Wise power, wise choice

PRODUCT CATALOGUE

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American Wise Power Technologies, INC.

COMPANY PROFILE

About us

American Wise Power Technologies (AWP), an innovative high-tech corporation founded in California, specializes in R&D, manufacturing and marketing of power supplies products and provides green, low cost and intelligent energy and solutions to various applications such as data center, PV power plants.

Our Mission

AWP is committed to provide globally with green, energy-saving, stable, reliable and continuous power supplies products and perfect solutions. Customer's satisfaction is always our perpetual quest and in order to create consistent value for customers, we place great emphasis on our customers' market challenges and requirements by providing first-class power supply solutions with quality guaranteed products as well as best service to enhance their competitiveness and profitability.

Our Products

Combined with German technology, American administration and Chinese manufacturing, our products reach the balance of quality and cost. Our main products include:

Data Center Solutions (UPS included)

Solar PV Solutions (Solar inverter included)

Our Team

AWP comprises of passionate professionals and a high efficiency management team, and they endeavor to make AWP a world leading green energy solutions supplier. At present AWP team has built trusted and respected offices in Singapore, Hong Kong, Indonesia and Viet Nam, and it is our desire to always be improving, expanding and developing our service team to meet growing customers' demands.

CONTENTS

Aide

400VA ~ 2000VA

Applications

SOHO, PC, TV, ATM
Commercial POS machine
Small communication switch
Routers, SOHO Network equipment
Workstations and peripheral equipment

Highlights

- **Compact design**
- **Automatic voltage regulation (AVR)**
- **Wide input voltage range**
- **Auto restart**
- **Cold-start capability**
- **Effective protection**
- **Manageable**

Aide series UPS is the ideal solution for providing stable and reliable power supply for PCs and some electronics in home and office. The user is ensured of high quality power and battery backup during voltage fluctuations and power outages. Through the UPS software, users are able to shutdown a connected computer in the event of a power failure to protect the data and the device.

Features

Microprocessor-based digital control technology

Faster and more accurate processing of data

Wide Input Voltage Range

Aide UPS is capable of handling a wide input voltage range, supplying clean power in extreme circumstances.
It has excellent voltage regulation ability with an ultra-wide input voltage range from 80 ~ 150Vac or 145 ~ 295Vac.

Built-in AVR

Aide UPS provides stable power to connected devices in unstable power conditions. It has built-in automatic voltage regulator, safety running between 165 ~ 275 Vac, reduces the using of battery, prolongs the life of battery, especially suitable for power fluctuations or poor power areas, supplying clean power in extreme circumstances.

Surge protection

Built-in precisely controlled power protection circuit, eliminate the interference of low voltage and surge, thus protecting the equipment against voltage spikes.

Short-circuit and overload protection

A short circuit is an abnormal connection between two nodes of an electrical circuit, and can cause huge damage to the UPS and any equipment attached to it. Aide circuit protection device will protect against potential short circuit damage, overheating, fire or even explosions. Aide is also equipped with overload protection, meaning that the fuse will automatically be triggered when a load exceeds its value. Both protection devices ensure the safety and reliability of the UPS and any equipment that is attached to it.

Auto sensing frequency

Aide UPS uses frequency adaptive technology. When UPS connect to mains with frequency 50HZ or 60HZ, the system will detect the frequency of mains power, and the output frequency will be the same as the detected frequency even when the mains power fails.

High-speed synchronous conversion

Aide system can automatically track the mains phase, to ensure that the inverter output voltage and mains voltage are identical, decrease the transfer time and surge voltage, minimize the interference to electrical equipment.

Cold start capability

In the absence of any AC input, the cold start function allows users to start Aide UPS with the batteries, and without any damage to them or the circuits. Users can easily configure the UPS, even if no AC input is available.

Intelligent battery management

- Aide series UPS adopt interactive design. When mains power is connected, Aide system will **automatically charging the battery, even the UPS is OFF**, to ensure the battery have enough power. When the mains power fails, Aide system will automatically switch to battery mode to provide sufficient runtime for the load saving data and safety shutdown.
- Aide UPS also be featured with **battery temperature compensation to extend the battery life and three-stage charging to shorten recharge time, and with battery overcharge / over discharge protections** as well.

Intelligent power ON/OFF

- When the mains power is restored after discharge of the batteries, Aide UPS will **automatically restart** and **self-diagnose** to ensure the functionality of the UPS system and batteries.
- Aide system can detect load and **automatically shut down in the no-load state** (Optional). When the load is less than 5%, the system detects that it is under idling/no-load state, it will automatically shut down in about one minute, reduce losses, effectively extending the life of batteries.

User friendly LED and LCD display

The user friendly LED display, which is situated on the front panel of Aide UPS, provides instantaneous information. Aide LCD model have a backlit LCD display for users to observe the UPS status information, load and battery performance.

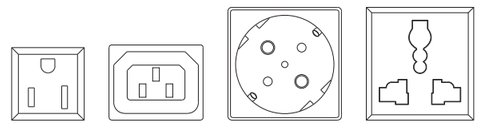
Advanced multi-platform communications

RS232 / USB communication port (Optional)

What do we get from using management software

- More customized functions.
- Settable battery discharge and low-voltage test. Through this function users can easily see batteries in good or bad condition.
- Timing boot/shutdown for UPS is available.
- Unattended Safe Shutdown by software. AWP Software is able to intelligently save the data and automatically shut down the sever or computer when a power failure occurs. This software allows the UPS to instruct the operating systems to close down a PC when it is running unattended. Users can set the parameters with which to schedule when the computer or server should shutdown, making sure that no significant data is lost and important backups are created.

