

SOLAR INVERTER

OFF-GRID INVERTER

ON-GRID INVERTER WITH ENERGY STORAGE

ACCESSORY



FSP SOLAR POWERMANAGER OFF-GRID SERIES



Independent Power Experience

5KVA / 5KW

FSP Solar PowerManager Off-Grid

Via new design concept, FSP integrated high photovoltaic voltage input, Lithium iron battery communication, and Bluetooth mobile monitoring to enhance user experiences. The model fulfills not just unity output power factor, but also satisfies independent application.

It supplies stable and reliable pure sine wave 230Vac power, charges batteries with an integrated MPPT 4kW charger controller. User can define how to use their energy generation through front LCD panel to optimize power consumption. More Simple, More Capable

GENERAL FEATURES

- Power factor 1 high frequency inverter
- Tri-Power solar, utility and battery management
- Output power source prioritization & timer configuration
- Detachable LCD controller
- Built-in Bluetooth for mobile monitoring(Android)
- Compatible with Lithium iron battery
- USB On-the-GO function
- Support generator
- Cold start function

Detachable LCD control module with various communications

Thanks for detachable LCD control module design which can be wired remotable panel and up to 20 meters communication from inverter.



Integrated Bluetooth interface with Android App

Plus mobile monitoring solution, Bluetooth interface benefit user to configure and monitor their own inverter wirelessly. The communication distance up to 6~7m in an open space.

Supports USB On-the-Go function

Through USB communication, users can more easily to download the data log from inverter or load the setting profile



PYLONTECH COMPATIBLE

Lithium iron battery energy storage

Specially developed for the professional and demanding use of battery storage systems. The third generation inverter is compatible with high-quality lithium iron battery - Pylontec US2000B Plus/US3000B without external controller.

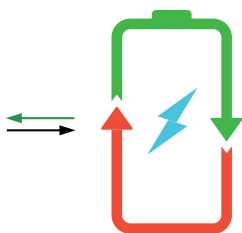
LCD Operation

Stand on off grid conception, user can through LCD control panel to dominate how to use their own power and define inverter performance. Simple and convenient to configurate output source, charger source prioritization, charging current, and timer, etc.



Battery equalization extends lifecycle

Inverter can activate battery equalization function periodically via user setting. It will help remove lead acid battery sulfate crystals to optimize battery performance and even extend lifecycle.

