Building **e-Energy** management solution provider


## GUANGZHOU SANJING ELECTRIC CO., LTD.

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## JIANGXI SANJING ELECTRIC., LTD.

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SI-E201802-1CB

SAJ Solar Inverter

## 25-YEAR PROFIT MAXIMIZER

**Guangzhou Sanjing Electric Co.,Ltd.** (stock code:835613)

To build **green**, **intelligent**
and **efficient** energy
environment, and to create better,
**happier and healthier lives**
for people everywhere.

# Content


# About SAJ

## Headquartered in Guangzhou, serves the world

Guangzhou Sanjing Electric Co., LTD(Stock Code: 835613,hereinafter referred to as SAJ) is a professional leading provider of motor drive and control technology, renewable energy conversion, transmission and storage solutions. Established in 2005, with the registered capital of 50.4 million RMB, SAJ has a strong Research & Development and technical service team.

Focusing on the technical innovation, SAJ masters the leading technology of high performance frequency vector control, motion control, and photovoltaic power generation. SAJ has been awarded as National High-tech Enterprise, Intertek "Authorized Satellite Lab", Guangzhou "Little Giant" Enterprise of Science & Technology, Guangdong Solar Inverter Engineering & Technology Research Center and so on. So far, the company has been authorized 20 invention patents , 76 utility model patents, 15 exterior design patents, 25 software copyrights and 6 software product registrations.

SAJ specializes in providing professional distributed solar inverter, energy storage hybrid solar inverter and monitoring solution, general frequency drive, smart pump drive, and solar pumping system. Now regarding the total shipment, SAJ general frequency drive (<11kW) ranks Top 5, smart pump drive and solar pumping system as Top 1 in domestic market, meanwhile, SAJ solar inverters has been awarded the Top 10 solar inverter brand in China for last five consecutive years, and become the golden supplier of Belgium largest community solar project. For the residential solar inverter (1kW-10kw), SAJ monthly average shipment has become the Top 3 as the first choice for residential solar investment, so far, SAJ has provided distributed solar inverters & solutions for poverty alleviation projects from more than 18 provinces.

With the strategy of local service network, SAJ has 16 branch offices and 50 service centers in China, overseas service center has expanded to Germany, Switzerland, Belgium, Australia and other countries. With the superior quality and comprehensive service network, SAJ has successfully applied 1 million sets of products around the world.

Adhering to the concept of "integrity, learning, innovation, win-win cooperation", SAJ is devoted to the development of the leading drive & zero-carbon and energy saving technology, to build green, smart and efficient energy environment, to make lives better, happier, and healthier.



# Milestones

## 2017
- Released High PerformanceVM1000Vector Control VFD and PDG10 Smart Pump Drive
- Started HR Optimization Project With MERCER.
- Won “China Top 30 Science and Technology Innovation Pioneer” in the "Power of Role Model—Science and Technology Innovation Competition"
- SAJ eSolar Family Photovoltaic Academy Started National Tour from Foshan City
- Won SNEC "Top 10 Highlights" Golden Award of GW Level
- Won "2017 Asia Photovoltaic—Photovoltaic Application Award"
- Won the Honor of “China Top 10 Solar Inverter Enterprise " for 5 Consecutive Years
- SAJ Jiangxi Factory with an area of 22,000 m2 has been put into Production and its Annual Production Capacity is up to 3GW
- SAJ eSolar Shared Operation and Maintenance Platform (eSolar O&M) Launched Officially

## 2016年
- Wins Top 10 National Low Voltage AC Drive Brand
- Set up SAJ Jiangxi Daughter Company
- Signed Strategic Cooperative Agreement with TüV Rheinland
- The 4th time to win China Top 10 Solar Inverter Enterprise(2016)
- Total 1000,000 AC Drive Released Since Established

## 2015
- Wins guangdong solar inverter engineering&technology research center
- Wins 2015 excellent supplier of string inverter
- Wins 2015 china top 10 solar inverter enterprise
- Wins 2015 top 10 solar innovation enterprises in asia
- Release pdm20 smart mini pump drive
- Passed the ohsas18001 occupational health and safety managementsystem certification
- Wins guangzhou little giant enterprises in science&technology

## 2014
- IEEE fellow, Chinese-American scientist Feng Lin introduced by Thousand Talents program joins SAJ
- Enters the field of water-application drive; launches IP54 water and dust proof 8200B series smart pump drive
- Passes ISO14001¨ 2004 Environment Management System Certification
- Becomes the top 1 brand of smart pump drive industry in China Releases PDS23 high performance AC solar pump controller and entire solutions

## 2013
- Ranks in top 20 companies for patent creator in Guangzhou development zone
- Sets up European daughter company in Belgium to execute local managing strategy
- SAJ’s solar inverters are widely reported by CCTV news
- Wins 2013 innovation award on photovoltaic product

## 2012
- Releases the enhanced variable frequency drive 8000B
- Successfully rolls out the 500,000th set of variable frequency drive
- The first phase construction of SAJ Hi-TECH Park officially starts with annual production capacity increased to 300,000 sets and a total investment of 35 million RMB;

**500 thousand sets**

## 2011
- Starts using the new ERP system
- Obtains "software production" certificate of Guangdong
- Obtains "Enterprise of good faith and credit (grade A)
- Sets up SAJ Renewable Business, entering solar inverter industry
- Establishes the research and innovation base for graduate students in South China University of Technology
- Obtains Intertek "authorized satellite lab"
- Obtains German TUV, Australian SAA, and UK G83 certificate

## 2010
- Heads for servo drives with its successful application to injection molding machine
- Obtains "2010-2011 the best growth brand of Chinese automation"
- Successfully breaks through the vector control platform
- Establishes variable frequency drive engineering research center of Harbin Institute of Technology
- Passes ISO9001:2008 international quality system certification

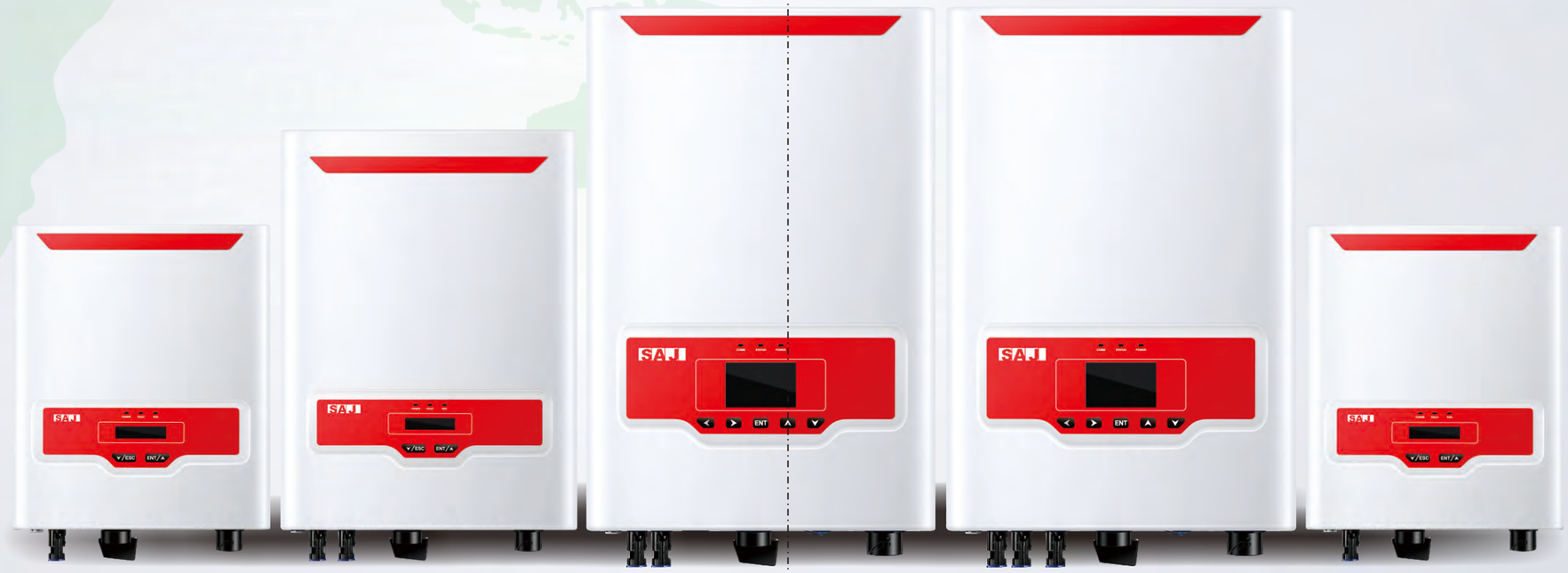
## 2009
- Obtains Private Science & Technology Enterprise Certificate
- Obtains National Hi-Tech Enterprise Certificate
- Obtains independent Import/Export License
- Moves to and headquartered in Science City,Guangzhou High-tech Zone