Available Sockets

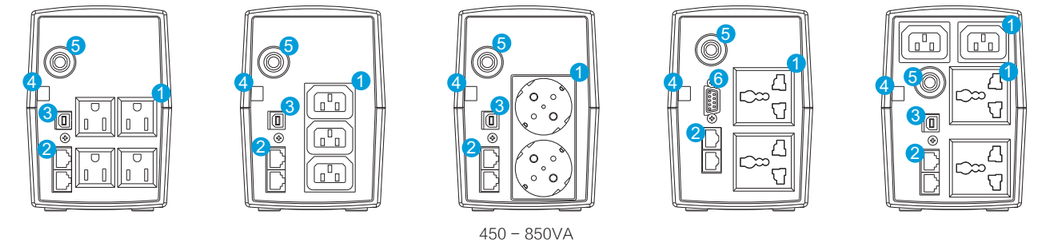


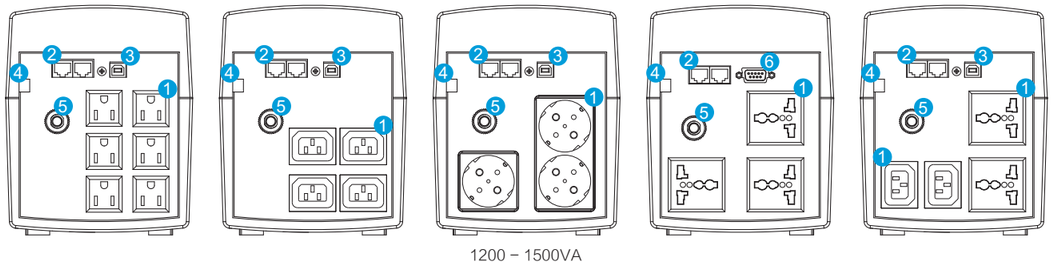
USA Socket IEC Socket Schuko Socket Universal Socket

Available Options

Communication Ports
RS232 + RJ45 (Universal socket only)
USB + RJ45
Software
UPSmart

Details





1. Output Socket (selectable)
2. TEL/Modem/Fax surge protection (optional)
3. USB (optional)
4. AC Input
5. Fuse
6. RS232 (optional)

Technical specifications

MODEL	AID 400 AID 450	AID 600 AID 650	AID 800 AID 850	AID 1000 AID 1200	AID 1500	AID 2000
Capacity	400VA/240W 450VA/240W	600VA/360W 650VA/360W	800VA/480W 850VA/480W	1000VA/600W 1200VA/720W	1500VA/900W	2000VA/1200W
INPUT						
Voltage	100 V / 110 V / 120 V: 80 ~ 150 Vac; 220 V / 230 V / 240 V: 162 ~ 295 Vac (220 V: 145 ~ 295 Vac optional)					
Frequency	50 / 60 Hz ±10% (auto-sense)					
OUTPUT						
Voltage	100 / 110 / 120 Vac ±10% or 220 / 230 / 240 Vac ±10%					
Frequency	50 / 60 Hz ±1% (auto-sense)					
Waveform	Mains mode: Sinusoidal ; Battery mode: Simulated sine wave					
Transfer time	Typical 2 ~ 7 ms; Max.10 ms					
BATTERIES						
DC voltage	12 V			24 V		
Configuration	12 V / 4.5 Ah × 1	12 V / 7.0 Ah × 1	12 V / 8.0 Ah × 1	12 V / 7.0 Ah × 2	12V / 8.0 Ah × 2	12 V / 9.0 Ah × 2
Recharge time	6 ~ 8 h					
COMMUNICATIONS						
USB / RS232 / SNMP (optional)	Supports Windows® 98 / 2000 / 2003 / XP / Vista / 2008 / Windows® 7 / 8 / 10					
OTHERS						
Protections	Surge, Short circuit, Overload, Battery overcharge, Over-discharge					
Humidity	20 ~ 90% RH @ 0 ~ 40℃ (non-condensing)					
Noise level	⩽ 45 dB (1m)					
Plastic case – Net / Gross weight (kg)	3.8 / 4.3	4.3 / 4.8	5.3 / 5.8	9.5 / 10.0	10.7 / 11.2	——
Plastic case – Dimensions (W×D×H) (mm)	100×280×140			140×345×170		——
Plastic case – Packaged dimensions (W×D×H) (mm)	139×325×210			198×406×245		——
Plastic case – Quantity / 20ft	2300 pcs			1000 pcs		——
Metal case – Net / Gross weight (kg)	/	5.5 / 6.0	6.7 / 7.2	10.5 / 11.2	12.6 / 13.4	14.0 / 14.8
Metal case – Dimensions (W×D×H) (mm)	/	95 × 320 × 160		125 × 320 × 225	125 × 380 × 225	
Metal case – Packaged dimensions (W×D×H) (mm)	/	145×375×230		180×390×295	180×450×295	
Metal case – Quantity / 20ft	/	2000 pcs		1000 pcs		
Rack mount – Net / Gross weight (kg)	/	7.8 / 8.3	9.0 / 9.5	12.6 / 13.2	15.7 / 16.3	17.0 / 17.6
Rack mount – Dimensions (W×D×H) (mm)	/	308 × 438 × 88			308 × 438 × 132	
Rack mount – Packaged dimensions (W×D×H) (mm)	/	395 × 525 × 185			395 × 525 × 225	