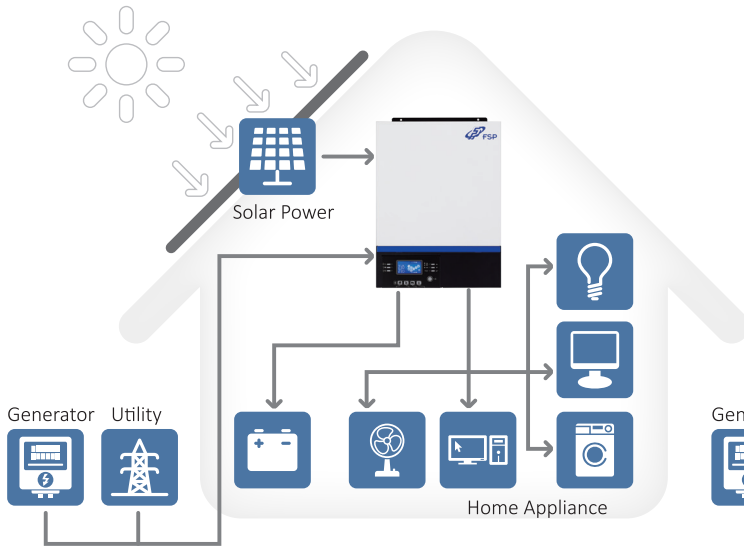


Genuine Off - Grid Inverter

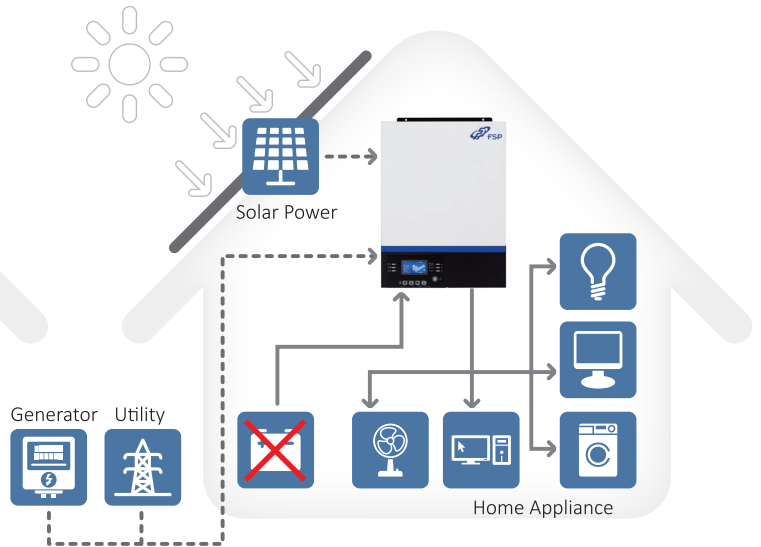
Flexible and Trustworthy

Suffice your demand and application of energy storage or inverter standalone without battery

As Hybrid Power System

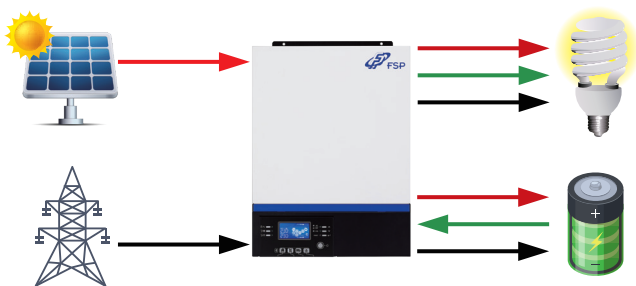


As Inverter Independent System



FSP Solar PowerManager Off-Grid Smart Power Priority

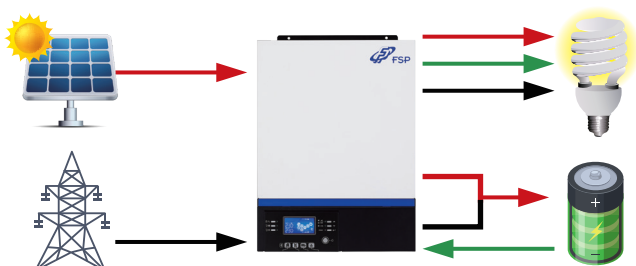
Power and charging source priority of FSP Solar PowerManager Off-Grid smart design can be set up by the front LCD panel according to the power consumption environment, storing and withdrawal of energy are also user-defined.



O/P Source Priority 1 → 2 → 3

Output source Priority is Solar-> Bat-> Utility
Charging source priority is Solar Power Only

Solar energy is sufficient to charge the battery and carry the loads. Once solar power is low, system will switch to battery mode automatically until battery reaches low warning then system transfers to utility.

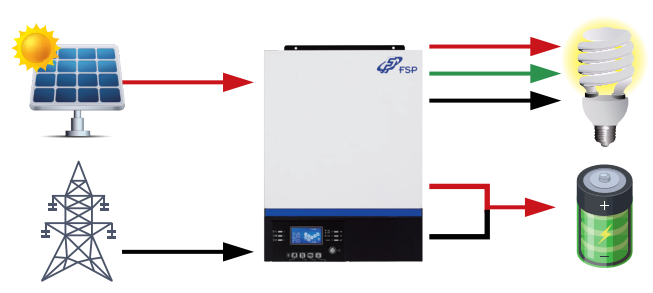


Output source is Utility first
Charging source priority is solar first

Utility will feed output loads, Solar power will charge the battery until solar power ceases. Solar and battery energy will be used when utility fails.
 Power source priority is Utility-> Solar & Battery
 Charging source priority is Solar-> Utility

TECHNICAL SPECIFICATIONS

MODEL	PMIII-5MK48V
RATED POWER	5000VA/5000W
INPUT	
Voltage	230 VAC
Selectable Voltage Range	170-280 VAC (For Personal Computers) 90-280 VAC (For Home Appliances)
Frequency Range	50 Hz/60 Hz (Auto sensing)
OUTPUT	
AC Voltage Regulation (Batt. Mode)	230VAC ± 5%
Surge Power	10000VA
Efficiency (Peak)	90% ~ 93%
Transfer Time	15 ms (For Personal Appliances)
Waveform	Pure sine wave
BATTERY & AC CHARGER	
Battery Voltage	48 VDC
Floating Charge Voltage	54 VDC
Overcharge Protection	63 VDC
SOLAR CHARGER & AC CHARGER	
Maximum PV Array Power	4000 W
MPPT Range @ Operating Voltage	120VDC~ 450 VDC
Maximum PV Array Open Circuit Voltage	500 VDC
Maximum Solar Charge Current	80A
Maximum AC Charge Current	60A
Maximum Charge Current	80A
Maximum Efficiency	98%
Solar Charger type	MPPT
PHYSICAL	
Dimension, D x W x H (mm)	115 x 300 x 400 A
Net Weight (kgs)	10
Ingress Protection Rating	IP20
Cooling System	AirForce cooling
Communication Interface	USB/RS232/RS485/Bluetooth/Dry-contact
OPERATING ENVIRONMENT	
Humidity	5% to 95% Relative Humidity(Non-condensing)
Operating Temperature	10°C- 55°C
Storage Temperature	-15°C- 60°C



