humidity Range                | 0~95% (Non-condensing)  |            |            |            |            |            |
| Display                                 | LCD display+LED indicator   |            |            |            |            |            |
| Communication                           | RS485/WiFi (optional)/GPRS (optional)   |            |            |            |            |            |

- Specifications are subject to change without prior notice.





## Three-phase String Inverter

SSI8000-3P/SSI10000-3P/SSI12000-3P/  
SSI15000-3P/SSI17000-3P/SSI20000-3P

### Efficient and flexible:

- Wide MPPT range 300~950V
- Peak efficiency up to 98.4%, transformerless
- 2 independent MPPT
- Precise MPPT algorithm achieve 99.9%, more generation

### Excellent Performance:

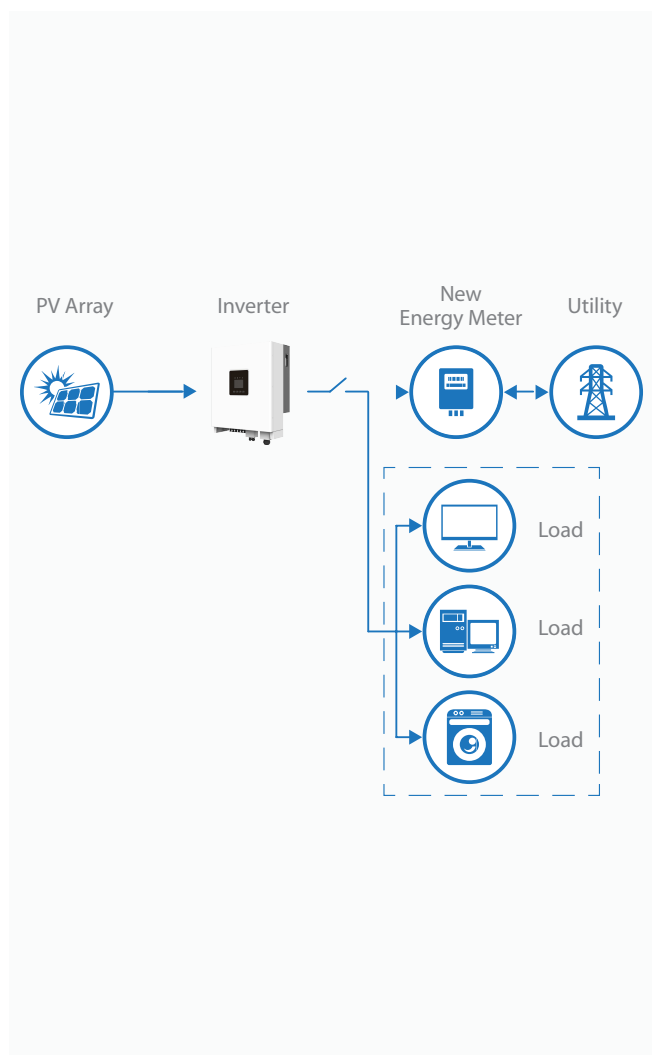
- Power factor adjustable ( $\pm 0.8$ )
- Grid-friendly with LVRT and accept grid dispatching
- IP65 for outdoor application
- Operating temperature range, -25~60°C

### High Reliability:

- Double working power double resource supply for redundant
- Best components ensure reliability and long life
- DC reverse connection & AC short circuit protection
- Sensitive current leakage protection
- DC & AC lightning protection

### User Friendly:

- 3.5-inch intelligent color LCD
- RS485/Wi-Fi/SNMP/USB for option, easy monitoring
- Plug and play connection unit
- Wall mounted, quick installation and easy maintenance



## Technical Specification :

| Items                            | SSI8000-3P                  | SSI10000-3P | SSI12000-3P                    | SSI15000-3P | SSI17000-3P | SSI20000-3P |
|----------------------------------|-----------------------------|-------------|--------------------------------|-------------|-------------|-------------|
| DC Input                         |                             |             |                                |             |             |             |
| Max. PV Power (kW)               | 9.2                         | 11.5        | 13.8                           | 17.4        | 19.1        | 23          |
| Max. PV Input Voltage (Vdc)      | 1000                        |             |                                |             |             |             |
| Max. of MPPTs/Strings            | 2x11                        |             | 11+22                          |             | 2x22        |             |
| No. of MPPTs/Strings             | 2/2                         | 2/2         | 2/3                            | 2/3         | 2/4         | 2/4         |
| MPPT Voltage Range (Vdc)         | 200~800                     |             |                                |             |             |             |
| Startup Voltage (Vdc)            | 250                         |             |                                |             |             |             |
| MPPT Efficiency                  | 99.9%                       |             |                                |             |             |             |
| AC Output                        |                             |             |                                |             |             |             |
| Nominal AC Output Power (kW)     | 8                           | 10          | 12                             | 15          | 17          | 20          |
| Maximum Output Power             | 8.8                         | 11          | 13.2                           | 16.5        | 18.7        | 22          |
| Nominal AC Voltage (Vac)         | 380/400                     |             |                                |             |             |             |
| Rated Output Current             | 12.2                        | 15.2        | 18.2                           | 22.8        | 25.8        | 30.4        |
| Maximum Output Current           | 13.4                        | 16.7        | 20                             | 25.1        | 28.4        | 33.4        |
| Nominal Grid Frequency (Hz)      | 50/60                       |             |                                |             |             |             |
| Grid Frequency Range             | 45~55/55~65                 |             |                                |             |             |             |
| Power Factor                     | >0.99 (full load)           |             |                                |             |             |             |
| PF Adjustable Range              | 0.8 (leading)-0.8 (lagging) |             |                                |             |             |             |
| THDI                             | <3% (nominal power)         |             |                                |             |             |             |
| Efficiency                       |                             |             |                                |             |             |             |
| Max.Efficiency                   | 98.2%                       |             | 98.3%                          |             | 98.5%       |             |
| European Efficiency              | 97.9%                       |             | 98%                            |             | 98.2%       |             |
| Protection                       |                             |             |                                |             |             |             |
| Anti-islanding                   | Yes                         |             |                                |             |             |             |
| DC Reverse Connection            | Yes                         |             |                                |             |             |             |
| AC Short Circuit                 | Yes                         |             |                                |             |             |             |
| Leakage Current Protection       | Yes                         |             |                                |             |             |             |
| Surge Protection                 | Yes                         |             |                                |             |             |             |
| DC Switch                        | Optional                    |             |                                |             |             |             |
| PV Fault Detect                  | Yes                         |             |                                |             |             |             |
| System Data                      |                             |             |                                |             |             |             |
| Dimensions (WxHxD)(mm)           | 430x620x270                 |             |                                |             | 510x630x265 |             |
| Weight (kg)                      | 30                          |             | 32                             |             | 45          |             |
| IP Grade                         | IP 65                       |             |                                |             |             |             |
| Night Consumption                | <1 W                        |             |                                |             |             |             |
| Cooling                          | Nature cooling              |             | Intelligent forced air cooling |             |             |             |
| Altitude                         | 4000m (>3000m derating)     |             |                                |             |             |             |
| Operating Temperature Range° (C) | -25~+60                     |             |                                |             |             |             |
| Operating Humidity               | 0~95% (Non-condensation)    |             |                                |             |             |             |
| Display                          | LCD+LED                     |             |                                |             |             |             |
| Communication                    | RS485/WiFi/GPRS             |             |                                |             |             |             |

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## Three-phase String Inverter

SSI30000-3P/SSI36000-3P/SSI40000-3P/  
SSI50000-3P/SSI60000-3P

### High Efficiency:

- Soft switch + 3 level topology, maximum efficiency up to 99%
- 4 MPPTs design, complex installation adaptability