* All specifications subject to change without notice

AidePlus

650VA ~ 850VA

Applications

SOHO, PC, TV, ATM
Commercial POS machine
Small communication switch
Routers, SOHO Network equipment
Workstations and peripheral equipment

Highlights

- **Compact and ergonomic design**
- **3 sockets protected against black-outs**
- **3 sockets protected against overvoltage**
- **Auto restart**
- **Cold-start capability**
- **Effective protection**
- **Battery hot swappable**

AidePlus series UPS provides guaranteed power with surge protector for PCs and other electronics in home and office. It has more battery backup outlets than ever before, supplying battery backup power during outages and unsafe voltage fluctuations, as well as protection from damaging surges and spikes.

Features

Microprocessor-based digital control technology

Faster and more accurate processing of data

Wide Input Voltage Range

AidePlus UPS is capable of handling a wide input voltage range, supplying clean in extreme circumstances. It has excellent voltage regulation ability with an ultra-wide input voltage range 80 ~ 150Vac or 145 ~ 295Vac.

Built-in AVR

AidePlus UPS provides stable power to connected devices in unstable power conditions. It has built-in automatic voltage regulator, safety running in a wide voltage range, reduces the using of battery, prolongs the life of battery, especially suitable for power fluctuations or poor power area, supplying clean power in extreme circumstances.

Surge protection

Built-in precisely controlled power protection circuit, eliminate the interference of low voltage and surge, thus protecting the equipment against voltage spikes.

Short-circuit and overload protection

A short circuit is an abnormal connection between two nodes of an electrical circuit, and can cause huge damage to the UPS and any equipment attached to it. AidePlus circuit protection device will protect against potential short circuit damage, overheating, fire or even explosions. AidePlus is also equipped with overload protection, meaning that the fuse will automatically be triggered when a load exceeds its value. Both protection devices ensure the safety and reliability of the UPS and any equipment that is attached to it.

Auto sensing frequency

AidePlus UPS uses frequency adaptive technology. When UPS connect to mains with frequency 50HZ or 60HZ, the system will detect the frequency of mains power, and the output frequency will be the same as the detected frequency even when the mains power fails.

High-speed synchronous conversion

AidePlus system can automatically track the mains phase, to ensure that the inverter output voltage and mains voltage are identical, decrease the transfer time and surge voltage, minimize the interference to electrical equipment.

Cold start capability

In the absence of any AC input, the cold start function allows users to start AidePlus UPS with batteries, and without any damage to them or the circuits. Users can easily configure the UPS, even if no AC input is available.

Intelligent battery management

- AidePlus series UPS adopt interactive design. When mains power is connected, AidePlus system will **automatically charging the battery, even the UPS is OFF**, to ensure the battery have enough power. When the mains power fails, AidePlus system will automatically switch to battery mode to provide sufficient runtime for the load saving data and safety shutdown.
- AidePlus UPS also be featured with **battery temperature compensation to extend the battery life and three-stage charging to shorten recharge time, and with battery overcharge / over discharge protections** as well.

Intelligent power ON/OFF

- When the mains power is restored after discharge of the batteries, AidePlus UPS will **automatically restart** and **self-diagnose** to ensure the functionality of the UPS system and batteries.
- AidePlus system can detect load and **automatically shut down in the no-load state** (Optional). When the load is less than 5%, the system detects that it is under idling/no-load state, it will automatically shut down in about one minute, reduce losses, effectively extending the life of batteries.

User friendly LED
The user friendly LED status panel provides instantaneous information of the UPS.

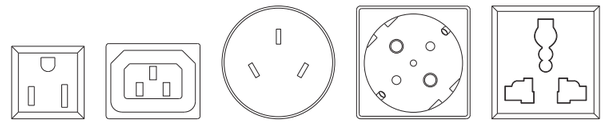
Hot swappable battery function
Thanks to this function for battery replaceable without interruption.

Dual USB charging ports (Schuko sockets panel only)
AidePlus UPS has two convenient USB charger ports with 5 V / 1A recharge mobile devices during an outage.

Advanced multi-platform communications
RS232 / USB communication port (Optional).

What do we get from using management software
- More customized functions.
- Settable battery discharge and low-voltage test. Through this function users can easily see batteries in good or bad condition.
- Timing boot/shutdown for UPS is available.
- Unattended Safe Shutdown by software. AWP Software is able to intelligently save the data and automatically shut down the sever or computer when a power failure occurs. This software allows the UPS to instruct the operating systems to close down a PC when it is running unattended. Users can set the parameters with which to schedule when the computer or server should shutdown, making sure that no significant data is lost and important backups are created.