Output source is Solar-Bat-Utility
Charging source priority is Solar & Utility

System will adapt Solar and utility both source to charge battery at the same time. Once solar power is low, system will switch to battery mode automatically until reach low bat warning then transfer to utility.
 Power source priority is Solar-> Battery-> Utility
 Charge source priority is Solar & Utility



Output source & Charger source priority is solar first

When Solar energy is sufficient to charge the battery and feed the loads, utility will stand by until Solar power ceases or battery voltage drops to user's setting.
 Power source priority is Solar-> Battery or Utility
 Charging source priority is Solar-> Utility

OFFGRID ZERO SERIES



Online Solar UPS

3KL / 5KL



Data Center



Telecom



Networking



Computer

FSP Solar PowerManager Off-Gird

Offgrid 3K&5K are designed with zero transfer time perfect for critical device such as servers and ATM. It's equipped with powerful 140A super charger, 80A MPPT solar charger and 60A AC charger. Detachable LCD control module allows users to remotely monitor this inverter. It's also able to expand capacity to 45KW with 9 units in parallel operation.

GENERAL FEATURES

- Zero (0ms) transfer time to protect mission-critical loads such as servers and ATMs
- Removable LCD control module with multiple communications
- Built-in Bluetooth for mobile monitoring (Android App is available)
- Supports USB On-the-Go function
- Reserved communication port for BMS (RS485) for 5K model
- Configurable AC/PV output usage timer and prioritization
- Pure sine wave solar inverter
- Selectable high power charging current
- Wide DC input range
- Compatible to mains voltage or generator power
- Auto restart while AC is recovering
- Overload and short circuit protection
- Smart battery charger design for optimized battery performance
- Cold start function
- Optional parallel operation up to 9 units

TECHNICAL SPECIFICATIONS

MODEL	OffGrid Zero 3K	OffGrid Zero 5K
RATED POWER	3000VA/3000W	5000VA/5000W
PARALLEL CAPABILITY	Up to 9 units	
INPUT		
Voltage	230 VAC	
Voltage Range	110-280 VAC	
Frequency Range	50 Hz/60 Hz (Auto sensing)	
OUTPUT		
AC Voltage Regulation	230 VAC ± 5%	
Output THDv	≅ 3% for Linear load, ≅ 8% for non-linear load	
Surger Power	6000VA for 5 sec	10000VA for 5 sec
Efficiency (Peak)	93 % at Line Mode, 90% at Battery Mode	
Transfer Time	0 ms	
Waveform	Pure sine wave	
EFFICIENCY		
Line Mode	93%	
ECO Mode	99.5%	
Battery Mode	91%	
BATTERY		
Battery Voltage	24 VDC	48 VDC
Floating Charge Voltage	27 VDC	54 VDC
Overcharge Protection	34 VDC	66 VDC
SOLAR CHARGER & AC CHARGER		
Solar Charger type	MPPT	
Maximum PV Array Open Circuit Voltage	145 VDC	
Maximum PV Array Power	1500 W	4000 W
MPPT Range @ Operating Voltage	30~115 VDC	60~115 VDC
Maximum Solar Charge Current	60 A	80 A
Maximum AC Charge Current	60 A	
Maximum Charge Current	120 A	140 A
PHYSICAL		
Dimension, D x W x H (mm)	140 x 303 x 525	
Net Weight (kgs)	13.0	13.5
Communication Interface	USB/RS232/RS485 (only for 5K)/Bluetooth/Dry-contact	
OPERATING ENVIRONMENT		
Humidity	5% to 95% Relative Humidity(Non-condensing)	
Operating Temperature	0°C- 55°C	
Storage Temperature	-15°C- 60°C	

* Product specifications are subject to change without further notice

SOLAR UPS



Online Solar UPS

5kL / 48V



Data Center



Telecom



Networking



Computer

FSP Solar PowerManager Off-Gird

Ideal for medium-density power protection demand, the Solar UPS prepped for 48V battery system, that brings you flexibility when deploying your solutions. Featuring true double-conversion technology, built-in MPPT solar charger, and easily accessible LCD display panel, the Solar UPS will be a premier choice for professional across industries that seeks reliable, clean and low cost power protections.