### Intelligent Management:

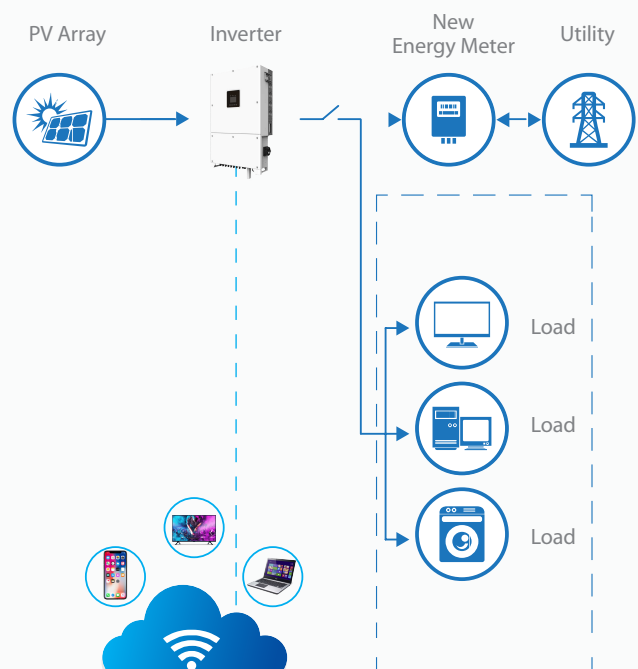
- Intelligent fault wave recording, quick failure analysis
- I&V Intelligent diagnosis, accurate identification and positioning of abnormal PV panels
- Intelligent online upgrade function, easy upgrade and maintain
- Support RS485, Wifi, GPRS communication

### Safe and Reliable:

- Outdoor IP65 design, no derating below 3000m altitude
- Integrated AC/DC full lightning protection

### Grid Friendly:

- Grid-connected current harmonics <3%, green adapts to grid
- Ultra wide grid voltage range, with LVRT function



## Technical Specification :

| Items                          | SSI30000-3P                 | SSI36000-3P                    | SSI40000-3P | SSI50000-3P | SSI60000-3P |
|--------------------------------|-----------------------------|--------------------------------|-------------|-------------|-------------|
| DC Input                       |                             |                                |             |             |             |
| Max. PV Power (kW)             | 35                          | 40                             | 46          | 57          | 67          |
| Max. PV Input Voltage (Vdc)    | 1000                        | 1000                           | 1000        | 1100        | 1100        |
| Max. PV Input Current (A)      | 3x22                        | 3x30                           | 3x30        | 4x30        | 4x30        |
| No. of MPPTs/Strings           | 3/6                         | 3/9                            | 3/9         | 4/12        | 4/12        |
| MPPT Voltage Range (Vdc)       | 300~1000                    |                                |             |             |             |
| Start Up Voltage (Vdc)         | 350                         |                                |             |             |             |
| MPPT Efficiency                | 99.9%                       |                                |             |             |             |
| AC Output                      |                             |                                |             |             |             |
| Nominal AC Output Power(kW)    | 30                          | 36                             | 40          | 50          | 60          |
| Max. Output Power (kW)         | 33                          | 40                             | 44          | 55          | 66          |
| Nominal AC Voltage (Vac)       | 380/400                     |                                |             |             |             |
| Rated Output Current (A)       | 45.6                        | 54.7                           | 60.8        | 75.9        | 91.2        |
| Max. Output Current (A)        | 50.1                        | 60.8                           | 66.9        | 83.6        | 100.3       |
| Nominal Grid Frequency (Hz)    | 50/60                       |                                |             |             |             |
| Grid Frequency Range (Hz)      | 45~55/55~65                 |                                |             |             |             |
| Power Factor                   | >0.99 (full load)           |                                |             |             |             |
| PF Adjustable Range            | 0.8 (leading)~0.8 (lagging) |                                |             |             |             |
| THDI                           | <3% (nominal power)         |                                |             |             |             |
| Efficiency                     |                             |                                |             |             |             |
| Max.Efficiency                 | 98.5%                       | 98.7%                          | 98.8%       | 99%         | 99%         |
| European Efficiency            | 98.3%                       | 98.4%                          | 98.4%       | 98.4%       | 98.5%       |
| Protection                     |                             |                                |             |             |             |
| Anti-islanding                 | Yes                         |                                |             |             |             |
| DC Reverse Connection          | Yes                         |                                |             |             |             |
| AC Short Circuit               | Yes                         |                                |             |             |             |
| Leakage Current Protection     | Yes                         |                                |             |             |             |
| Surge Protection               | Yes                         |                                |             |             |             |
| PV Fault Detect                | Yes                         |                                |             |             |             |
| DC Switch                      | Optional                    |                                |             |             |             |
| System Data                    |                             |                                |             |             |             |
| Dimensions (W×H×D)(mm)         | 530×700×360                 | 600×850×275                    |             |             |             |
| Weight (kg)                    | 58                          | 60                             | 60          | 65          | 65          |
| IP Grade                       | IP65                        |                                |             |             |             |
| Night Consumption              | <1W                         |                                |             |             |             |
| Cooling                        | Nature cooling              | Intelligent forced air cooling |             |             |             |
| Altitude                       | 4000m (>3000m derating)     |                                |             |             |             |
| Operating Temperature Range°C) | -25~+60                     |                                |             |             |             |
| Operating Humidity             | 0~95% (non-condensation)    |                                |             |             |             |
| Display                        | LCD+LED                     |                                |             |             |             |
| Communication                  | RS485/WIFI/GPRS             |                                |             |             |             |

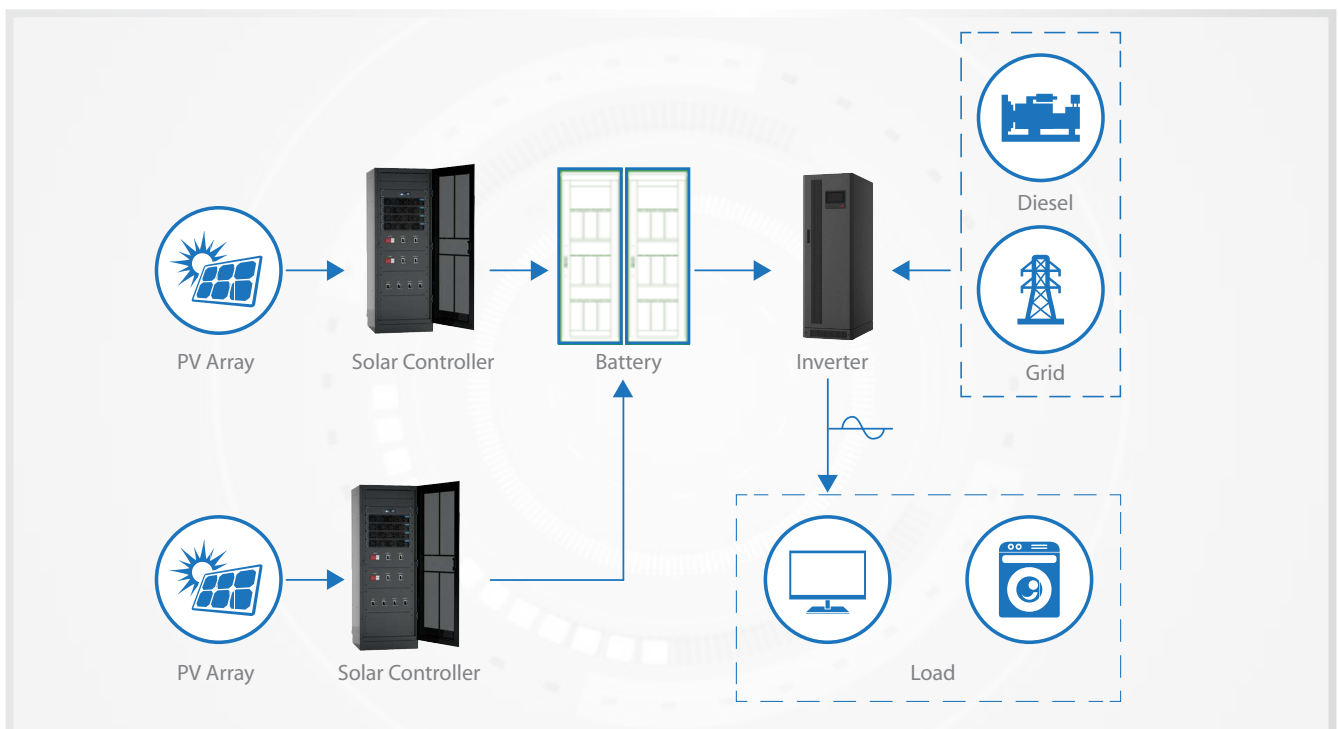
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# OFF-GRID PV POWER SOLUTION

Off-grid system is the stand-alone system without the support of grid or with the grid only as back-up source. It's mainly used for port lighting systems, communication bases and households in regions without electricity, highway monitoring systems, pasturing areas, islands and so on.