Available Sockets

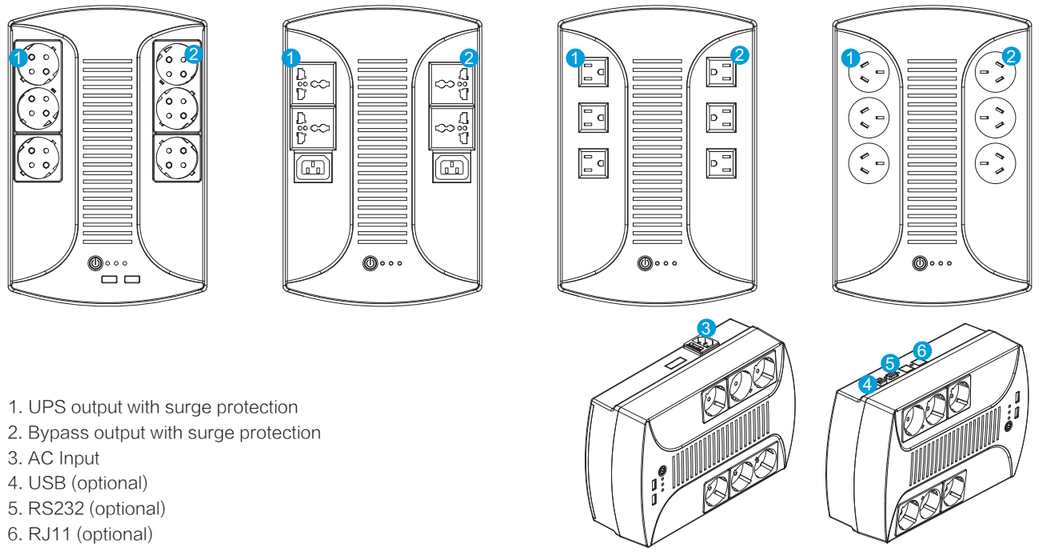


USA Socket IEC Socket AUS Socket Schuko Socket Universal Socket

Available Options

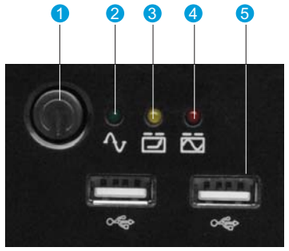
Communication Ports
RS232+RJ11
USB+RJ11
Software
UPSmart

Details



1. UPS output with surge protection
2. Bypass output with surge protection
3. AC Input
4. USB (optional)
5. RS232 (optional)
6. RJ11 (optional)

Control Panel



1. On / Off button
2. AC Normal Indicator (green)
3. Battery Charging Indicator (amber)
4. Back-up Indicator (red)
5. USB 5V/1A charger (Schuko sockets panel only)

Technical specifications

MODEL	APS 650	APS 850
Capacity	**650 VA / 360 W**	**850 VA / 480 W**
INPUT		
Voltage	100 V / 110 V / 120 V: 80 ~ 150 Vac; 220 V / 230 V / 240 V: 162 ~ 295 Vac (145 ~ 295 Vac optional for 220V)	
Frequency	50 / 60 Hz ±10% (auto-sense)	
OUTPUT		
Voltage	100 / 110 / 120 Vac ±10% or 220 / 230 / 240 Vac ±10%	
Frequency	50 / 60 Hz ±1% (auto-sense)	
Waveform	Mains mode: Sinusoidal; Battery mode: Simulated sine wave	
Crest factor	3:1	
Transfer time	Typical 2 ~ 7 ms; Max.10 ms	
BATTERIES		
DC voltage	12 V	
Configuration	12 V / 7.0 Ah × 1	12 V / 8.0 Ah × 1
Recharge time	6 ~ 8 h	
COMMUNICATIONS		
USB / RS232 / SNMP (optional)	Supports Windows® 98 / 2000 / 2003 / XP / Vista / 2008 / 7 / 8 / 10	
OTHERS		
Protections	Surge, Short circuit, Overload, Battery overcharge, Over-discharge	
Humidity	20 ~ 90% RH @ 0 ~ 40℃ (non-condensing)	
Noise level	⩽ 45 dB (1m)	
Net / Gross weight (kg)	5.5 / 6.0	6.5 / 7.0
Dimensions (W × D × H) (mm)	185 × 280 × 95	
Packaged dimensions (W × D × H) (mm)	231 × 329 × 144	
Quantity / 20ft	2400 pcs	

* All specifications subject to change without notice

ArcPure

500VA ~ 3000VA

Applications

SOHO, PC, TV, ATM
Commercial POS machine
Small communication switch
Routers, SOHO Network equipment
Workstations and peripheral equipment

Highlights

- **Pure sine wave output**
- **Power factor 0.8**
- **Automatic voltage regulation (AVR)**
- **Superior protection**
- **Intelligent battery management**
- **Advanced communications**
- **Settable ECO mode**

ArcPure series UPS uses Line Interactive technology and provides a sinusoidal output. It ensures superior protection and a perfectly sinusoidal supply for maximum power continuity and reliability for peripheral network devices, servers, and other electronics in home and office. It has user friendly LCD display. Users can directly know the running situation of UPS through parameters display on the LCD screen. Intelligent monitoring system realizes real-time monitoring of the operating condition / parameters of the UPS system, control UPS running, test and set the power on/off time, and carry out remote monitoring through SNMP card as well.