GENERAL FEATURES

- Output power factor 1.0
- 48VDC, only 4 pieces of 12 V batteries
- Parallelable up to 9 UPSs, wit common battery
- 50A super AC charger
- 93.5% high efficiency

TECHNICAL SPECIFICATIONS

MODEL	Solar UPS 5KL-48V	
RATED POWER	5000VA/5000W	
INPUT		
Voltage	220/230/240 VAC	
Voltage Range	110 - 280 VAC @ 50% load 176 - 280 VAC @ 100% load	
Frequency Range	46 ~ 54 Hz or 56 ~ 64 Hz	
Power Factor	≥ 0.98 @ Nominal Voltage (100% load)	
THDi	$\leq 8\%$	
OUTPUT		
Voltage	220/230/240 VAC	
AC Voltage Regulation (Batt. Mode)	$\pm 1\%$	
Frequency Range (Synchronized Range)	46~54 Hz or 56~64 Hz	
Frequency Range (Batt. Mode)	50 Hz \pm 0.1 Hz or 60Hz \pm 0.1 Hz	
Harmonic Distortion	$\leq 3\%$ THD (Linear Load); $\leq 5\%$ THD (Non-linear Load)	
Transfer Time	AC Mode to Batt. Mode	0 ms
	Inverter to Bypass	4 ms (Typical)
Waveform	Pure sine wave	
EFFICIENCY		
Line Mode	93%	
ECO Mode	99.5%	
Battery Mode	91%	
BATTERY		
Battery Voltage	48 VDC	
Floating Charge Voltage	54.6 VDC	
Overcharge Protection	60 VDC	
Charging Current (max.)	60 A	
PHYSICAL		
Dimension, D x W x H (mm)	465 x 190 x 318	
Net Weight (kgs)	15.5	
Communication Interface	RS232 & USB	
OPERATING ENVIRONMENT		
Humidity	0 to 95% Relative Humidity(Non-condensing)	
Operating Temperature	0°C- 50°C	
Storage Temperature	-15°C- 60°C	

* Product specifications are subject to change without further notice

SCC-MPPT



Solar Charger Controller

3KW

Applications:



Solar Input



Flexible
installation



Battery
charger



CO² Free

98% Efficiency Solar Charger

SCC-MPPT Solar Charge Controller With advanced maximum-power-tracking technology, SCC-MPPT series ensures maximum performance from your solar array at all times and in all weather conditions.

GENERAL FEATURES

- Intelligent Maximum Power Point Tracking technology
- Built-in DSP controller with high performance
- 12/24/48V Automatic battery voltage detection when initial
- Battery temperature compensation support
- Three-stage charging optimizes battery performance
- Multifunction LCD displays detailed information
- Reverse polarity protection for solar panel and battery
- Overcharge protection
- Suitable for battery types of sealed lead acid, vented Gel, and NiCd

TECHNICAL SPECIFICATIONS

MODEL		SCC-MPPT 3KW	
INPUT			
MPPT Range @ Operating Voltage	60 VDC ~ 115 VDC		
Maximum PV Array Open Circuit Voltage	145VDC		
Maximum PV Array Power	800W	1600W	3200W
Maximum Current	50 A		
OUTPUT			
Nominal Battery Voltage	12 VDC	24 VDC	48 VDC
Connected Battery Type	Sealed lead acid, AGM or Gel		
Maximum Charging Current	60 A		
Maximum Efficiency	98%		
Charging Method	Three stages: bulk, absorption, and floating		
PROTECTION			
Overload Protection	> 110% : audible alarm		
Overcharge Protection	Yes		
Polarity Reversal Protection@Solar Cell & Battery	Yes		
INDICATORS			
LCD Panel	LCD panel indicating solar power, load level, battery voltage/capacity, charging current, and fault conditions		
LED Display	Three indicators for solar, charging, and load status		
PHYSICAL			
Dimension, D x W x H (mm)	315 x 165 x 128		
Net Weight (Kgs)	4.5		
Type of Mechanical Protection	IP 31		
ENVIRONMENT			
Humidity	5 ~ 95% RH (Non-condensing)		
Operating Temperature	0°C to 55°C		
Storage Temperature	-15°C to 60°C		
Altitude	0 ~ 3000 m		