## System Solution





## Off-grid PV Controller & Inverter

SOG-PM Series (20~120kVA)

- Intelligent energy management system
- 3 in 1 integrated off-grid system
- Innovative hybrid system
- Efficient and flexible

### Efficient and Flexible:

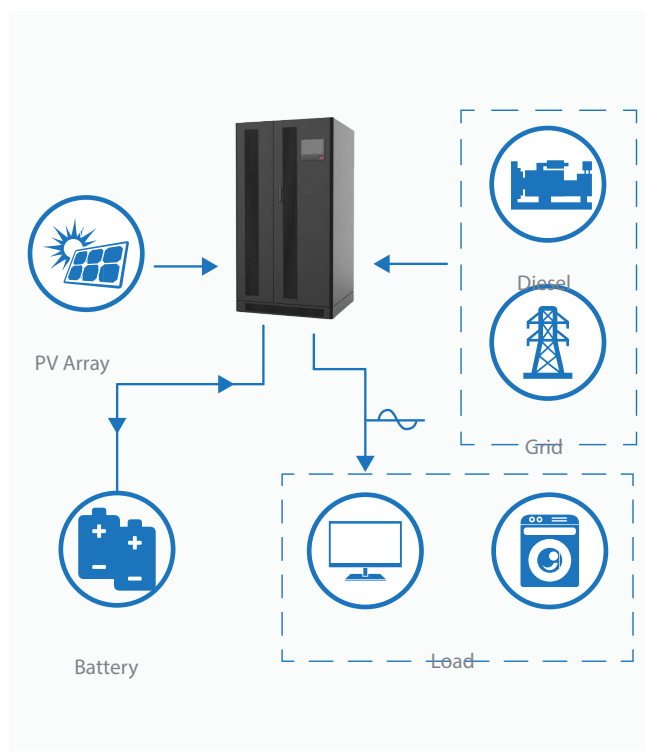
- Wide MPPT range 420~850V
- MPPT efficiency up to 99.8%
- Three phase output isolation transformer support 100% unbalanced load.
- Hot-swap MPPT modules, flexible configuration and expansion.
- Front access, easy for installation and maintenance.
- Integrated design, less initial investment and footprint, lower maintenance cost.

### Excellent Performance:

- PV controller+AC charger+inverter, 3 in 1 integrated system.
- Intelligent EMS achieves smart energy control among Solar, Battery, Grid and Gen-set. Battery, Grid and Gen-set.
- Multi-MPPT tracking function, up to 3 strings, fulfill various application conditions application conditions
- Comprehensive central monitoring on MPPT module/utility/inverter parameters.

### High Reliability:

- Full alarm and protection design.
- Advanced no-master-slave parallel technology (optional).
- Unique air tunnel design, increase cooling efficiency and operation lifetime.
- High quality components maximize service life.



### Smart Management:

- RS485 Modbus communication, easy monitoring.
- Intelligent BMS enable longer battery lifespan.
- User-friendly touch screen provides extensive monitor and control.
- 8+6 dry contact communication signal.



## Technical Specification :

| Items                                | SOG20~3360-PM075~150  |     |     |     |     | SOG20~33120-PM150~225 |     |     |
|--------------------------------------|---|-----|-----|-----|-----|-----------------------|-----|-----|
| Input Features - PV                  |   |     |     |     |     |                       |     |     |
| MPPT Voltage (Vdc)                   | 420~850   |     |     |     |     |                       |     |     |
| MPPT Tracking Precision (Max.)       | ≥99.8%  |     |     |     |     |                       |     |     |
| MPPT String                          | 1 / 2   |     |     |     |     | 2 / 3                 |     |     |
| MPPT Current (A)                     | 75 / 150  |     |     |     |     | 150 / 225             |     |     |
| Input Features - Battery             |   |     |     |     |     |                       |     |     |
| Rated Voltage (Vdc)                  | 348   |     |     |     |     |                       |     |     |
| Battery Type                         | Lead-acid or Li battery   |     |     |     |     |                       |     |     |
| Input Features - AC (Charger Option) |   |     |     |     |     |                       |     |     |
| RatedInput Voltage (Vac)             | 380/400/415 (L-L)   |     |     |     |     |                       |     |     |
| Input Voltage Range (Vac)            | ±25%  |     |     |     |     |                       |     |     |
| Phase                                | Three phase four line +3φ4W + PE  |     |     |     |     |                       |     |     |
| Input Frequency (Hz)                 | 40~70   |     |     |     |     |                       |     |     |
| AC Charge Current (A)                | 10~20 (settable)  |     |     |     |     | 10~30 (settable)      |     |     |
| Output Features                      |   |     |     |     |     |                       |     |     |
| Rated Power (kVA)                    | 20  | 30  | 40  | 50  | 60  | 80                    | 100 | 120 |
| Power Factor                         | 0.8   |     |     |     |     |                       |     |     |
| Voltage (Vac)                        | 380/400/415±1%  |     |     |     |     |                       |     |     |
| Frequency (Hz)                       | Synchronize bypass input (Bypass normal); 50/60 ±0.1% (Bypass abnormal)                           |     |     |     |     |                       |     |     |
| Wave Form                            | Sine wave, THD<2% (Linear load)   |     |     |     |     |                       |     |     |
| Transfer Time (ms)                   | 1ms (Switch from inverting mode to bypass mode) ; 0ms (Switch from bypass mode to inverting mode) |     |     |     |     |                       |     |     |
| Environment                          |   |     |     |     |     |                       |     |     |
| Operating Temperature°C)             | -5~40   |     |     |     |     |                       |     |     |
| Storage Temperature °(C)             | -20~+55   |     |     |     |     |                       |     |     |
| Relative Humidity                    | 0%~95% (no condensation)  |     |     |     |     |                       |     |     |
| Noise (dB)                           | <65   |     |     |     |     |                       |     |     |
| Standard                             |   |     |     |     |     |                       |     |     |
| EMC                                  | IEC 62040-2 CLASS C3  |     |     |     |     |                       |     |     |
| Safety Standard                      | IEC 60905-1, IEC 62040-1-1, UL1778  |     |     |     |     |                       |     |     |
| Design and Test                      | IEC 62040-3   |     |     |     |     |                       |     |     |
| Mechanical Feature                   |   |     |     |     |     |                       |     |     |
| Dimensions (H×W×D)(mm)               | 850×800×1600  |     |     |     |     | 1050×800×1800         |     |     |
| Weight (kg)                          | 360   | 380 | 520 | 570 | 590 | 740                   | 760 | 780 |
| Other Features                       |   |     |     |     |     |                       |     |     |
| Warning & Protection                 | INV fault, Battery low voltage, Overload, Short circuit, Over-temp, Bypass abnormal etc.          |     |     |     |     |                       |     |     |
| Communication                        | Support MODBUS (RS485), Dry Contact Communication.  |     |     |     |     |                       |     |     |

- Specifications are subject to change without prior notice.