Features

Line interactive technology with pure sine wave output

Line-interactive tolerates continuous undervoltage, overvoltage and surges without consuming the battery power, and offers increased energy efficiency. The output waveform is a sine-wave with very low harmonic distortion and clear power. Pure sine wave output makes inductive loads run faster, quieter and cooler, generates less electrical noise in equipment and appliances, prevents crashes in computer and glitches in monitors, make these equipment last longer.

Microprocessor-based digital control technology

Faster and more accurate processing of data

Built-in AVR

ArcPure UPS provides stable power to connected devices in unstable power conditions.
It has built-in automatic voltage regulator, safety running in a wide voltage range, reduces the using of battery, prolongs the life of battery, especially suitable for power fluctuation or poor power areas, supplying clean power in extreme circumstances.

Superior protection

ArcPure UPS uses Line Interactive technology with pure sine wave output. It ensures superior protection against mains power disturbances, such as surges protection, overvoltage, undervoltage, as well as built-in short circuit and overload protection.

Cold start capability

In the absence of any AC input, the cold start function allows users to start UPS with batteries, and without any damage to them or the circuits. Users can easily configure the UPS, even if no AC input is available.

High-speed synchronous conversion

ArcPure system can automatically track the mains phase, to ensure that the inverter output voltage and mains voltage are identical, decrease the transfer time and surge voltage, minimize the interference to electrical equipment.

Auto sensing frequency

ArcPure UPS uses frequency adaptive technology. When UPS connect to mains with frequency 50HZ or 60HZ, the system will detect the frequency of mains power, and the output frequency will be the same as the detected frequency even when the mains power fails.

Intelligent battery management

- ArcPure series UPS adopt interactive Design. When mains power is connected, ArcPure system **will automatically charging the battery, even the UPS is OFF**, to ensure the battery have enough power. When the mains power fails, Aide system will automatically switch to battery mode to provide sufficient runtime for the load saving data and safety shutdown.
- In order to meet continuity applications requiring long battery runtimes, ArcPure UPS features adjustable charging current and adjustable low battery shutdown point to extend battery life.
- ArcPure UPS also be featured with **battery temperature compensation to extend the battery life, three-stage charging to shorten recharge time and battery overcharge / over-discharge protections** as well.

Intelligent power ON/OFF

- When the mains power is restored after discharge of the batteries, ArcPure UPS will **automatically restart** and **self-diagnose** to ensure the functionality of the UPS system and batteries.
- ArcPure system can detect load and **automatically shut down in the no-load state** (Optional). When the load is less than 5%, the system detects that it is under idling/no-load state, it will automatically shut down in about one minute, reduce losses, effectively extending the life of batteries.

User friendly LCD display

ArcPure LCD model have a backlit LCD display for users to observe the UPS status information, load and battery performance.

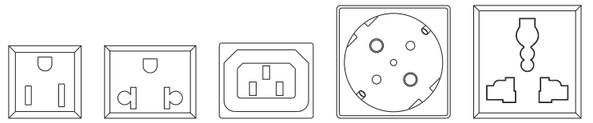
Advanced multi-platform communications

Standard USB+RJ45, optional AS400 / SNMP communication ports.

What do we get from using management software

- More customized functions.
- Settable battery discharge and low-voltage test. Through this function users can easily see batteries in good or bad condition.
- Timing boot/shutdown for UPS is available.
- Unattended Safe Shutdown by software. AWP Software is able to intelligently save the data and automatically shut down the sever or computer when a power failure occurs. This software allows the UPS to instruct the operating systems to close down a PC when it is running unattended. Users can set the parameters with which to schedule when the computer or server should shutdown, making sure that no significant data is lost and important backups are created.

Available Sockets

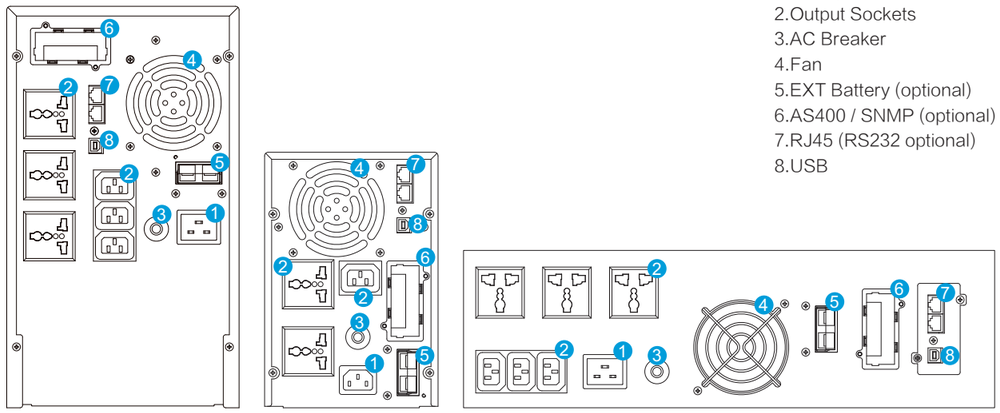


USA Socket | New USA Socket | IEC Socket | Schuko Socket | Universal Socket

Available Options

Communication Ports
USB + RS232
AS400 / SNMP
Software
UPSmart / iStars

Details



1.AC Input
2.Output Sockets
3.AC Breaker
4.Fan
5.EXT Battery (optional)
6.AS400 / SNMP (optional)
7.RJ45 (RS232 optional)
8.USB