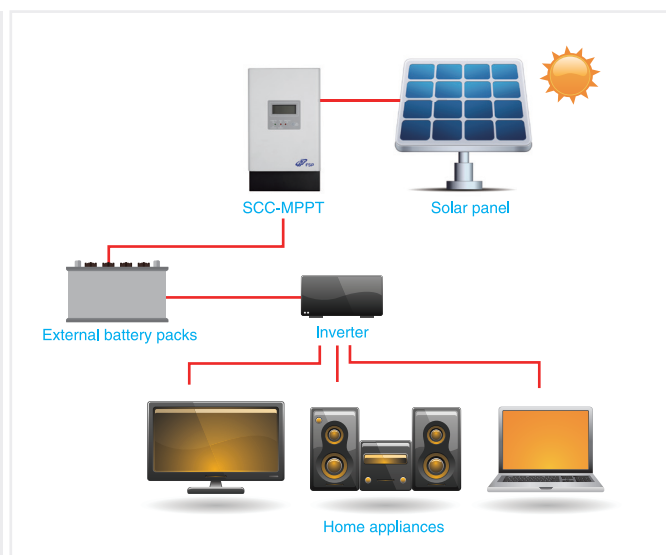
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Standalone Solar Power System:

Combined MPPT technology and DSP controller, FSP Solar charger controller will convert best voltage and power to charge battery based on varied temperature. Compared to traditional solar charge controllers, it allows your solar panels to operate at their optimum power output voltage, providing higher efficiency up to 98% with lower power loss.

Integrated FSP Solar charger controller with inverter, solar panel, and external battery packs, it can become a standalone solar power system to generate green power for your home appliances.





Synergy Super Charger

- Isolation design for 24/36/48/72/240VDC System
- Input power factor correction
- Microprocessor guarantee smart & stable three-stage charging
- User-adjustable charging current based on applications
- Output short circuit protection
- Maximum current restriction
- Over-voltage protection
- Thermal control protection and reversal polarity protection
- Parallel operation



Redundant Backup System

- 10A and 16A max input current
- Dual power supply for redundancy
- Simple solution guarantees power continuity for connected equipment
- Highly reliability 19" rack design to fit into a diverse working environment



Power Distribution Unit

- Provides reliable power distribution to multiple devices
- 2U form factor for horizontal or vertical rack installation
- Easy operation
- Suitable for 6K/10K VA UPSs



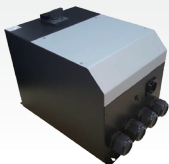
PDU & Maintenance Bypass Switch

- 1-3 kVA Tower/Rack PDU & MBS
- 16A for 208/220/230/240 VAC
- Provides continuous power to connected equipment during UPS maintenance
- Easy operation with simple rotary switch and indicators
- Simple installation with plug-and-play socket type
- AC input 1x IEC C20 (16A) connector
- UPS I/P 1x IEC C19 (16A) connector
- UPS O/P 1x IEC C20 (16A) connector
- O/P Socket 5 x IEC C13 + 1x IEC C19, 2 breakers



External Maintenance Bypass Switch

- 6-10kVA Rack MBS
- 63A. max input current
- 100% make before break to provide continuous power to connected equipment during UPS maintenance
- Automatic UPS-protection design
- Easy operation with simple rotary switch
- Terminal block type



30kVA Wall-Mounted External Maintenance Bypass

- 3-Phase design
- Nominal current 63A
- Isolation Voltage 660VAC
- EN90647-3:2009+A1 TUV certificated



IEC Cable 16A C19/C20 (180cm)



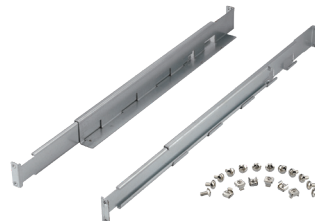
IEC Cable 16A C13/C14 (140cm)



IEC Cable 16A C14/C19 (150cm)



IEC Cable 16A C20/C13 (180cm)

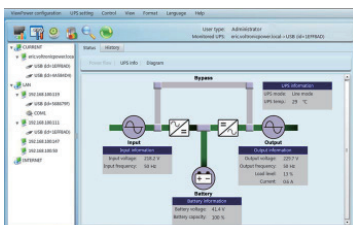


Rackmount Slider

Simple installation for mounting Rack in your server rack enclosure.