## 2007
- Builds the most cost-effective brand in industrial automation
- Launches 8000 series variable frequency drive

## 2005
- Enters the field of industrial automation
- Determines variable frequency drives as the core business
- Founded in Guangzhou, Guangdong Province

# 25-YEAR PROFIT MAXIMIZER

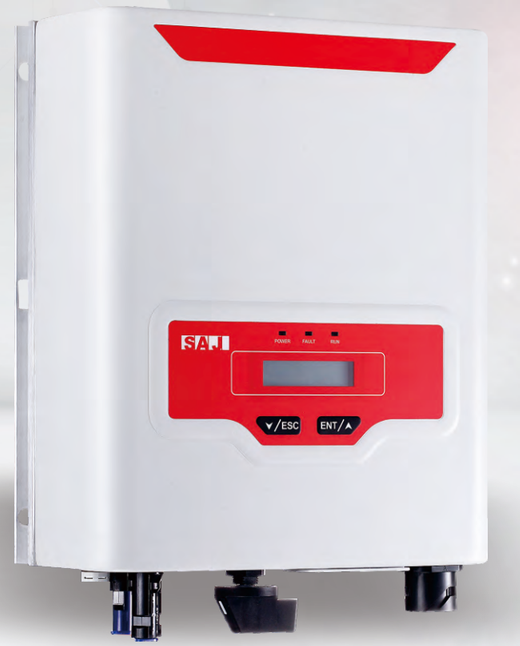
**SAJ Plus Series Residential PV Inverter**



Sununo Plus 1K/1.5K/2K/2.5K/3K/3.6K； Sununo Plus 3K-M/4K-M/5K-M/6K-M； Suntrio Plus 4K/5K/6K/8K/10K

# On-grid Single Phase Inverter

## Sununo Plus 1K/1.5K




## BENEFITS

### Flexible and Efficient

- Optimized global MPPT algorithm, MPPT efficiency higher than 99.5%
- Max. efficiency of 97.2%, European efficiency of 96.7%
- Super wide input voltage range(50V-450V), supporting system with a minimum of 3 solar panels
- With reduced derating under high temperature, the generating capacity is improved

### Convenient Installation

- Transformerless, smaller and lighter up to 5.6kg
- AC output quick connector design, for faster installation

### Smart and Easy to Use

- One-button safety setting, easy configuration of all parameters
- Built-in independent RTC chip, supporting data storage of 25 years
- Integrated RS232 / Wi-Fi interfaces, for improved communication
- Free monitoring anytime anywhere
- Local and remote intelligent maintenance by PC, IOS and Android devices
- Responds to power grid dispatching, energy management of micro-grids

### Safe and Reliable

- IP65 protection for indoor and outdoor installation
- Aluminum case design to enhance heat dissipation and prevent rust corrosion, prolong life time
- Optional built-in high voltage DC switch for safer maintenance and application
- Natural convection for longer life

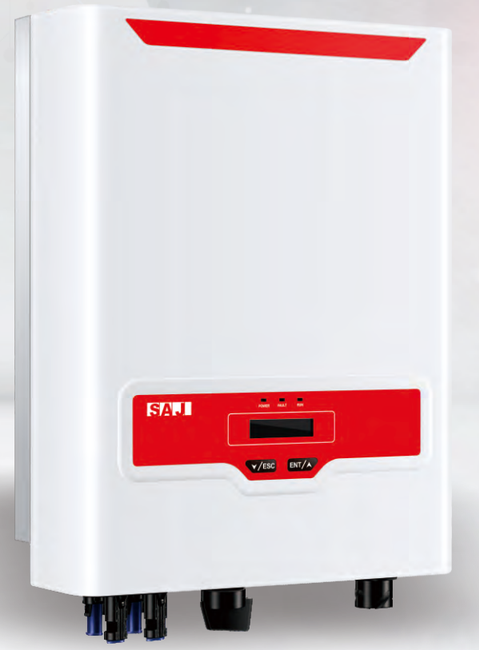
# Technical Data

## Sununo Plus 1K/1.5K

| Type | Sununo Plus 1K | Sununo Plus 1.5K |
|---|---|---|
| Input (DC) | | |
| Max. DC Power [W] | 1200 | 1800 |
| Max. DC Voltage [V] | 450 | |
| MPPT Voltage range [V] | 60-425 | |
| Nominal DC Voltage [V] | 360 | |
| Start Voltage [V] | 70 | |
| Min. DC Voltage [V] | 50 | |
| Max. DC Input Current [A] | 11 | |
| Number of DC Connection Sets per MPPT | 1 | |
| Number of MPPT | 1 | |
| DC Switch | optional | |
| Output (AC) | | |
| Rated AC Power [W] | 1000 | 1500 |
| Max. AC Power [W] | 1100 | 1650 |
| Rated AC Current [A] | 4.3 | 6.5 |
| Max. AC Current [A] | 5.3 | 7.9 |
| Nominal AC voltage/ range | 220V, 230V, 240V/180V-280V | |
| Grid frequency/ range | 50Hz, 60Hz/±5Hz | |
| Power factor [cos φ] | >0.99 [full load] | |
| Total Harmonic Distortion [THDi] | < 3% | |
| Feed-in | 1L+N+PE | |
| Efficiency | | |
| Max. Efficiency | 97.1% | 97.2% |
| Euro Efficiency [at 360Vdc] | 96.6% | 96.7% |
| MPPT Accuracy | >99.5% | |
| Protection | | |
| Internal Over-voltage Protection | Integrated | |
| DC Insulation Monitoring | Integrated | |
| DCI Monitoring | Integrated | |
| GFCI Monitoring | Integrated | |
| Grid Monitoring | Integrated | |
| AC Short Circuit Current Protection | Integrated | |
| Thermal Protection | Integrated | |
| Anti-island protection monitoring | AFD | |
| Interface | | |
| AC Connection | Plug-in connector | |
| DC Connection | MC4/H4 | |
| LCD / LED Display | LCD ( 16x2 Characters, Backlight ) / LED ( 3 Lights ) | |
| Display Language | English | |
| Datalogger & Communication | RS232 ( Standard ) / Wi-Fi ( Optional ) | |
| General Data | | |
| Topology | Transformerless | |
| Consumption at Night [W] | <0.2 | |
| Consumption at Standby [W] | 6 | |
| Operating Temperature Range | -25°C to +60°C ( 45°C to 60°C with derating ) | |
| Cooling Method | Natural Convection | |
| Ambient Humidity | 0% to 100% Non-condensing | |
| Altitude | Up to 2000m (without derating) | |
| Noise [dBA] | <15 | |
| Ingress Protection | IP65 ( Indoor & Outdoor Installation ) | |
| Mounting | Rear Panel | |
| Dimensions (H*W*D) [mm] | 315*260*120 | |
| Net Weight [kg] | 5.6 | |
| Standard Warranty [Year] | 5 ( Standard ) / 10 / 15 / 20 / 25 ( Optional ) | |
| Certificates | IEC62109-1/2, IEC61000-6-2/3, IEC61683, IEC60068-2, IEC62116,IEC61717, PEA/MEA, NRS 097-2-1, UTE-C-15-712-1, VDE0126-1-1/A1, VDE-AR-N 4105, AS4777.2, AS4777.3, C-TICK, CQC NB/T 32004, G83-2, NBR 16149, NBR 16150, TF 3.2.1, C10/11 | |

# On-grid Single Phase Inverter

## Sununo Plus 2K/2.5K/3K/3.6K




## BENEFITS

### Flexible and Efficient

- Optimized global MPPT algorithm, MPPT efficiency higher than 99.5%
- Max. efficiency of 97.6%, European efficiency of 97.1%
- Super wide input voltage range(50V-500V/550V), supporting system with a minimum of 3 solar panels
- With reduced derating under high temperature, the generating capacity is improved

### Convenient Installation

- Transformerless, smaller and lighter up to 7.8kg
- AC output quick connector design, for faster installation

### Smart and Easy to Use

- One-button safety setting, easy configuration of all parameters
- Built-in independent RTC chip, supporting data storage of 25 years
- Integrated RS232 / Wi-Fi interfaces, for improved communication
- Free monitoring anytime anywhere
- Local and remote intelligent maintenance by PC, IOS and Android devices
- Responds to power grid dispatching, energy management of micro-grids

### Safe and Reliable

- IP65 protection for indoor and outdoor installation
- Aluminum case design to enhance heat dissipation and prevent rust corrosion, prolong life time
- Optional built-in high voltage DC switch for safer maintenance and application
- Natural convection for longer life