3000 VA | 500 ~ 2000 VA | 1500 ~ 3000 VA

Technical specifications

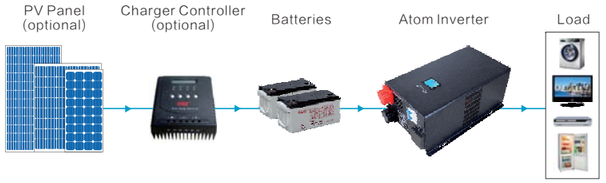
MODEL		ARC 500	ARC 1000	ARC 1500	ARC 2000	ARC 3000
Capacity		**500 VA / 300 W**	**1000 VA / 800 W**	**1500 VA / 1200 W**	**2000 VA / 1600 W**	**3000 VA / 2400 W**
DC INPUT						
Rated voltage		12 V	24 V		36 V (St) / 48 V (Ex)	48 V
DC input range (default)		10 ~ 15V	20 ~ 30 V		30 ~ 45V (St) 40 ~ 60V (Ex)	40 ~ 60 V
AC INPUT						
AC input range (Bypass mode)		0 ~ 121 / 132 / 138 / 144 Vac for 100 / 110 / 115 / 120 Vac ±10 Vac 0 ~ 242 / 264 / 276 / 288 Vac for 200 / 220 / 230 / 240 Vac ±10 Vac				
AC input range (mains mode)		100 V: 70 ~ 130 Vac 110 V: 80 ~ 140 Vac 115 V: 85 ~ 145 Vac 120 V: 90 ~ 150 Vac 200 V: 145 ~ 260 Vac 220 V: 165 ~ 280 Vac 230 V: 175 ~ 290 Vac 240 V: 185 ~ 300 Vac				
Frequency input range		50 Hz / 60 Hz (auto-sense), 50 Hz / 60 Hz ±5% ~ 15%				
Generator connection		Available (generator input power is settable)				
OUTPUT						
Inverter output range		100 / 110 / 115 / 120 / 200 / 220 / 230 / 240 Vac ±5% (settable)				
AC output range (bypass mode)		0 ~ 121 / 132 / 138 / 144 Vac for 100 / 110 / 115 / 120 Vac ±10 Vac 0 ~ 242 / 264 / 276 / 288 Vac for 200 / 220 / 230 / 240 Vac ±10 Vac				
AC output range (mains mode)		100 V: 90 ~ 110 Vac 110 V: 99 ~ 121 Vac 115 V: 103 ~ 126 Vac 120 V: 108 ~ 132 Vac 200 V: 166 ~ 226 Vac 220 V: 188 ~ 245 Vac 230 V: 199 ~ 254 Vac 240 V: 210 ~ 264 Vac				
Output frequency		50 / 60 Hz ±0.3 Hz (settable)				
Waveform		Sinusoidal				
Inverter efficiency		Max. 75%	Max. 80%		Max. 85%	
Energy saving mode		Settable (< 3% load) , enter in 80 s				
No-load shutdown		Settable (< 3% load), shut down in 80 s				
Transfer time		⩽ 10 ms				
THDV (resistive load)		⩽ 5%				
Protections		Surge, Short circuit, Overload, Battery overcharge, Over-discharge, over-temperature				
Overload time (mains mode)		120 s for 110%, 60 s for 125%, 10 s for 150% (transfer to bypass mode)				
Overload time (inverter mode)		60 s for 110%, 10 s for 125%, 5 s for 150% (shut down directly)				
Mute		Automatic mute in 60 s or by manual				
BATTERIES						
Inbuilt Battery (St model)		/	12 V / 7 Ah × 2	12 V / 9 Ah × 2	12 V / 9 Ah × 3	12 V / 9 Ah × 4
External Battery (Ex model)		12 V × 1	12 V × 2	/	12 V × 4	
Charging current	St model	1 A (default)				
	Ex model	10 A (default); < 10 A, set step 1 A; ⩾ 10 A, set step 5 A				
		10A Max.	15A Max.	/	20A Max.	25A Max.
Equalizing charging voltage		Single battery 14.1 Vdc (default), 13.6 ~ 15 Vdc adjustable				
Floating charge voltage		Single battery 13.5 Vdc (default), 13.2 ~ 14.6 Vdc adjustable				
Low voltage alarm point		Single battery 10.8 Vdc (default), 9.6 ~ 13 Vdc adjustable				
Low voltage shutdown point		Single battery 10.2 Vdc (default), 9.6 ~ 11.5 Vdc adjustable				
COMMUNICATIONS						
USB+RJ45 (standard) / USB+ RS232 (optional)		Supports Windows® 98 / 2000 / 2003 / XP / Vista / 2008 / 7 / 8 / 10				
SNMP (optional)		Power management from SNMP manager and web browser (standard with slot)				
OTHERS						
Operating temperature		5℃ ~ 40℃				
Operating humidity		Relative humidity ⩽ 93%				
Noise level		⩽ 50 dB (1m)				
Tower	Dimensions (W × D × H) (mm)	345 × 215 × 144 (St / Ex)			410 × 215 × 144 (St) 345 × 215 × 144 (Ex)	467 × 335.5 × 190 (St / Ex)
	Packaged dimensions (W × D × H) (mm)	427 × 316 × 236 (St / Ex)			492 × 316 × 236 (St) 427 × 316 × 236 (Ex)	592 × 462 × 320 (St / Ex)
	Net weight (kg)	7.0 (Ex)	12.2 (St) 11.6 (Ex)	14.2 (St)	18.5 (St) 17.8 (Ex)	28.1 (St) 28.0 (Ex)
	Gross weight (kg)	8.0 (Ex)	13.2 (St) 12.6 (Ex)	15.2 (St)	19.8 (St) 18.8 (Ex)	30.2 (St) 30.0 (Ex)
Rack mount	Dimensions (W × D × H) (mm)	/	440 × 338 × 88 (St)	440 × 410 × 132 (St)		
	Packaged dimensions (W × D × H) (mm)	/	611 × 448 × 208 (St)	611 × 505 × 235 (St)		
	Net weight (kg)	/	14.6 (St)	17.2 (St)	21.3 (St)	26.7 (St)
	Gross weight (kg)	/	16.8 (St)	20.4 (St)	24.5 (St)	30.5 (St)