## Off-grid Inverter

### SOG-I Three-phase Series (10~500kVA)

- High efficiency up to 95%
- ECO mode efficiency more than 99%
- Output isolation transformer

### High Reliability:

- Standard output isolation transformer
- Independent cooling air duct
- No-master-slave N+X parallel technology
- Corrosion, dust resistance and moisture proof design
- Double DSP and full digital control

### Excellent Performance:

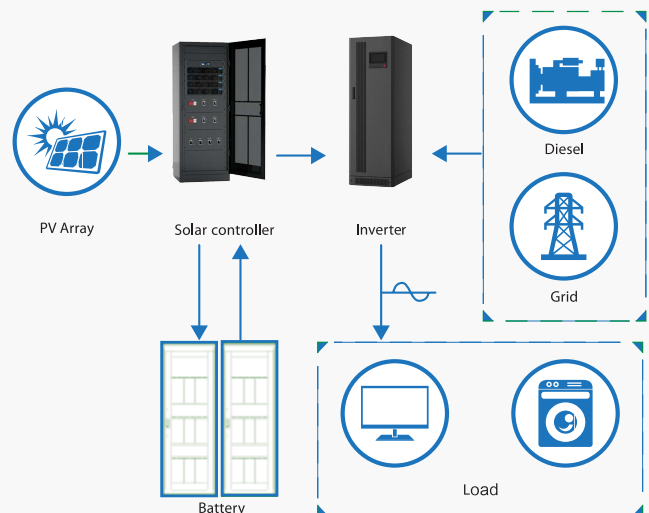
- Intelligent battery management
- Allow 3 phase loads 100% unbalance
- Wise generator management function
- Inverter efficiency up to 95%
- ECO mode efficiency more than 99%

### Smart Management:

- User-friendly-Interface 10 inch touch screen
- Intelligent RS232/RS485
- 8+6 dry contact communication signals

### Value-added Service:

- Customizable design
- Battery monitor system-MMBM
- IP grade upgraded
- User-friendly Interface 10 inch touch screen



## Technical Specification :

| Items                      | SOG10-I  | SOG20-I | SOG30-I | SOG40-I      | SOG50-I | SOG60-I | SOG70-I | SOG100-I     | SOG120-I | SOG160-I | SOG200-I               | SOG300-I       | SOG400-I | SOG500-I               |
|----------------------------|--|---------|---------|--------------|---------|---------|---------|--------------|----------|----------|------------------------|----------------|----------|------------------------|
| Input                      |  |         |         |              |         |         |         |              |          |          |                        |                |          |                        |
| Battery Voltage (Vdc)      | 348V   |         |         |              |         |         |         |              |          |          | 384V                   |                |          |                        |
| Output                     |  |         |         |              |         |         |         |              |          |          |                        |                |          |                        |
| Rated Power (kVA)          | 10   | 20      | 30      | 40           | 50      | 60      | 80      | 100          | 120      | 160      | 200                    | 300            | 400      | 500                    |
| Phase                      | 3φ4W+GND   |         |         |              |         |         |         |              |          |          |                        |                |          |                        |
| Voltage (Vac)              | L-N: 230 L-L 400 (200,208,220 are available for customization)                                 |         |         |              |         |         |         |              |          |          |                        |                |          |                        |
| Frequency (Hz)             | 50/60±0.2%   |         |         |              |         |         |         |              |          |          |                        |                |          |                        |
| Wave Form                  | Sine wave, THD<3% at linear load   |         |         |              |         |         |         |              |          |          |                        |                |          |                        |
| Maximum efficiency         | 95%  |         |         |              |         |         |         |              |          |          |                        |                |          |                        |
| Overload Capacity          | 125% of rated load last for 10 minutes, 150% of rated load last for 1 second                   |         |         |              |         |         |         |              |          |          |                        |                |          |                        |
| LCD Display                | Output voltage, frequency, Battery voltage, Load, DC current etc.                              |         |         |              |         |         |         |              |          |          |                        |                |          |                        |
| LED Display                | Work status of inverter, fault indication and overloading                                      |         |         |              |         |         |         |              |          |          |                        |                |          |                        |
| Communication              | RS232/RS485, dry connection communication signal   |         |         |              |         |         |         |              |          |          |                        |                |          |                        |
| Protection                 | Output short circuit, Overload, Over-temperature, battery low voltage, Output over/low voltage |         |         |              |         |         |         |              |          |          |                        |                |          |                        |
| IP Grade                   | IP20   |         |         |              |         |         |         |              |          |          |                        |                |          |                        |
| Noise (dB)                 | <65  |         |         |              |         |         |         |              |          |          |                        |                |          |                        |
| Cooling                    | Fans   |         |         |              |         |         |         |              |          |          |                        |                |          |                        |
| Operating Temperature (°C) | -20 ~ +40  |         |         |              |         |         |         |              |          |          |                        |                |          |                        |
| Relative Humidity          | 0 ~ 95%, No condensation   |         |         |              |         |         |         |              |          |          |                        |                |          |                        |
| Dimension (W×D×H) (mm)     | 500×600×1180   |         |         | 800×800×1600 |         |         |         | 700×800×1800 |          |          | 1400x<br>1000x<br>1850 | 1600×1000×1850 |          | 3000x<br>1000x<br>1800 |
| Weight (Kg)                | 230  | 250     | 300     | 400          | 450     | 520     | 600     | 650          | 825      | 825      | 1280                   | 1830           | 2050     | 4500                   |

- Specifications are subject to change without prior notice.





## Off-grid Inverter

SOG Series (1~12kVA)

- Motor load acceptable
- Modular & rack design
- Telecom standard level

### Easy for Use:

- Modular design easy for expansion and maintenance
- Dry contact communication function convenient for system monitor
- With output distribution easy for installation

### Excellent Performance:

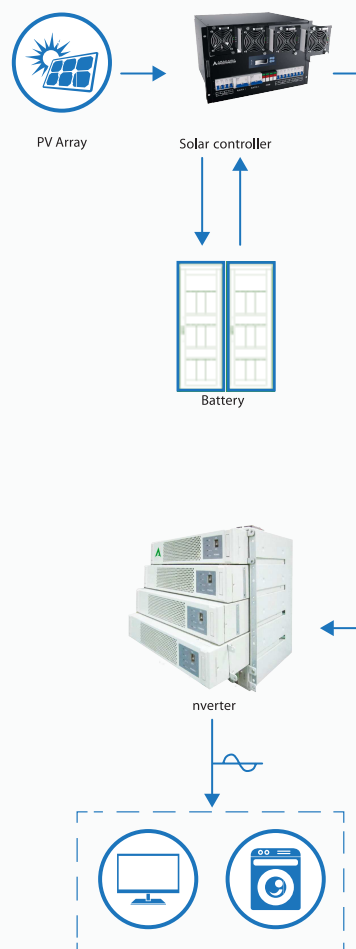
- Pure sine wave output with THDU<3% (full load)
- Perfect protection of output short circuit, overload, battery low, over temperature etc.
- Special Low DC noise design for communication industry

### High Reliability:

- N+X parallel no master and no slave adaptive technology
- Impact resistance design fit for high impact load even for air conditioner
- Full digital technology
- More than 16 years telecom application experience

### Friendly Interface:

- DB9 dry contacts and RS232 communication
- Easy operation for ON/OFF switch
- LEDs real time show the system working status
- Elegant appearance design



## Technical Specification :

| Items                              | SOG1000-KR   | SOG2000-KR | SOG3000-KR | SOG6000-KR  | SOG9000-KR | SOG12000-KR |
|------------------------------------|--|------------|------------|-------------|------------|-------------|
| Input                              |  |            |            |             |            |             |
| Rated DC Input current (A)         | 17   | 34         | 50         | 100         | 150        | 200         |
| Rated DC Voltage (Vdc)             | 48   |            |            |             |            |             |
| DC Voltage Starting Range (Vdc)    | 40~57  |            |            |             |            |             |
| Output                             |  |            |            |             |            |             |
| Rated AC Output Power (VA/W)       | 1000/700   | 2000/1400  | 3000/2100  | 6000/4200   | 9000/6300  | 12000/8400  |
| Rated Output Voltage (Vac)         | 220/230/240±1% (110/120/127 are available for customization) |            |            |             |            |             |
| Rated Output Current (A)           | 4.5  | 9.0        | 13.6       | 37.3        | 40.9       | 54.5        |
| Rated Output Frequency (Hz)        | 50±1%  |            |            |             |            |             |
| Harmonic Distortion                | THD<3 (Linear Load)  |            |            |             |            |             |
| Power Factor                       | 0.7  |            |            |             |            |             |
| Overload Capacity                  | 105%~125% for 80s; 126%~150% for 1s                          |            |            |             |            |             |
| Inverter Efficiency                | 83%  |            | 88%        | 87%         |            |             |
| Peak Factor                        | 3:1  |            |            |             |            |             |
| Others                             |  |            |            |             |            |             |
| Protection Level                   | IP20   |            |            |             |            |             |
| Operating Ambient Temperature °(C) | -20~ 40  |            |            |             |            |             |
| Operating Ambient Humidity         | 0~95%  |            |            |             |            |             |
| Reference Dimension (WxDxH) (mm)   | 440×286×1U   | 440×358×2U |            | 445×335×445 |            |             |
| Reference Weight (kg)              | 5  | 9.5        | 13.5       | 32          | 41         | 49          |
| Communication Port                 | RS232  |            |            |             |            |             |

- Specifications are subject to change without prior notice.