RMS-001 for 1-3kVA Rack UPS

RMS-002 for 6-10kVA Rack UPS



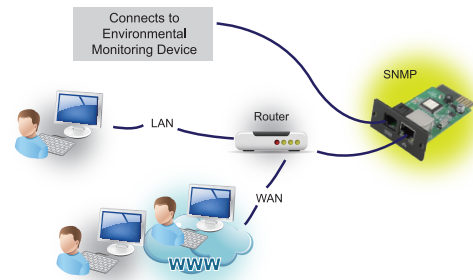
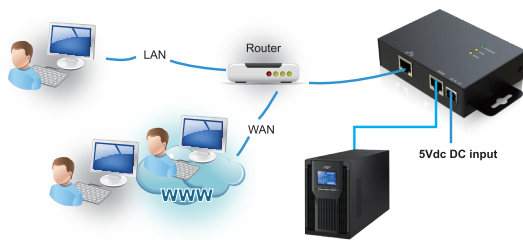
Software

ViewPower - UPS Management Software

ViewPower Pro is UPS management software which is perfect for home users and enterprises. It can monitor and manage from one to multiple UPSs in a networked environment including LAN, INTERNET and Modbus networks. Integrated with Shutdown Wizard, it can not only prevent data loss from power outage and safely shutdown systems, but also store programming data and scheduled shut down UPSs. All UPS working data and event records can be kept in local database system.

UPS Remote Monitoring and Connectivity

FSP provides complete connectivity solutions with comprehensive products and software package. These connectivity products ensure communication compatibility with a variety external devices through relay, SNMP and Modbus.



Connectivity Product



SNMP Card



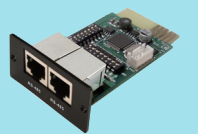
SNMP Web Card



SNMP Web Card (DP801B)



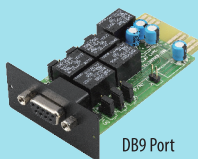
SNMP Web Box



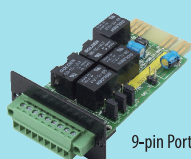
Modbus Card



Modbus Web Card



DB9 Port



9-pin Port



EMD



Energy meter

SNMP Web Card/Box

- Allows control and monitoring of multiple inverters through RJ-45 network connection
- Real-time dynamic graphs of UPS / PowerManager data
- Warning notifications via audible alarm, broadcast, mobile messenger, e-mail and SNMP traps
- Historic data log stored in centralized PC database
- Simple firmware upgrade with one click
- Password security protection and remote access management
- Supports optional environmental monitoring detector for temperature, humidity and smoke

Modbus Card

- Real-time control and monitoring of multiple inverters via RS-485 communication port
- Supports Modbus RTU protocol
- Provides MODBUS functions including read Holding Registers and write Registers
- Provides surge protection

Modbus Web Box

- Supports to monitor off-grid inverter through modbus interface
- Implements MODBUS RTU protocol
- Integrated with WatchPower software
- Supports PowerManager Hybrid series

Relay Card

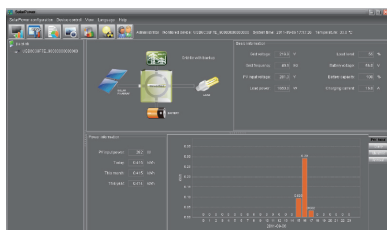
The AS400 communication card provides contact closures for remote monitoring UPS. To meet different application requirement, the AS400 card is capable of selection the status of the dry-contact signal (active close or active open) by setting jumper.

Environmental Monitoring Device (EMD)

- Plug & use for simple installation with SNMP manager
- Monitor temperature and humidity to protect your precious equipment
- Allow 4 contact closure signals for user-defined usage
- Management software to remote monitor temperature and humidity status via web browser
- Measure temperatures between 0 to 100°C with an accuracy of $\pm 1.5^{\circ}\text{C}$
- Measure relative humidity between 10 to 90% RH with an accuracy of $\pm 3\%$
- Optional smoke alarm available

Touch screen 3-phase multi-function meter

Measures and displays the parameter of voltage, frequency, current, active and reactive energy, imported or exported. Max Demand, THD of voltage and current can be measured over present periods of up to 60 minute. Built-in interfaces provide pulse and RS485 Modbus RTU output



Software

SolarPower -Solar inverter Management Software

SolarPower is a solar inverter monitoring software. It can monitor multiple devices via USB and Serial port at the same time. The major functions of SolarPower monitoring software include data log for devices, power generation statistics, alarm messages, fault messages and parameter setting for devices.