* St means standard model, Ex means long time model
* All specifications subject to change without notice

Atom Inverter

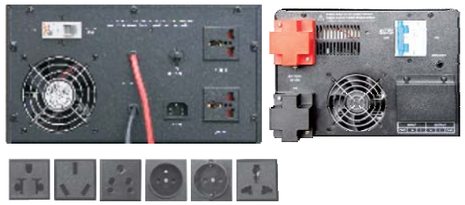
300W ~ 3500W

The Atom Inverter is desirable long backup power solution for home and office appliances. It is not only an inverter but also contains a powerful intelligent charger. It provides pure sine wave power to all kinds of loads. And it can be used as UPS for computers as well.



Features

- DSP digital control technology
- Pure sine wave output
- Suitable for all kinds of loads, such as resistive, inductive and rectified loads and motors
- Use of pulse by pulse technology, improving load shock ability
- Maximum charging current up to 60A. Settable charging current and charging voltage on front panel
- Settable no-load shutdown and energy saving mode
- Short circuit, overload and low battery protection
- Intelligent long backup time up to 10 hours (based on battery bank and loads)
- Compatible with generators and the matching of inverter and generator is settable
- Usable as off-grid solar inverter combined with charging controller



Technical specifications

MODEL	ATOM 300	ATOM 600	ATOM 1000	ATOM 1600	ATOM 2500	ATOM 3500
Capacity	**300 W**	**600 W**	**1000 W**	**1600 W**	**2500 W**	**3500 W**
DC INPUT						
Nominal input voltage	12 V			24 V		
DC input voltage range	10 V ~ 15 V			20 V ~ 30 V		
AC INPUT						
Bypass voltage	0 ~ 264 Vac / 276 Vac / 288 Vac ±10 Vac for 220 Vac / 230 Vac / 240 Vac					
AC voltage	150 ~ 282 Vac for 220 Vac,156 ~ 294 Vac for 230 Vac,163 ~ 307 Vac for 240 Vac					
Frequency	50 Hz / 60 Hz (auto-sense), 45 ~ 55 Hz for 50 Hz, 55 ~ 65 Hz for 60 Hz					
Input voltage of generator	99 ~ 282 Vac for 220 Vac,104 ~ 294 Vac for 230 Vac,108 ~ 307 Vac for 240 Vac					
Input frequency of generator	40 ~ 70 Hz					
Input power limitation	Rated power 10% ~ 150%, regulating step 10%					
OUTPUT						
DC mode output voltage	220 V / 230 V / 240 Vac ±5%					
AC mode output voltage	174 ~ 242 Vac for 220 Vac,182 ~ 253 Vac for 230 Vac, 190 ~ 264 Vac for 240 Vac					
Nominal output frequency	50 Hz / 60 Hz ±0.3 Hz (auto-sense & settable)					
Output waveform	Sinusoidal					
Output power	300 W	600 W	1000 W	1600 W	2500 W	3500 W
Efficiency	Max. 95% (mains mode); Max. 80% (inverter mode)					
ECO mode	Settable (< 3% load) to enter in 80 s					
No-load shutdown	Settable (< 3% load) shutdown in 80 s					
Transfer time	⩽ 10 ms				⩽ 15 ms	
Power factor	1.0					
THD	< 5% (linear load)					
Overload	Mains mode: 110% for 120 s, 125% for 60 s, 150% for 10 s (switch to bypass) Inverter mode: 110% for 60 s; 125% for 10 s; 150% for 10 s (shut down)					
BATTERIES						
Charging current (selectable)	Max. 15 A	Max. 30 A	Max. 40 A	Max. 40 A	Max. 50 A	Max. 60 A
Equalizing charge voltage	Single battery 14.1 Vdc (default), 13.6 ~ 15 Vdc adjustable					
Floating charge voltage	Single battery 13.5 Vdc (default), 13.2 ~ 14.6 Vdc adjustable					
Charge mode	3 stage charge mode					
EOD	Single battery 10.2 Vdc (default), 9.6 ~ 11.5 Vdc adjustable					
Reverse warning	Buzzer					
OTHERS						
Human-machine interface	LCD & BUZZER					
Operating temperature	0℃ ~ 40℃					
Operating humidity	5% ~ 95% RH					
Forced air cooling	Variable speed fans					
Net weight (kg)	8.3	11.3	14.0	20.2	32.0	36.0
Gross weight (kg)	9.3	12.3	15.0	21.2	34.0	38.0
Dimensions (W × D × H) (mm)	280 × 258 × 120		293 × 280 × 160		302 × 479 × 209	
Packaged dimensions (W × D × H) (mm)	330 × 352 × 200		370 × 355 × 235		353 × 582 × 287	