## MPPT Solar Controller

### SMC048 Series

- MPPT function, high efficiency
- Modular design, easy for expansion
- Integrated power distribution

### Excellent Performance:

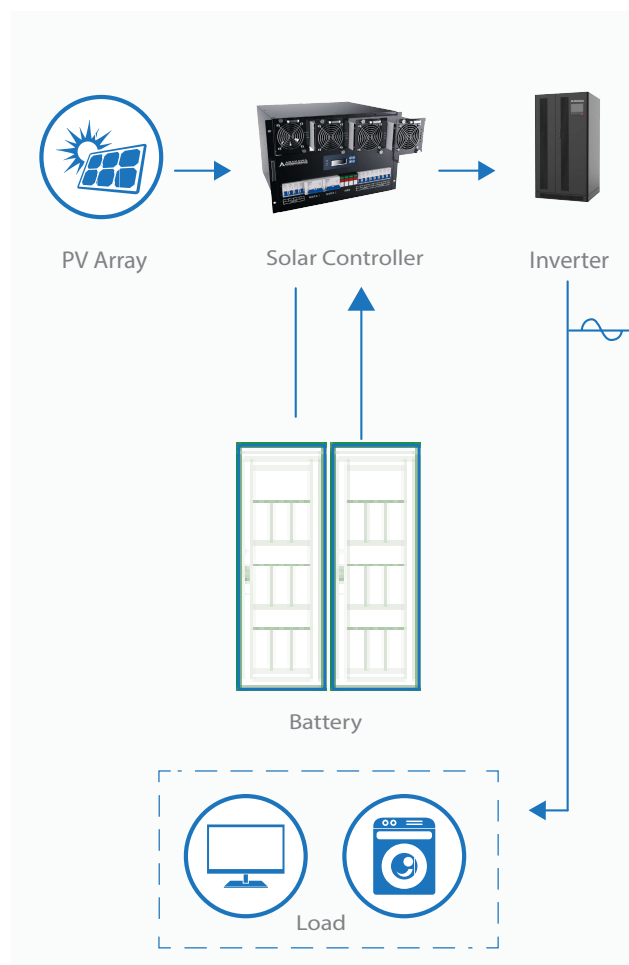
- Full DSP control technology
- MPPT function, maximize the utilization of solar panels
- Low power dissipation, zero night- time dissipation
- Wide in put range, flexible solar panel configuration
- Wide working temperature range

### High Reliability:

- Modular design, flexible expansion and easy maintenance
- Full alarm and protection function
- Load prioritize shut down control function
- PCB boards feature with anti-corrosion paint coating

### Smart Management:

- RS485/RS232 communication, easy monitoring
- Full dry contact communication function
- Intelligent battery charging control, extend the battery lifetime





## MPPT Controller Specification:

| Items                              | SMC048100-M   | SMC048150-M         | SMC048200-M         |
|------------------------------------|---|---------------------|---------------------|
| MPPT module capacity               | 50A MPPT module×2   | 50A MPPT module×3   | 50A MPPT module×4   |
| PV Input (switch)                  | 2 strings (63A x 2)   | 3 strings (63A x 3) | 4 strings (63A x 4) |
| PV Input Current (A)               | Max.2 x 40A   | Max.3 x 40A         | Max.4 x 40A         |
| PV Input Voltage Range (Vdc)       | 50 ~ 150  |                     |                     |
| Battery Strings (switch)           | 2 strings x 100A (detect total current)   |                     |                     |
| Output Strings (switch)            | Critical load: 4 strings (63 A+50 A +32 A +20 A)<br>subordinate load: 4 strings (63 A+50 A +32 A +20 A) |                     |                     |
| Output Voltage (Vdc)               | 44.0~58.0, typical value: 54.0  |                     |                     |
| MPPT Controller Output Current (A) | Max.100   | Max.150             | Max.200             |
| Efficiency                         | ≥95%  | ≥95%                | ≥95%                |
| IP Grade                           | IP20  |                     |                     |
| Working Temperature °(C)           | -20~55 (>40°C, derating)  |                     |                     |
| Storage Temperature °(C)           | -40~70  |                     |                     |
| Relative Humidity                  | 5%~95%  |                     |                     |
| Altitude (m)                       | <5500, (>3000m, derating)   |                     |                     |
| Dimension (W×D×H) (mm)             | 487×426.3×352.5   |                     |                     |

- Specifications are subject to change without prior notice.

## MPPT Module Specification:

| Items                          | MPPT Module                                |
|--------------------------------|--|
| Capacity (A)                   | 50   |
| Input Voltage Range (Vdc)      | 50~150 (Max. open circuit voltage:150 Vdc) |
| Input Current (A)              | Max. 40                                    |
| Output Voltage Range (Vdc)     | 44.0~58.0, typical value :54               |
| Output Current (A)             | Max. 50                                    |
| MPPT Tracking Precision        | >99%                                       |
| Max. Efficiency                | ≥95%                                       |
| Stand-by Power Consumption (W) | <5   |
| Cooling                        | Forced air cooling                         |
| Noise (dB)                     | <60  |
| Installation                   | Install slot, hot swappable                |
| IP Grade                       | IP20                                       |
| Working Temperature °(C)       | -20~ 55                                    |
| Storage Temperature °(C)       | -40~ 70                                    |
| Relative Humidity              | 5% ~ 95%                                   |
| Altitude (m)                   | <5500 (>3000m, derating)                   |
| Dimension (W×D×H) (mm)         | 108.5×362.8×111                            |

- Specifications are subject to change without prior notice.



## MPPT Solar Controller

### SPC348/384/220 Series

- High efficiency up to 98.4%
- Modular design
- Full digital control technology

### Easy for Use:

- With internal PV breakers, battery breakers and load breakers
- Modular design, high flexibility and easy maintenance
- Wide working temperature range

### High Reliability:

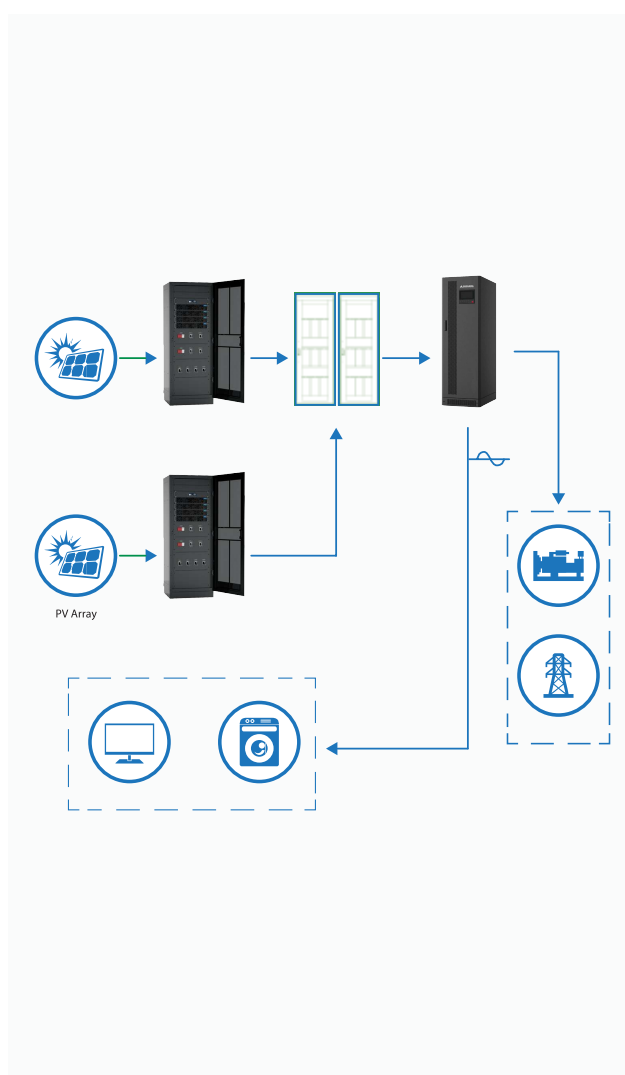
- Wide input range, flexible solar panel configuration
- MPPT function, maximize the utilization of solar panels
- Peak efficiency up to 98.4%
- Intelligent battery charging control, extend the battery lifetime
- Wide working temperature range, -25~+55°C