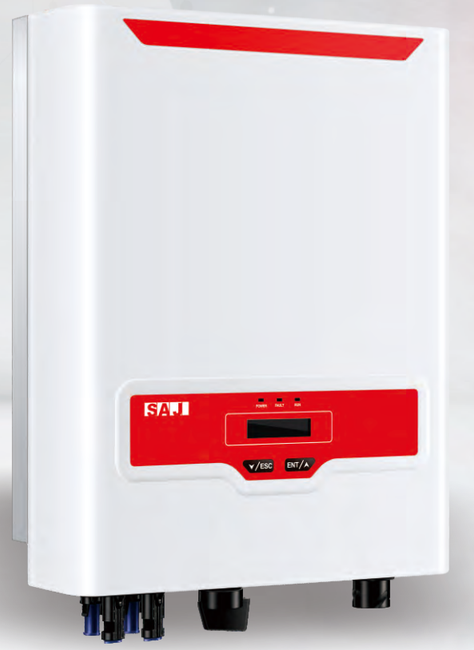
# Technical Data

## Sununo Plus 2K/2.5K/3K/3.6K

| Type | Sununo Plus 2K | Sununo Plus 2.5K | Sununo Plus 3K | Sununo Plus 3.6K |
|---|---|---|---|---|
| Input (DC) | | | | |
| Max. DC Power [W] | 2400 | 3000 | 3630 | 3990 |
| Max. DC Voltage [V] | 500 | 500 | 550 | 600 |
| MPPT Voltage range [V] | 60-450 | 60-450 | 60-500 | 60-500 |
| Nominal DC Voltage [V] | 360 | | | |
| Start Voltage [V] | 70 | | | |
| Min. DC Voltage [V] | 50 | | | |
| Max. DC Input Current [A] | 11 | | | |
| Number of DC Connection Sets per MPPT | 1 | | | |
| Number of MPPT | 1 | | | |
| DC Switch | optional | | | |
| Output (AC) | | | | |
| Rated AC Power [W] | 2000 | 2500 | 3000 | 3680 |
| Max. AC Power [W] | 2200 | 2750 | 3300 | 3680 |
| Rated AC Current [A] | 8.7 | 10.9 | 13.0 | 16.0 |
| Max. AC Current [A] | 10.6 | 13.3 | 15.9 | 17.6 |
| Nominal AC voltage/ range | 220V, 230V, 240V/180V-280V | | | |
| Grid frequency/ range | 50Hz, 60Hz/±5Hz | | | |
| Power factor [cos φ] | >0.99 [full load] | | | |
| Total Harmonic Distortion [THDi] | < 3% | | | |
| Feed-in | 1L+N+PE | | | |
| Efficiency | | | | |
| Max. Efficiency | 97.4% | 97.5% | 97.6% | 97.6% |
| Euro Efficiency [at 360Vdc] | 96.9% | 97.0% | 97.1% | 97.1% |
| MPPT Accuracy | >99.5% | | | |
| Protection | | | | |
| Internal Over-voltage Protection | Integrated | | | |
| DC Insulation Monitoring | Integrated | | | |
| DCI Monitoring | Integrated | | | |
| GFCI Monitoring | Integrated | | | |
| Grid Monitoring | Integrated | | | |
| AC Short Circuit Current Protection | Integrated | | | |
| Thermal Protection | Integrated | | | |
| Anti-island protection monitoring | AFD | | | |
| Interface | | | | |
| AC Connection | Plug-in connector | | | |
| DC Connection | MC4/H4 | | | |
| LCD / LED Display | LCD ( 16x2 Characters, Backlight ) / LED ( 3 Lights ) | | | |
| Display Language | English | | | |
| Datalogger & Communication | RS232 ( Standard ) / Wi-Fi ( Optional ) | | | |
| General Data | | | | |
| Topology | Transformerless | | | |
| Consumption at Night [W] | <0.2 | | | |
| Consumption at Standby [W] | 6 | | | |
| Operating Temperature Range | -25°C to +60°C ( 45°C to 60°C with derating ) | | | |
| Cooling Method | Natural Convection | | | |
| Ambient Humidity | 0% to 100% Non-condensing | | | |
| Altitude | Up to 2000m (without derating) | | | |
| Noise [dBA] | <25 | | | |
| Ingress Protection | IP65 ( Indoor & Outdoor Installation ) | | | |
| Mounting | Rear Panel | | | |
| Dimensions (H*W*D) [mm] | 354*305*120 | | | |
| Net Weight [kg] | 7.8 | 8.3 | 8.4 | 8.4 |
| Standard Warranty [Year] | 5 ( Standard ) / 10 / 15 / 20 / 25 ( Optional ) | | | |
| Certificates | IEC62109-1/2, IEC61000-6-2/3, IEC61683, IEC60068-2, IEC62116, IEC61717, PEA/MEA, NRS 097-2-1, UTE-C-15-712-1,VDE0126-1-1/A1, VDE-AR-N 4105, AS4777.2, AS4777.3, C-TICK, CQC NB/T 32004, G83-2, NBR 16149, NBR 16150, TF 3.2.1, C10/11 | | | |

# On-grid Single Phase Inverter

## Sununo Plus 3K-M/4K-M/5K-M/6K-M




## BENEFITS

### Flexible and Efficient

- Optimized global MPPT algorithm, MPPT efficiency higher than 99.5%
- Asymmetric dual MPPT that are compatible with all types of solar arrays
- Max. efficiency of 97.6%, European efficiency of 97.2%
- Super wide input voltage range(80V-600V), supporting various solar panels and string designs
- With reduced derating under high temperature, the generating capacity is improved

### Convenient Installation

- Transformerless, smaller and lighter
- AC output quick connector design, for faster installation
- Specialized mounting design, easy to install

### Smart and Easy to Use

- One-button safety setting, easy configuration of all parameters
- Built-in independent RTC chip, supporting data storage of 25 years
- Integrated RS232 / Wi-Fi interfaces, for improved communication
- Free monitoring anytime anywhere
- Local and remote intelligent maintenance by PC, IOS and Android devices
- Responds to power grid dispatching, energy management of micro-grids
- Integrated with the function of reactive adjusting

### Safe and Reliable

- IP65 protection for indoor and outdoor installation
- Aluminum case design to enhance heat dissipation and prevent rust corrosion, prolong life time
- Optional built-in high voltage DC switch for safer maintenance and application
- Natural convection for longer life