### Smart Management:

- Adopt DSP chips, full digital control technology
- N+X modular redundant design
- Optional integrated controller + inverter solution

### Smart Management:

- LCD screen with PV generation and system status logs
- RS485/RS232 communication, easy monitoring
- Full dry contact communication function, with generator start control, battery low alarm, primary load control, secondary load control, etc.
- Optional touch screen monitor for user-friendly management



### MPPT Controller Specification:

| Items                              | SPC384300-M               | SPC348300-M | SPC220300-M |
|------------------------------------|---------------------------|-------------|-------------|
| Input                              |                           |             |             |
| PV Input Voltage (Vdc)             | 420~850                   | 420~850     | 270~550     |
| PV Full Load Working Voltage (Vdc) | 500~700                   | 440~700     | 270~430     |
| Max PV Input Current (A)           | 240                       | 240         | 240         |
| PV Input Rated Power (kW)          | 29×4                      | 26×4        | 16×4        |
| Output                             |                           |             |             |
| Battery Voltage Range (Vdc)        | 336~464                   | 304~420     | 189~260     |
| Battery Rated Voltage (Vdc)        | 384                       | 348         | 220         |
| Rated Output Current (A)           | 300                       |             |             |
| Others                             |                           |             |             |
| Working Ambient temperature (°C)   | -20~55                    |             |             |
| Working Altitude (m)               | 3000m,>1000m derating use |             |             |
| IP Grade                           | IP20                      |             |             |
| Dimension(W×D×H)(mm)               | 600×600×1800              |             |             |

- Specifications are subject to change without prior notice.

### MPPT Module Specification:

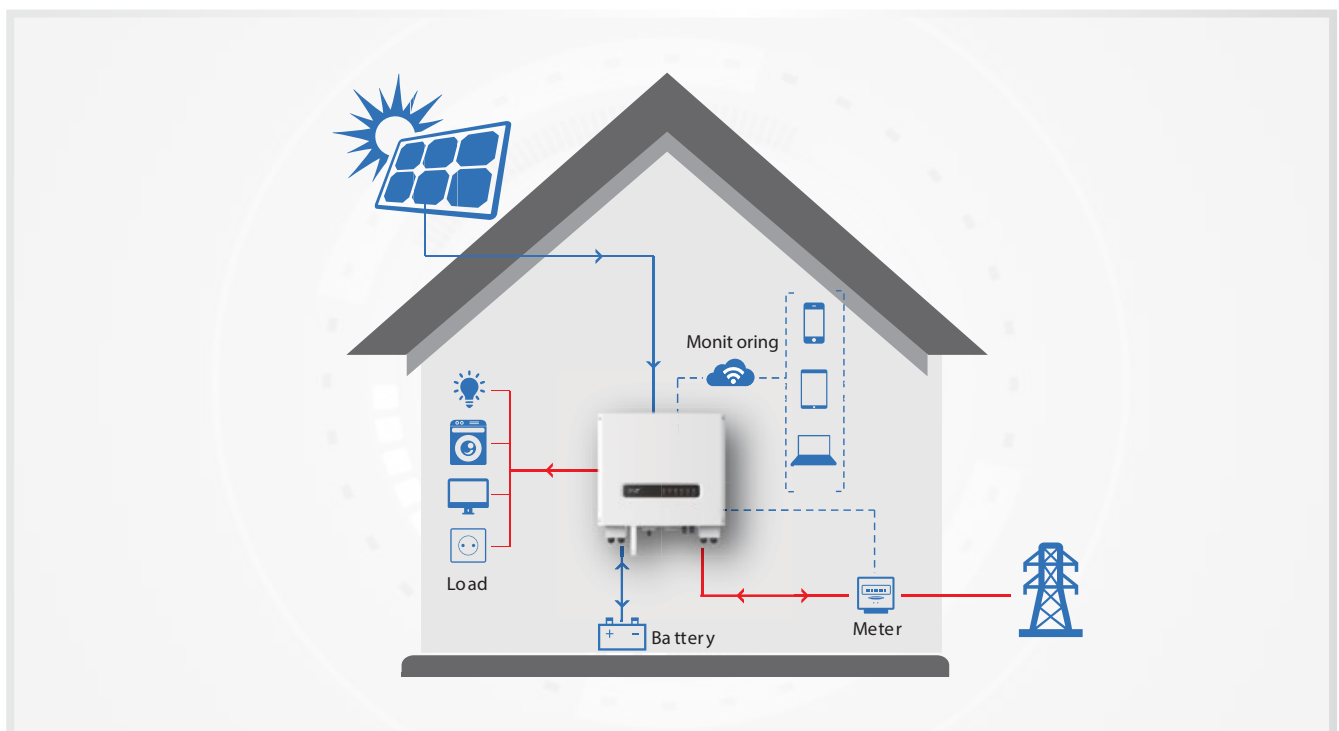
| Items                                | SPC384300-M    | SPC348300-M | SPC220300-M |
|--------------------------------------|----------------|-------------|-------------|
| Input                                |                |             |             |
| PV input voltage (Vdc)               | 420~850        | 420~850     | 270~550     |
| PV full load working voltage (Vdc)   | 500~700        | 440~700     | 270~430     |
| Max PV input current(A)              | 60             | 60          | 60          |
| PV input rated power (kW)            | 29             | 26          | 16          |
| MPPT tracking precision (Max.)       | ≥99.5%         |             |             |
| Output                               |                |             |             |
| Battery voltage range (Vdc)          | 336~464        | 304~420     | 189~260     |
| Battery rated voltage (Vdc)          | 384            | 348         | 220         |
| Battery rated current (A)            | 75             | 75          | 75          |
| Module maximum efficiency (%)        | ≥98.5%         | ≥98.4%      | ≥98.0%      |
| Output ripple voltage coefficient(%) | ≤±1.5          |             |             |
| Others                               |                |             |             |
| Stand-by power consumption (W)       | 12             |             |             |
| Power consumption at night (W)       | 0              |             |             |
| Night reverse discharge current (A)  | 0              |             |             |
| Cooling                              | Air cooling    |             |             |
| Noise (dB)                           | ≤60            |             |             |
| Dimension (W×D×H)(mm)                | 440×430×89(2U) |             |             |

- Specifications are subject to change without prior notice.

# ENERGY STORAGE SYSTEM FOR HOME

Energy Storage System for Home, with All-in-one solution can maximize self-consumption and lower electric bills, help for energy independence.