# Technical Data

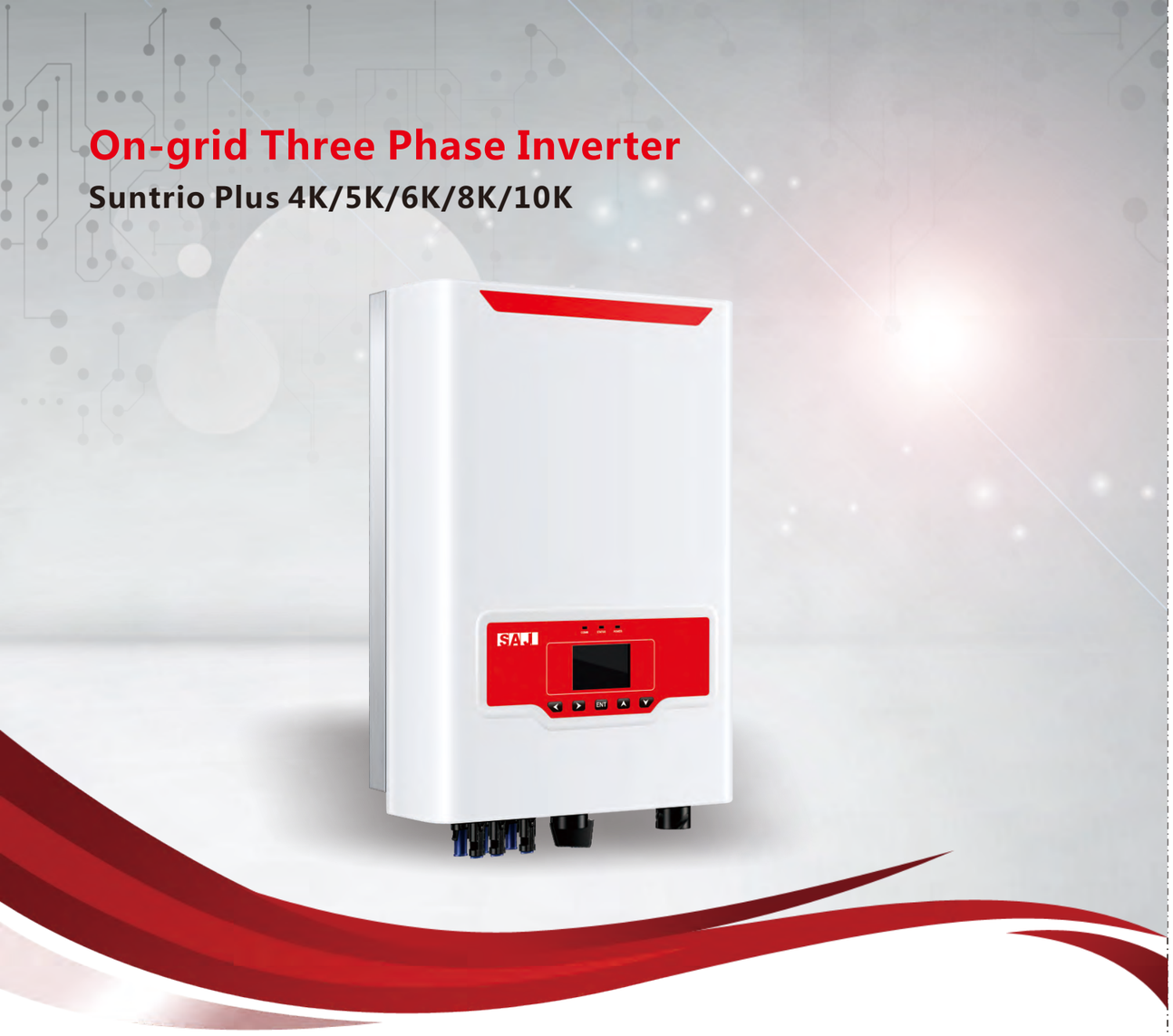
## Sununo Plus 3K-M/4K-M/5K-M/6K-M

| Type | Sununo Plus 3K-M | Sununo Plus 4K-M | Sununo Plus 5K-M | Sununo Plus 6K-M |
|---|---|---|---|---|
| Input (DC) | | | | |
| Max. DC Power [W] | 3630 | 4840 | 6050 | 6600 |
| Max. DC Voltage [V] | 600 | | | |
| MPPT Voltage range [V] | 90-550 | | | |
| Nominal DC Voltage [V] | 360 | | | |
| Start Voltage [V] | 100 | | | |
| Min. DC Voltage [V] | 80 | | | |
| Max. DC Input Current PV1 / PV2 [A] | 11/11 | | | |
| Number of DC Connection Sets per MPPT | 1/1 | | | |
| Number of MPPT | 2 | | | |
| DC Switch | Optional | | | |
| Output (AC) | | | | |
| Rated AC Power [VA] (@230V,50Hz) | 3000 | 3680[1]/4000 | 4600[2]/5000 | 6000 |
| Max. AC Power [W] | 3300 | 3680/4400 | 4600/5500 | 6000 |
| Rated AC Current [A] | 13.0 | 16.0/17.4 | 20.0/21.7 | 26.1 |
| Max. AC Current [A] | 15.9 | 16.0/21.0 | 22.2/26.7 | 28.7 |
| Nominal AC voltage/ range | 220V, 230V, 240V/180V-280V | | | |
| Grid frequency/ range | 50Hz, 60Hz/±5Hz | | | |
| Power factor [cos φ] | >0.99 [full load] | 0.9 leading~0.9 lagging | | |
| Total Harmonic Distortion [THDi] | < 3% | | | |
| Feed-in | 1L+N+PE | | | |
| Efficiency | | | | |
| Max. Efficiency | 97.4% | 97.5% | 97.6% | 97.9% |
| Euro Efficiency [at 360Vdc] | 97.0% | 97.1% | 97.2% | 97.5% |
| MPPT Accuracy | >99.5% | | | |
| Protection | | | | |
| Internal Over-voltage Protection | Integrated | | | |
| DC Insulation Monitoring | Integrated | | | |
| DCI Monitoring | Integrated | | | |
| GFCI Monitoring | Integrated | | | |
| Grid Monitoring | Integrated | | | |
| AC Short Circuit Current Protection | Integrated | | | |
| Thermal Protection | Integrated | | | |
| Anti-island protection monitoring | AFD | | | |
| Interface | | | | |
| AC Connection | Plug-in connector | | | |
| DC Connection | MC4/H4 | | | |
| LCD / LED Display | LCD ( 16x2 Characters, Backlight ) / LED ( 3 Lights ) | | | |
| Display Language | English | | | |
| Datalogger & Communication | RS232 ( Standard ) / Wi-Fi ( Optional ) | | | |
| General Data | | | | |
| Topology | Transformerless | | | |
| Consumption at Night [W] | <0.2 | | | |
| Consumption at Standby [W] | 6 | | | |
| Operating Temperature Range | -25°C to +60°C ( 45°C to 60°C with derating ) | | | |
| Cooling Method | Natural Convection | | | |
| Ambient Humidity | 0% to 100% Non-condensing | | | |
| Altitude | Up to 2000m (without derating) | | | |
| Noise [dBA] | <25 | | | |
| Ingress Protection | IP65 ( Indoor & Outdoor Installation ) | | | |
| Mounting | Rear Panel | | | |
| Dimensions (H*W*D) [mm] | 454*355*150 | | | 454*355*162 |
| Net Weight [kg] | 14.8 | | | |
| Warranty [Year] | 5 ( Standard ) / 10 / 15 / 20 / 25 ( Optional ) | | | |
| Certificates | IEC62109-1/2, IEC61000-6-2/3, IEC61683, IEC60068-2, IEC62116, IEC61717, PEA/MEA, NRS 097-2-1, UTE-C-15-712-1,VDE0126-1-1/A1, VDE-AR-N 4105, AS4777.2, AS4777.3, C-TICK, CQC NB/T 32004, G83-2, NBR 16149, NBR 16150, TF 3.2.1, C10/11 | | | |

Remarks: 1. Meet the grid standard that AC current per phase not exceeding 16A.
2. Meet the VDE-ARN-N 4105 that biggest apparent power of single-phase is 4600 VA.

# On-grid Three Phase Inverter

## Suntrio Plus 4K/5K/6K/8K/10K




## BENEFITS

### Flexible and Efficient

- Optimized global MPPT algorithm, MPPT efficiency higher than 99.5%
- Asymmetric dual MPPT which are compatible to all kinds of solar roofs
- Max. efficiency of 98.0%, European efficiency of 97.6%
- Super wide input voltage range(150V-1000V), supporting various solar panels and string designs
- With reduced derating under high temperature, the generating capacity is improved

### Convenient Installation

- Transformerless, smaller and lighter
- AC output quick connector design, for faster installation
- Specialized mounting design, easy to install

### Smart and Easy to Use

- One-button safety setting, easy configuration of all parameters
- Built-in independent RTC chip, supporting data storage of 25 years
- Integrated LCD graphical display, showing daily/monthly/yearly generation
- Integrated RS232 / Wi-Fi interfaces, for improved communication
- Free monitoring anytime anywhere
- Local and remote intelligent maintenance by PC, IOS and Android devices
- Responds to power grid dispatching, energy management of micro-grids
- Integrated with the function of reactive adjusting

### Safe and Reliable

- IP65 protection for indoor and outdoor installation
- Aluminum case design to enhance heat dissipation and prevent rust corrosion, prolong life time
- Built-in high voltage DC switch for safer maintenance and application
- Built-in convective fans to lower the temperature of core components, prolong life time
- Natural convection for longer life

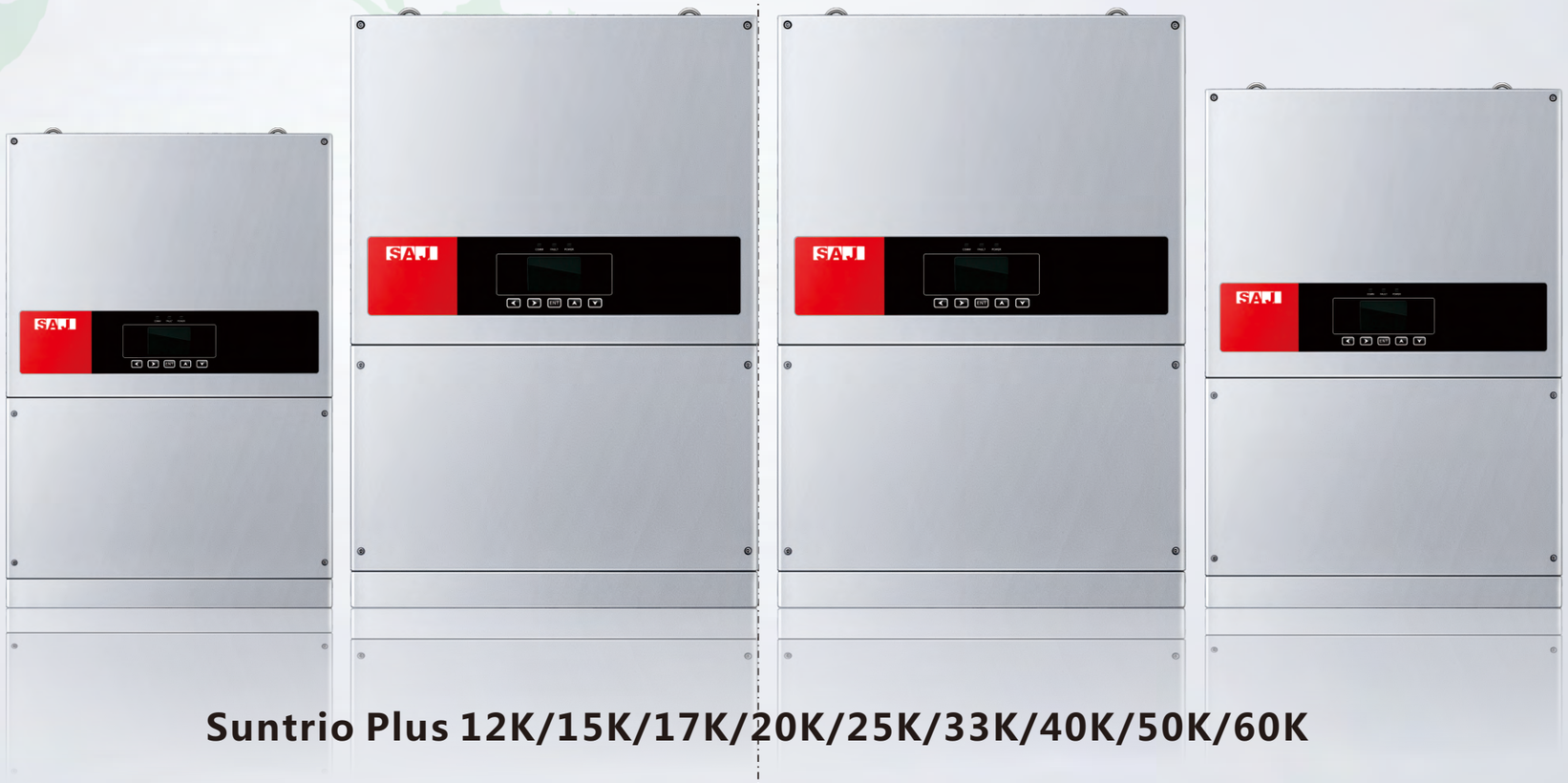
# Technical Data

## Suntrio Plus 4K/5K/6K/8K/10K

| Type | Suntrio Plus 4K | Suntrio Plus 5K | Suntrio Plus 6K | Suntrio Plus 8K | Suntrio Plus 10K |
|---|---|---|---|---|---|
| Input (DC) | | | | | |
| Max. DC Power [W] | 4840 | 6050 | 7260 | 9680 | 11000 |
| Max. DC Voltage [V] | 1000 | | | | |
| MPPT Voltage Range [V] | 160-900 | | | | |
| Nominal DC Voltage [V] | 600 | | | | |
| Start Voltage [V] | 180 | | | | |
| Min. DC Voltage [V] | 150 | | | | |
| Max. DC Input Current PV1 / PV2 [A] | 11/11 | | | 22/11 | |
| Number of MPPT | 2 | | | | |
| Number of DC Connection Sets per MPPT | 1/1 | | | 2/1 | |
| DC Switch | Integrated | | | | |
| Output (AC) | | | | | |
| Rated AC Power [VA] (@230V,50Hz) | 4000 | 5000 | 6000 | 8000 | 10000 |
| Max. AC Power [W] | 4400 | 5500 | 6600 | 8800 | 10000 |
| Rated AC Current [A] | 5.8 | 7.2 | 8.7 | 11.6 | 14.5 |
| Max. AC Current [A] | 7.0 | 8.8 | 10.5 | 14.1 | 16.1 |
| Nominal AC Voltage / Range | 3/N/PE, 220/380V, 230/400V, 240/415V; 180V-280V/312V-485V | | | | |
| Grid frequency / Range | 50Hz, 60Hz / 44Hz-55Hz, 54-65Hz | | | | |
| Power factor, Adjustable [cos φ] | 0.9 leading~0.9 lagging | | | | |
| Total Harmonic Distortion [THDi] | < 3% ( at nominal power ) | | | | |
| Feed-in | 3L+N+PE | | | | |
| Efficiency | | | | | |
| Max. Efficiency | 97.8% | 97.8% | 97.8% | 98.0% | 98.0% |
| Euro Efficiency (at 600Vdc) | 97.0% | 97.2% | 97.4% | 97.5% | 97.6% |
| MPPT Accuracy | >99.5% | | | | |
| Protection | | | | | |
| Internal Over-voltage Protection | Integrated | | | | |
| DC Insulation Monitoring | Integrated | | | | |
| DCI Monitoring | Integrated | | | | |
| GFCI Monitoring | Integrated | | | | |
| Grid Monitoring | Integrated | | | | |
| AC Short Circuit Current Protection | Integrated | | | | |
| Thermal Protection | Integrated | | | | |
| Anti-island protection monitoring | AFD | | | | |
| Interface | | | | | |
| DC Connection | MC4/H4 | | | | |
| AC Connection | Plug-in connector | | | | |
| LCD Display | 3.5 inch Graphic LCD Display, Backlight, Inverter Parameter and Data Display | | | | |
| Display Language | English | | | | |
| Datalogger & Communication | 1*RS485 / 1*RS232 / Wi-Fi ( Optional ) | | | | |
| General Data | | | | | |
| Topology" | Transformerless | | | | |
| Consumption at Night [W] | <0.6 | | | | |
| Consumption at Standby [W] | <10 | | | | |
| Operating Temperature Range | -25°C to +60°C ( 45°C to 60°C with derating ) | | | | |
| Cooling Method | Natural Convection | | | | |
| Ambient Humidity | 0% to 100% Non-condensing | | | | |
| Altitude | Up to 2000m (without power derating) | | | | |
| Noise [dBA] | <29 | | | | |
| Ingress Protection | IP65 ( Indoor & Outdoor Installation ) | | | | |
| Mounting | Rear Panel | | | | |
| Dimensions (H*W*D) [mm] | 530*355*190 | | | 530*355*200 | |
| Net Weight [kg] | 20.5 | | | 23.0 | |
| Standard Warranty [Year] | 5 ( Standard ) / 10 / 15 / 20 / 25 ( Optional ) | | | | |
| Certificates | IEC62109-1/2, IEC61000-6-2/3, IEC61683, IEC60068-2, IEC62116, IEC61717, PEA/MEA, NRS 097-2-1, UTE-C-15-712-1,VDE0126-1-1/A1, VDE-AR-N 4105, AS4777.2, AS4777.3, C-TICK, CQC NB/T 32004, G83-2, NBR 16149, NBR 16150, TF 3.2.1, C10/11 | | | | |

# 25-YEAR PROFIT MAXIMIZER

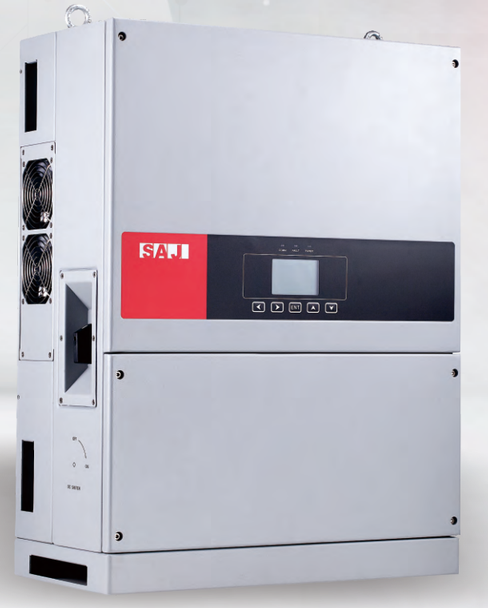
## SAJ Plus Series Commercial PV Inverter



**Suntrio Plus 12K/15K/17K/20K/25K/33K/40K/50K/60K**

# On-grid Three Phase Inverter

## Suntrio Plus 12K/15K/17K/20K




Dual MPPT

## BENEFITS

### Flexible and Efficient

- Optimized global MPPT algorithm, MPPT efficiency higher than 99.5%
- Dual MPPT which are compatible to all kinds of solar roofs
- Max. efficiency of 98.5%, European efficiency of 98.2%
- Super wide input voltage range(180V-1000V), supporting various solar panels and string designs

### Convenient Installation

- Aluminum case design, smaller and lighter
- Integrate DC combiner box, reduce system cost
- Separate area for maintenance, easy and quick for repair

### Smart and Easy to Use

- One-button safety setting, easy configuration of all parameters
- Built-in independent RTC chip, supporting data storage of 25 years
- Integrated LCD graphical display, showing daily/monthly/yearly generation
- Integrated with the function of reactive power control & ZVRT, responds to power grid dispatching, energy management of grid
- Integrate string current monitoring, monitor string working status