## Residential Energy Storage System







## Residential Energy Storage System

### ASE Hybrid Series (3.6~5kW)

- Flexible energy management
- Multi-working modes application
- Remote energy dispatching
- Uninterrupted power supply
- Export energy setting

### Intelligent Communication:

- Monitoring through WiFi
- Cloud-based Monitoring Service
- RS485 and USB communication ports
- Accept remote energy dispatching

### Smart Energy Management:

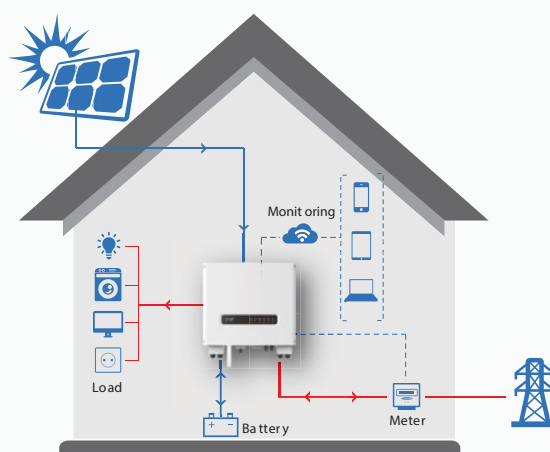
- Smart EMS for all operating modes
- Daily/Monthly/Total energy generation logs
- Settable modes for different application scenarios
- Maximize self-consumption, lower your bill

### Lithium-ion Battery:

- Excellent performance for 10 years plus lifetime
- Capacity modularly extended from 2 to 10kWh
- Wall mounted and rack-mounted optional

### Value-added Services:

- CT or Smart Meter increase power control precision
- Lead-acid/Pb-C battery for option
- Power distribution cabinet



## Technical Specification:

| Items                             | ASE3600-HB                                     | ASE5000-HB |
|-----------------------------------|--|------------|
| PV Input                          |  |            |
| PV Max Power (W)                  | 4000   | 5500       |
| Max Voltage (Vdc)                 | 550  |            |
| MPPT Range (Vdc)                  | 125~550  |            |
| Max Input Current (Adc)           | 11×2   |            |
| MPPT Number / Strings             | 2/2 (can be parallel)                          |            |
| On-grid Output                    |  |            |
| Rated Power (W)                   | 3600   | 5000       |
| Rated Output Voltage (Vac)        | 220/230/240                                    |            |
| Grid Voltage Range (Vac)          | 184~265  |            |
| Grid Frequency Range (Hz)         | 47.5~ 52.5 or 57.5~ 62.5                       |            |
| Rated Output Current (A)          | 17   | 22.7       |
| Power Factor                      | >0.99  |            |
| Max Efficiency                    | 97.50%   |            |
| Europe Efficiency                 | 96.50%   |            |
| THDi (%)                          | <2% (full load)                                |            |
| Battery Inverter (Emergency Mode) |  |            |
| Rated Output Voltage (Vac)        | 220/230/240                                    |            |
| Output Frequency (Hz)             | 50(60)±0.5                                     |            |
| Output Power (W/VA)               | 2500/3500                                      |            |
| Transfer Time (ms)                | 0  |            |
| Efficiency (DC/AC)                | 93.5%  |            |
| Voltage Harmonic (%)              | <2% (ohmic load)                               |            |
| Charge-Discharge                  |  |            |
| Nominal Voltage (Vdc)             | 48   |            |
| Max Charging Power (W)            | 2500 (settable)                                |            |
| Max Charging Current (A)          | 52 (settable)                                  |            |
| Max Discharging Power (W)         | 2500   |            |
| Max Discharging Current (A)       | 52   |            |
| Battery Type                      | Lithium / Pb-C / Lead acid                     |            |
| System                            |  |            |
| Installation                      | Wall mounted                                   |            |
| Ingress Protection                | IP65   |            |
| Dimension (W×H×D)(mm)             | 480×420×185                                    |            |
| Weight (kg)                       | 25   |            |
| Isolation Method (solar)          | Transformerless                                |            |
| Isolation Method (battery)        | HF   |            |
| Cooling                           | Natural cooling                                |            |
| Noise Emission (dB)               | <25  |            |
| Display                           | LED/APP  |            |
| Ambient Humidity                  | 0 ~ 90% , non condensation                     |            |
| Temperature °(C)                  | -25~ +60                                       |            |
| Operation Altitude                | 0 ~ 3000m                                      |            |
| On-grid Standard                  | G83/2; G59/3; EN50438; CEI 0-21; AS4777.2:2015 |            |
| Safety                            | IEC62109-1, IEC62109-2, AS62040-1-1            |            |
| EMC                               | EN61000-6-3, EN61000-6-2                       |            |
| Communication Interface           | RS485 (modbus) / WiFi / DRM                    |            |
| Accessories                       | CT, Smart meter (optional)                     |            |

- Specifications are subject to change without prior notice.

# UTILITY SCALE POWER PLANT SOLUTION

Large PV power station can mainly be used in the place where has rich solar and land resources. The installed capacity is usually more than 10 MW, and it undertakes the task of power supply with the high voltage area of utility connection.

## Central Inverter System

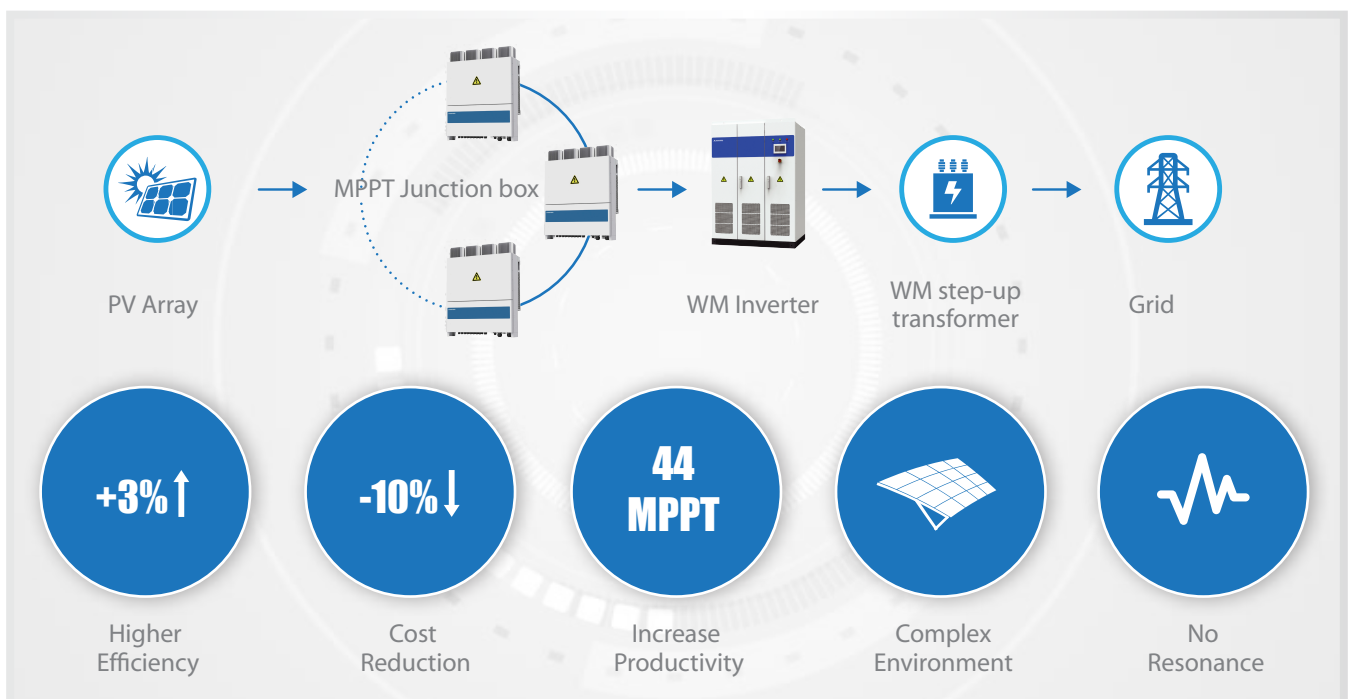






Central Distributed System, 1MW with 48 MPPTs, suitable for complex environment like uneven ground.

## Central Inverter System



# Utility Scale Power Plant Solution



## Central PV Inverter with Isolation Transformer

SPP250KVA/SPP500KVA

### High Efficiency :

- Advanced MPPT, maximum conversion efficiency up to 97.8%.
- 45°C 1.1 times the long-term overload, 50°C full load operation.

### Lean Intelligence :

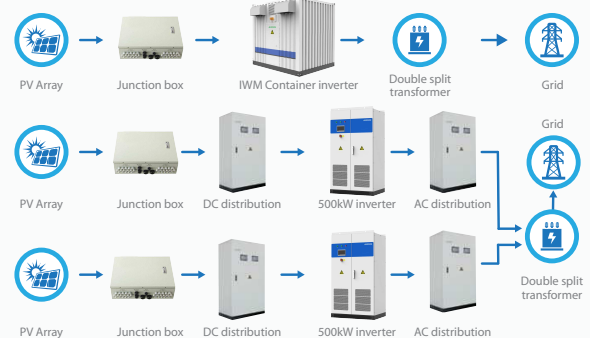
- Intelligent fault recording function, quick failure analysis.
- Intelligent online upgrade function, easy system upgrade and maintenance management.