### Safe and Reliable

- IP65 protection for indoor and outdoor installation
- Optional DC&AC surge protection, guarantee system safety
- Optional Anti-PID module, protect panels from PID damage
- Aluminum case design to enhance heat dissipation and resist rust corrosion, prolong life time

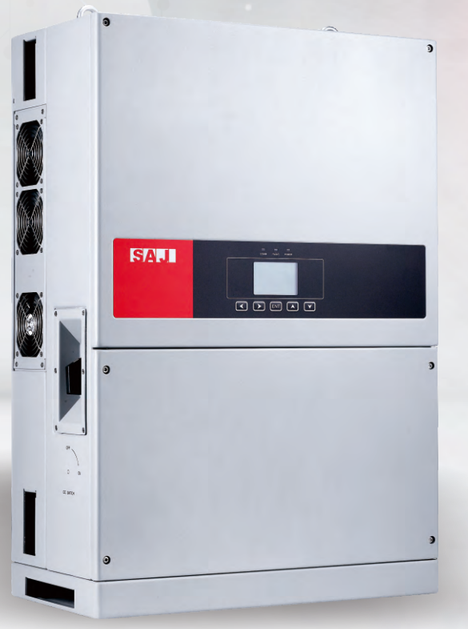
# Technical Data

## Suntrio Plus 12K/15K/17K/20K

| Type | Suntrio Plus 12K | Suntrio Plus 15K | Suntrio Plus 17K | Suntrio Plus 20K |
|---|---|---|---|---|
| Input (DC) | | | | |
| Max. DC Power [W] | 14520 | 18150 | 20570 | 24200 |
| Max. DC Voltage [V] | 1000 | | | |
| MPPT Voltage Range [V] | 180-900 | | | |
| Nominal DC Voltage [V] | 600 | | | |
| Start Voltage [V] | 200 | | | |
| Min. DC Voltage [V] | 180 | | | |
| Max. DC Input Current PV1 / PV2 [A] | 22/11 | 22/22 | 22/22 | 22/22 |
| Number of MPPT | 2 | | | |
| Number of DC Connection Sets per MPPT | 2/1 | 2/2 | 2/2 | 2/2 |
| DC Switch | Integrated | | | |
| Output (AC) | | | | |
| Rated AC Power [W](@230V,50Hz) | 12000 | 15000 | 17000 | 20000 |
| Max. AC Power [W] | 13200 | 16500 | 18700 | 22000 |
| Rated AC Current [A] | 18.2 | 22.7 | 25.8 | 30.3 |
| Max. AC Current [A] | 20.0 | 25.0 | 28.3 | 33.0 |
| Nominal AC voltage/ range | 3/N/PE, 220/380V, 230/400V, 240/415V; 180V-280V/312V-485V | | | |
| Grid frequency / range | 50Hz, 60Hz / 44Hz-55Hz, 54-65Hz | | | |
| Power factor,adjustable[cos φ] | 0.8 leading~0.8 lagging | | | |
| Total Harmonic Distortion (THDi) | < 3% ( at nominal power ) | | | |
| Feed-in | 3L+N+PE | | | |
| Efficiency | | | | |
| Max. Efficiency | 98.3% | 98.4% | 98.5% | 98.5% |
| Euro Efficiency (@ 600Vdc) | 98.0% | 98.1% | 98.2% | 98.2% |
| MPPT Accuracy | >99.5% | | | |
| Protection | | | | |
| Internal Over-voltage Protection | Integrated | | | |
| DC Insulation Monitoring | Integrated | | | |
| DCI Monitoring | Integrated | | | |
| GFCI Monitoring | Integrated | | | |
| Grid Monitoring | Integrated | | | |
| AC Short Circuit Current Protection | Integrated | | | |
| LVRT | Integrated | | | |
| Thermal Protection | Integrated | | | |
| AC Surge Protection | Ⅲ (Integrated) , Ⅱ ( Optional ) | | | |
| String Current Monitoring | Integrated | | | |
| Anti-PID Module | Optional | | | |
| DC Surge Protection | Ⅱ ( Optional ) | | | |
| DC Fuse | Optional | | | |
| Anti-island protection monitoring | AFD | | | |
| Interface | | | | |
| DC Connection | MC4/H4 | | | |
| AC Connection | Terminal Block | | | |
| LCD & LED Display | 3.5 inch Graphic LCD Display, Backlight | | | |
| Display Language | English | | | |
| Communication port | 2*RS485+1*RS232 | | | |
| Communication | Wi-Fi/GPRS/Ethernet ( Optional ) | | | |
| General Data | | | | |
| Topology | Transformerless | | | |
| Consumption at Night [W] | <0.6 | | | |
| Consumption at Standby [W] | <10 | | | |
| Operating Temperature Range | -25°C to +60°C ( 45°C to 60°C with derating ) | | | |
| Cooling Method | Intelligent fan | | | |
| Ambient Humidity | 0% to 100% Non-condensing | | | |
| Altitude | 3000m ( >2000m power derating ) | | | |
| Noise [dBA] | <35 | | | |
| Ingress Protection | IP65 ( Indoor & Outdoor Installation ) | | | |
| Mounting | Rear Panel | | | |
| Dimensions (H*W*D) [mm] | 640*450*232 | | | |
| Weight [kg] | 29 | | 33 | |
| Standard Warranty [Year] | 5 ( Standard ) / 10 / 15 / 20 / 25 ( Optional ) | | | |
| Certificates | IEC62109-1/2, IEC61000-6-2/3, IEC61683,IEC60068-2,IEC62116,IEC61717,PEA/MEA,NRS 097-2-1, UTE-C-15-712-1,VDE0126-1-1/A1, VDE-AR-N 4105, AS4777.2,AS4777.3,C-TICK,CQC NB/T 32004, G83-2,G59-3,NBR 16149,NBR 16150,TF 3.2.1 | | | |

# On-grid Three Phase Inverter

## Suntrio Plus 25K/33K/40K/50K/60K



Three MPPT

## BENEFITS

### Flexible and Efficient

- Optimized global MPPT algorithm, MPPT efficiency higher than 99.5%
- Three MPPT which are compatible to all kinds of solar roofs
- Max. efficiency of 98.8%, European efficiency of 98.5%
- Super wide input voltage range(180V-1000V), supporting various solar panels and string designs

### Convenient Installation

- Aluminum case design, smaller and lighter
- Integrate DC combiner box, reduce system cost
- Separate area for maintenance, easy and quick for repair

### Smart and Easy to Use

- One-button safety setting, easy configuration of all parameters
- Built-in independent RTC chip, supporting data storage of 25 years
- Integrated LCD graphical display, showing daily/monthly/yearly generation
- Integrated with the function of reactive power control & ZVRT, responds to power grid dispatching, energy management of grid
- Integrate string current monitoring, monitor string working status

### Safe and Reliable

- IP65 protection for indoor and outdoor installation
- Optional DC&AC surge protection, guarantee system safety
- Optional Anti-PID module, protect panels from PID damage
- Aluminum case design to enhance heat dissipation and resist rust corrosion, prolong life time

# Technical Data

## Suntrio Plus 25K/33K/40K/50K/60K

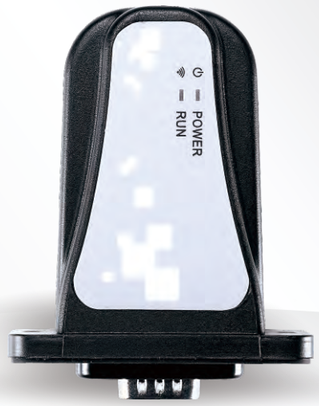
| Type | Suntrio Plus 25K | Suntrio Plus 33K | Suntrio Plus 40K | Suntrio Plus 50K | Suntrio Plus 60K |
|---|---|---|---|---|---|
| Input (DC) | | | | | |
| Max. DC Power [W] | 30300 | 36300 | 48400 | 60500 | 66000 |
| Max. DC Voltage [V] | 1000 | | | | |
| MPPT Voltage Range [V] | 180-900 | | 280-900 | | |
| Nominal DC Voltage [V] | 600 | | | | |
| Start Voltage[V] | 200 | | 300 | | |
| Min. DC Voltage[V] | 180 | | 250 | | |
| Max. DC Input Current PV1 / PV2 [A] | 22/22/22 | | 40/30/30 | | 40/40/40 |
| Number of MPPT | 3 | | | | |
| Number of DC Connection Sets per MPPT | 2/2/2 | | 4/3/3 | | 4/4/4 |
| DC Switch | Integrated | | | | |
| Output (AC) | | | | | |
| Rated AC Power [W](@230V,50Hz) | 25000 | 30000 | 40000 | 50000 | 60000 |
| Max. AC Power [W] | 27500 | 33000 | 44000 | 55000 | 60000 |
| Rated AC Current [A] | 37.9 | 45.5 | 61.0 | 76.0 | 87.0 |
| Max. AC Current [A] | 42.0 | 50.0 | 65.0 | 80.0 | 90.0 |
| Nominal AC voltage/ range | 3/N/PE, 220/380V, 230/400V, 240/415V; 180V-280V/312V-485V | | | | |
| Grid frequency / range | 50Hz, 60Hz / 44Hz-55Hz, 54-65Hz | | | | |
| Power factor,adjustable [cos φ] | 0.8 leading~0.8 lagging | | | | |
| Total Harmonic Distortion (THDi) | < 3% ( at nominal power ) | | | | |
| Feed-in | 3L+N+PE | | | | |
| Efficiency | | | | | |
| Max. Efficiency | 98.6% | 98.8% | 98.8% | 98.8% | 98.9% |
| Euro Efficiency (@ 600Vdc) | 98.4% | 98.5% | 98.5% | 98.5% | 98.6% |
| MPPT Accuracy | >99.5% | | | | |
| Protection | | | | | |
| Internal Over-voltage Protection | Integrated | | | | |
| DC Insulation Monitoring | Integrated | | | | |
| DCI Monitoring | Integrated | | | | |
| GFCI Monitoring | Integrated | | | | |
| Grid Monitoring | Integrated | | | | |
| AC Short Circuit Current Protection | Integrated | | | | |
| LVRT | Integrated | | | | |
| Thermal Protection | Integrated | | | | |
| AC Surge Protection | Integrated (II) | | | | |
| String Current Monitoring | Integrated | | | | |
| Anti-PID Module | Optional | | | | |
| DC Surge Protection | Integrated (II) | | | | |
| DC Fuse | Optional | | | | |
| Anti-island protection monitoring | AFD | | | | |
| Interface | | | | | |
| DC Connection | MC4/H4 | | | | |
| AC Connection | Terminal Block | | | | |
| LCD & LED Display | 3.5 inch Graphic LCD Display | | | | |
| Display Language | English | | | | |
| Communication port | 2*RS485、1*RS232 | | | | |
| Communication | Wi-Fi/GPRS/Ethernet ( Optional ) | | | | |
| General Data | | | | | |
| Topology | Transformerless | | | | |
| Consumption at Night [W] | <0.6 | | | | |
| Consumption at Standby [W] | <10 | | | | |
| Operating Temperature Range | -25°C to +60°C ( 45°C to 60°C with derating ) | | | | |
| Cooling Method | Intelligent fan | | | | |
| Ambient Humidity | 0% to 100% Non-condensing | | | | |
| Altitude | 3000m ( >2000m power derating ) | | | | |
| Noise [dBA] | <35 | | | | |
| Ingress Protection | IP65 ( Indoor & Outdoor Installation ) | | | | |
| Mounting | Rear Panel | | | | |
| Dimensions (H*W*D) [mm] | 700*530*260 | | 800*550*280 | | |
| Weight [kg] | 48 | | 68 | | |
| Standard Warranty [Year] | 5 ( Standard ) / 10 / 15 / 20 / 25 ( Optional ) | | | | |
| Certificates | IEC62109-1/2, IEC61000-6-2/3, IEC61683,IEC60068-2,IEC62116,IEC61717,PEA/MEA,NRS 097-2-1, UTE-C-15-712-1,VDE0126-1-1/A1, VDE-AR-N 4105, AS4777.2,AS4777.3,C-TICK,CQC NB/T 32004, G83-2,G59-3,NBR 16149,NBR 16150,TF 3.2.1 | | | | |

# eSolar Portal

Android

iOS

# eSolar GPRS




Based on mobile operator
Stable & Reliable

Plug-in connection
Easy to maintain

1~10 years
data package optional

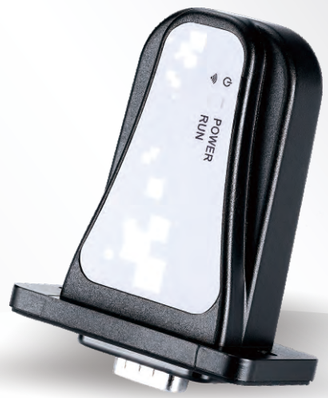
Support
online recharge

Support
remote control

## Datasheet

| General parameters | |
|---|---|
| Connecting inverters No. [set] | 1 |
| Inverter communication port | RS232 |
| Remote communication port | GPRS |
| Operating frequency [MHz] | 850/900/1800/1900 |
| Transmitted power | Class 4 ( 2W ) GSM850、EGSM900/Class 1(1W) DCS1800、PCS1900 |
| Data collection interval[min] | 1~30 [Optional]， 10 [Standard] |
| Firmware update method | Serial port / Remote |
| Access data method | Integrated webpage / Remote sever |
| Status display | 2*LED |
| **Electric parameter** | |
| Input Voltage | DC 5V (±3%) |
| Static consumption [W] | <1 |
| Max. instant consumption [W] | <8 |
| **Environment** | |
| Operating temperature range | -40℃~+85℃ |
| Storage temperature range | -45℃~+90℃ |
| Dimensions [H*W*D][mm] | 84*65*22 |
| Weight [g] | 80 |
| Ingress protection | IP65 |
| **Others** | |
| Mounting method | Plug-in+Screw lock |
| Warranty [Year] | 2[Standard] / 5[Optional] |

# eSolar Wi-Fi




Connect to home Wi-Fi
Conventient & efficient

Plug-in connection
Easy to maintain

Configurate
parameter quickly

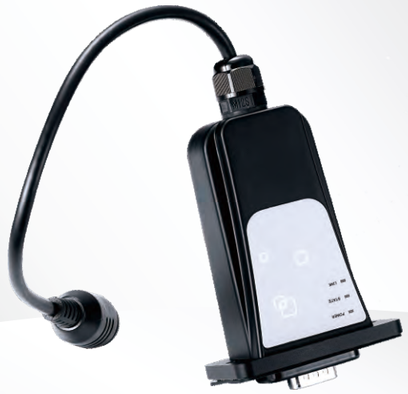
Read
data in real time

Support
remote control

## Datasheet

| General parameters | |
|---|---|
| Connecting inverters No. [set] | 1 |
| Inverter communication port | RS232 |
| Remote communication port | Wi-Fi |
| Operating frequency [GHz] | 2.4 |
| Transmitted power [W] | <0.5 |
| Communication distance [m] | 100 |
| Data collection interval [min] | 1~30 [Optional]， 10 [Standard] |
| Firmware update method | Serial port / Remote |
| Access data method | Integrated Webpage / Remote sever |
| Status display | 2*LED |
| **Electric parameter** | |
| Input voltage | DC 5V (±5%) |
| Static consumption [W] | <1 |
| Max. instant consumption [W] | <8 |
| **Environment** | |
| Operating temperature range | -40℃~+85℃ |
| Storage temperature range | -45℃~+90℃ |
| Dimensions [H*W*D][mm] | 84*65*22 |
| Weight [g] | 80 |
| Ingress protection | IP65 |
| **Others** | |
| Mounting method | Plug-in+Screw lock |
| Warranty [Year] | 2[Standard] / 5[Optional] |

# eSolar Ethernet



Connect with RJ45
Stable & simple

Plug and play
convenient & efficient

Read
data in real time

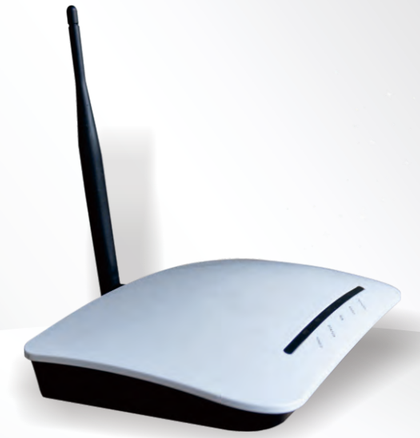
Waterproof RJ45
safe & reliable

Support
remote control

## Datasheet

| General parameters | |
|---|---|
| Connecting inverters No. [set] | 1 |
| Inverter communication port | RS232 |
| Remote communication port | Ethernet |
| Data collection interval[min] | 1~30[Optional] ， 10[standard] |
| Firmware update method | Serial port / Remote |
| Access data method | Integrated webpage / Remote sever |
| Status display | 3*LED |
| **Electric parameter** | |
| Input voltage | DC 5V (±5%) |
| Static consumption [W] | <0.6 |
| Max. instant consumption [W] | <2 |
| **Environment** | |
| Operating temperature range | -40℃~+85℃ |
| Storage temperature range | -45℃~+90℃ |
| Dimensions [H*W*D][mm] | 116*65*27 |
| Weight [g] | 84 |
| Ingress protection | IP65 |
| **Others** | |
| Mounting method | Plug-in+Screw lock |
| Warranty [Year] | 2[Standard] / 5[Optional] |