### Safe and Reliable :

- Adapt to high altitude, high temperature, extreme cold and other complex environment.
- DSP+CPLD control structure, safe and reliable.
- Long life design of thin film capacitor

### Cost Saving :

- Modular design, saving operation and maintenance cost.
- Integrated high efficient isolation transformer, realize low - voltage grid connection directly





## Technical Specification

| Items                            | SPP250KVA                      | SPP500KVA      |
|----------------------------------|--------------------------------|----------------|
| DC Input                         |                                |                |
| Max. PV Power (kW)               | 280                            | 560            |
| Max. PV Input Voltage (Vdc)      | 1000                           |                |
| Max. PV Input Current (A)        | 600                            | 1200           |
| PV Input String Number           | 4                              | 8              |
| No. of MPPTs                     | 1                              |                |
| MPPT Voltage Range (Vdc)         | 460~850                        |                |
| Start up Voltage (Vdc)           | 480                            |                |
| MPPT Efficiency                  | 99.90%                         |                |
| AC Output                        |                                |                |
| Nominal AC Output Power (kW)     | 250                            | 500            |
| Max. Output Power (kW)           | 275                            | 550            |
| Max. Output current (A)          | 418                            | 836            |
| Nominal AC Voltage (Vac)         | 380                            |                |
| Nominal Grid Frequency (Hz)      | 50/60                          |                |
| Power Factor (nominal power)     | >0.99                          |                |
| Power Factor Adjustable Range    | 0.9 (leading)~0.9 (lagging)    |                |
| THDi                             | <3% (nominal power)            |                |
| Isolation Type                   | High efficient transformer     |                |
| Efficiency                       |                                |                |
| Max. Efficiency                  | >97.80%                        |                |
| European Efficiency              | >97.30%                        |                |
| Others                           |                                |                |
| AC Side Parallel Technology      | Yes                            |                |
| PID Repair                       | Yes                            |                |
| Fault Wave Record Diagnosis      | Yes                            |                |
| Online Upgrade                   | Yes                            |                |
| System Data                      |                                |                |
| Dimensions (W×H×D) (mm)          | 1000×2000×800                  | 1400×2000×1000 |
| Weight (kg)                      | 1500                           | 2200           |
| IP Grade                         | IP20                           |                |
| Night Consumption                | <20W                           |                |
| Cooling                          | Intelligent forced air cooling |                |
| Altitude                         | 6000m (>3000m derating)        |                |
| Operating Temperature Range (c°) | -35~60                         |                |
| Operating Humidity               | 0~95% (non-condensation)       |                |
| Display                          | LCD Touch Screen               |                |
| Communication                    | RS485, Ethernet (optional)     |                |

- 120V/208V 277V/480V On-grid inverter for South and North American Markets are available for customization.
- Specifications are subject to change without prior notice.

# Utility Scale Power Plant Solution



## Central Three phase PV Inverter

SPI500K-B/SPI630K-B  
SPI1000K-B/SPI1260K-B

### High Efficiency :

- Advanced three-level topology, maximum conversion efficiency 99%
- 50°C 1.1 times long-term overload, 55°C full load operation

### Lean Intelligence :

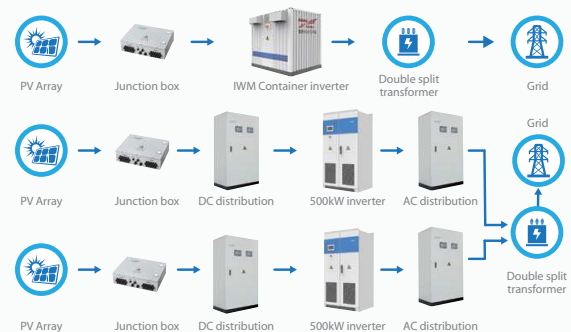
- Intelligent fault recording function, quick failure analysis
- Intelligent online upgrade function, easy system upgrade and maintenance management

### Safe and Reliable :

- Adapt to high altitude, high temperature, extreme cold and other complex environment
- Intelligent fan speed control and fault detection, improve system reliability
- PID repair function to ensure power generation

### Cost Saving :

- High power density in 0.6m<sup>2</sup>, reducing system land cost.
- Turnkey products, easy to install and debug on site (container)
- Support AC side parallel at transformer primary side
- Modular design, saving operation and maintenance cost



## Technical Specification :

| Items                            | SPI500K-B                      | SPI630K-B | SPI1000K-B                     | SPI1260K-B |
|----------------------------------|--------------------------------|-----------|--------------------------------|------------|
| DC Input                         |                                |           |                                |            |
| Max. PV Power (kW)               | 560                            | 710       | 2×560                          | 2×710      |
| Max. PV Input Voltage (Vdc)      | 1000                           |           | 1000                           |            |
| Max. DC Current (A)              | 1200                           | 1350      | 2×1200                         | 2×1350     |
| PV Input Strings Number          | 6                              | 8         | 2×6                            | 2×8        |
| No. of MPPTs                     | 1                              | 1         | 2                              | 2          |
| MPPT Voltage Range (Vdc)         | 460~850                        | 520~850   | 460~850                        | 520~850    |
| Start Up Voltage (Vdc)           | 480                            | 540       | 480                            | 540        |
| MPPT Efficiency                  | 99.90%                         |           | 99.90%                         |            |
| AC Output                        |                                |           |                                |            |
| Nominal AC Output Power (kW)     | 500                            | 630       | 1000                           | 1260       |
| Max. Output Power (kW)           | 550                            | 693       | 1100                           | 1386       |
| Max. Output Current (A)          | 1008                           | 1111      | 2016                           | 2222       |
| Nominal AC Voltage (Vac)         | 315                            | 360       | 315                            | 360        |
| Nominal Grid Frequency (Hz)      | 50/60                          |           | 50/60                          |            |
| Power Factor (nominal power)     | >0.99                          |           | >0.99                          |            |
| PF Adjustable Range              | 0.9 (leading)~0.9 (lagging)    |           | 0.9 (leading)~0.9 (lagging)    |            |
| THDi                             | <3% (nominal power)            |           | <3% (nominal power)            |            |
| Efficiency                       |                                |           |                                |            |
| Max. Efficiency                  | 99.00%                         | 99.00%    | 99.00%                         | 99.00%     |
| European Efficiency              | 98.70%                         | 98.70%    | 98.70%                         | 98.70%     |
| Other                            |                                |           |                                |            |
| LVRT Function                    | Yes                            |           | Yes                            |            |
| AC Side Parallel Technology      | Yes                            |           | Yes                            |            |
| PID Repair                       | Yes                            |           | Yes                            |            |
| Fault Wave Record Diagnosis      | Yes                            |           | Yes                            |            |
| Online Upgrade                   | Yes                            |           | Yes                            |            |
| System Data                      |                                |           |                                |            |
| Dimensions (W×H×D) (mm)          | 800×2000×800                   |           | 2438×2591×1150                 |            |
| Weight (kg)                      | 700                            |           | 2800                           |            |
| IP Grade                         | IP20                           |           | IP54                           |            |
| Night Consumption                | <20W                           |           | <40W                           |            |
| Cooling                          | Intelligent forced air cooling |           | Intelligent forced air cooling |            |
| Altitude                         | 6000m (>3000m derating)        |           | 6000m (>3000m derating)        |            |
| Operating Temperature Range° (C) | -35~60                         |           | -35~60                         |            |
| Operating Humidity               | 0~95% (Non-condensation)       |           | 0~95% (Non-condensation)       |            |
| Display                          | LCD                            |           | LCD                            |            |
| Communication                    | RS485, Ethernet (optional)     |           | RS485, Ethernet (optional)     |            |

- Specifications are subject to change without prior notice.



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