# eSolar Logger



Monitor
multiple inverters

Support
multi-level network

Wi-Fi/GPRS/Ethernet
Communication

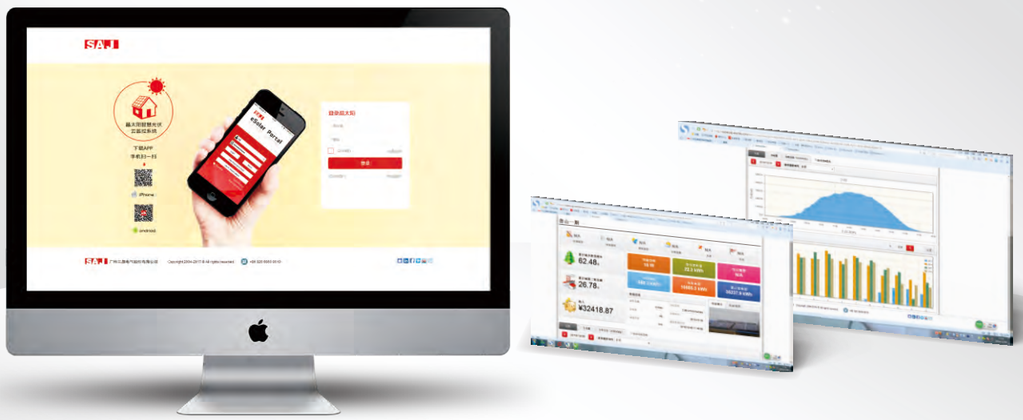
Read
data in real time

Support
SD/TF Card

## Datasheet

| General parameters | |
|---|---|
| Inverter communication interface | RS485 / Ethernet |
| Remote communication interface | RJ45 / Wi-Fi [Optional] / GPRS[Optional] |
| Max.number of SAJ devices | 16 ( RS485 ) / 252 ( Ethernet ) |
| Max.communication range | 1000m (RS485); 100m (Ethernet); 100m ( Wi-Fi ) |
| Memory [GB] | 8 [Support SD/TF card] |
| Interface | Integrated web page display |
| **Electric parameters** | |
| Power supply | External power supply |
| Input voltage / Frequency range | 100V - 240V ， 50 / 60Hz,AC |
| Power consumption | <2W |
| **Environment** | |
| Ambient temperature range | -25℃ ~ +60℃ |
| Ambient humidity range | 5% ~ 95% |
| Dimensions [H*W*D] [mm] | 36*180*130 |
| Weight [g] | 270 |
| Ingress protection | IP21 |
| **Others** | |
| Warranty [year] | 2 [Standard] / 5 [Optional] |

## eSolar Portal Web

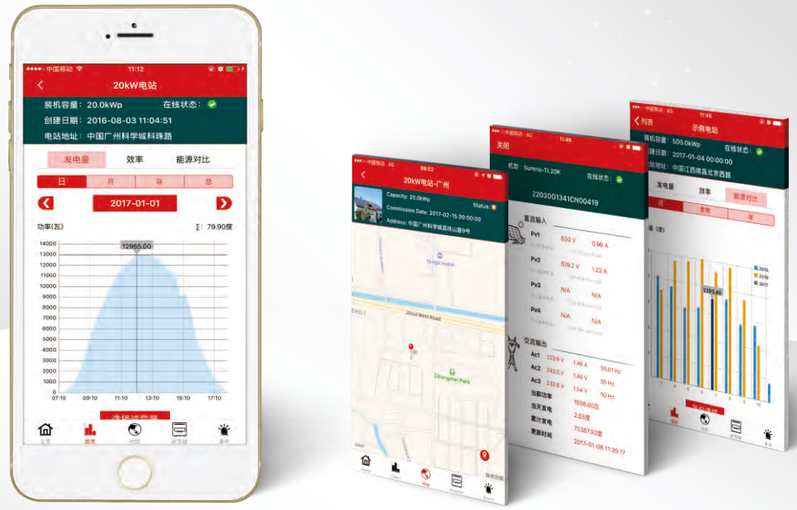


Free web monitoring system
Monitor real time working status

Systematic management
Quick and convenient search

Multi-level administration
Meet various requirements

## eSolar Portal APP




Barcode-scan Registration

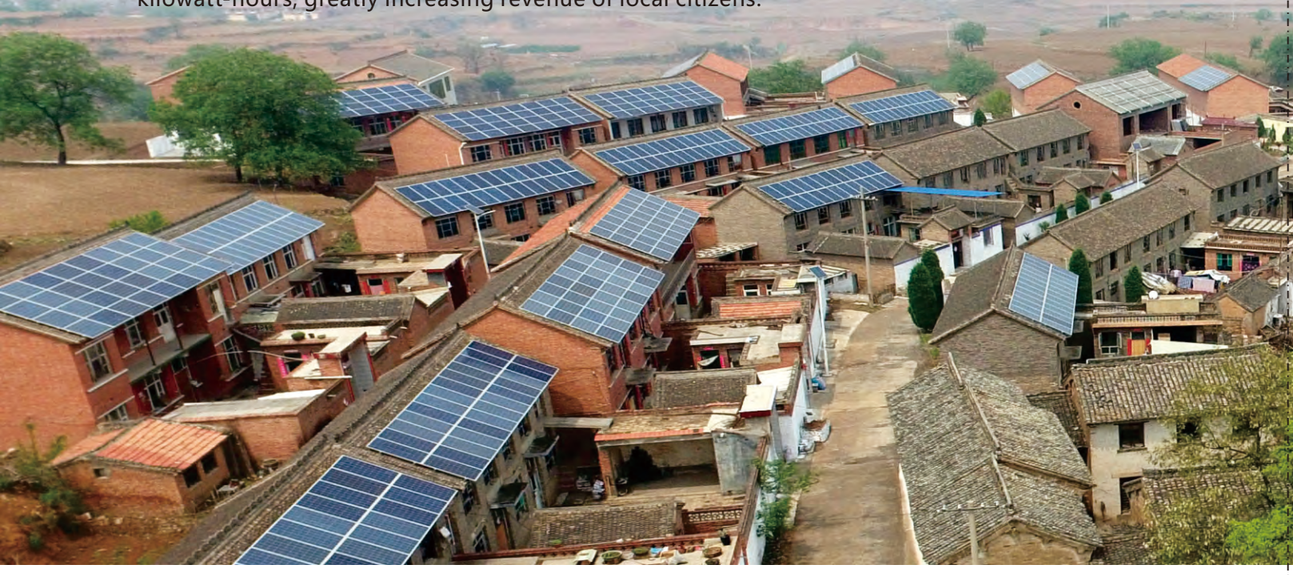
Convenient Plant Navigation

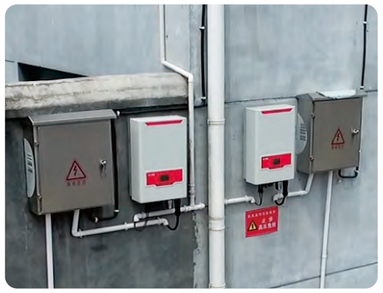
String Current Monitoring

Power Generation Comparison

## 12MWp Photovoltaic Poverty Relief Project in Shanxi Province

Suntrio Plus 8K/10K Three Phase User-Application User Grid-connected Inverters are applied with a full rating online grid-connected model, fully covering areas such as Daquan River, Pudi Village and other villages. Annual generating capacity of it could come to more than 10,000 kilowatt-hours, greatly increasing revenue of local citizens.





# 900KWp Solar poverty-alleviation project in Guyuan Ningxia

To alleviate the poverty, all of the 300 residents use SAJ Sununo Plus 3K and 12 pcs 255Wp solar panels to build the solar rooftop power plants, which helps increase income of 3000RMB per family every year.

## 530kW Family Photovoltaic Project in Quzhou City, Zhejiang Province

60*Sununo Plus 5K-M Single Phase User Grid-connected Inverters are applied.

# 1.6MW Photovoltaic Station for Poverty Relief in Shangyou County, Jiangxi Province

27*Sunutrio Plus 50K Three Phase Photovoltaic Grid-connected Converters are applied.

# 4.5MW Ground Based Photovoltaic Station in Shijiazhuang City, Hebei Province

90*Sunutrio Plus 50K Three Phase Photovoltaic Grid-connected Converters are applied.

## 1.2MW Commercial Rooftop Photovoltaic Station in Tengzhou City, Shandong Province

46*Sunutrio Plus 25K Three Phase Photovoltaic Grid-connected Converters are applied.



## 345kW Commercial Rooftop Photovoltaic Station in Nanjing Mingzheng Electronics

10*Sunutrio Plus 33K Three Phase Photovoltaic Grid-connected Converters are applied.