* All specifications subject to change without notice

Alpha Pro

1KVA ~ 3KVA
PF 0.9 (1 : 1)

Applications

SOHO, PC, POS machines
IT and Network equipment
Telecommunication facilities
ATM / Bank terminal system
Small financial transaction / Clearing center
Precision instruments, Automation system

Highlights

- ☑ **High power factor**
- ☑ **Stronger carrying capacity**
- ☑ **Powerful battery charger**
- ☑ **Frequency conversion**
- ☑ **ECO mode**
- ☑ **Low noise level**
- ☑ **Multiple communication ports**
- ☑ **Built-in isolation transformer (Optional)**

Alpha Pro Series UPS is on-line double-conversion UPS with advanced full-time DSP control technology and input power factor correction, it is featured with output power factor 0.9 which enable to delivering more stable and clean power without interruption for critical equipment. Besides sufficient runtime as backup power, Alpha Pro extensible model with powerful battery charger can be fitted with external battery packs for longer runtime requirements. In addition to some standard features, like cold start, wide input range, Alpha Pro is also featured with many advanced features, such as auto fan speed control, ABM, ECO mode, frequency conversion mode etc.

Features

True On-line double conversion technology

Alpha Pro series is on-line double conversion UPS which provides ideal electrical output performance with continuous and uninterruptable high quality power in switching from AC to DC or DC to AC.

DSP-Digital signal processor technology

Alpha Pro uses advanced USA native CPU chip with ability of faster and more accurate processing of signal data, keep UPS running in a high efficiency and low energy wasting condition. Providing you with rapid failure response and useful failure code for mechanical maintenance, raise MTBF, decrease MTTR.

High power factor

Alpha Pro input power factor closes to 1 with power factor correction, and output power factor 0.9 enables UPS to deliver more power and increase the load capacity by 13% compared with traditional products.

Wide input voltage range & auto sensing frequency

Alpha Pro has excellent voltage regulation ability with an ultra-wide input voltage range from 110 - 300 Vac, and auto-sensing 50 Hz / 60 Hz frequency to meet all kinds of grid environment.

Cold start capability

In the absence of any AC input, the cold start function allows users to start the UPS with the batteries, and without any damage to them or the circuits.

Multiple operating modes

Different operating modes (Line mode, Bypass mode, Stdby mode, Battery mode, ECO mode, CUCF/Frequency conversion mode and Fault mode) can be programmed according to user requirements.

Auto Power-on and Shut-down function

Under low or no-load conditions, the UPS will automatically shut down and switch to bypass mode, when the load is enabled again, the UPS will be automatically turned on and switch back to the mains power mode. This energy saving feature is great suitable for situations like office loads various from day and night.

Excellent performance and reliability

Complete hardware and software protection
Alpha Pro is equipped with over voltage, overload, surge, short circuit, over temperature protection, IGBT pulse by pulse current limiting protection, greatly ensure the stability and reliability of the system.
Power- on self test
The UPS performs advanced self-diagnostics to ensure the functionality of the UPS system and batteries, and to anticipate events before they occur.
Low noise level
Load-based fan speed control makes UPS produce low noise.

Advanced Battery Management (ABM)

Battery test function and deep discharge protection
The system has automatic / manual battery test function and deep discharge protection to optimize battery life. At the end of battery discharge, the system will pre-alarm to remind users.
Advanced charging technology

- Automatic charging in OFF mode
- By monitoring and control the battery periodically self-test, automatically equalizing charge and floating charge control, effectively extending the battery life
- By powerful battery charger with rapid and stable charging technology, 90% capacity can be restored in 3 hours for standard model UPS, and higher charging current is available for extensible model

Flexible and optimized battery number design
More economical battery usage and costs with different DC voltage (24 V / 36 V / 48 V / 72 V / 96V) and two UPS models (Standard model or Extensible model) for options

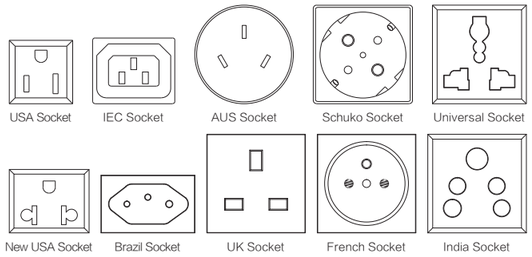
Multiple functions settable via LCD panel

Output voltage, output frequency, Bypass mode, ECO mode, battery low voltage and Frequency Converter enable/disable are settable via LCD panel.

Extensible functions and options

EPO function (Optional)
Alpha Pro is equipped with an Emergency Power Off function, providing users with a way of immediately shutting down all output power from the UPS in the case of emergencies such as fire, flood, and overheating equipment.
Optional built-in isolation transformer (Optional)
Built-in power purifying isolation transformer protects the load from even the most-damaging power disturbances.
Advanced multi-platform communications
Standard RS232 communication port and RJ45 protection
Optional USB / RS485 / dry contacts card / SNMP / SMS / communication port

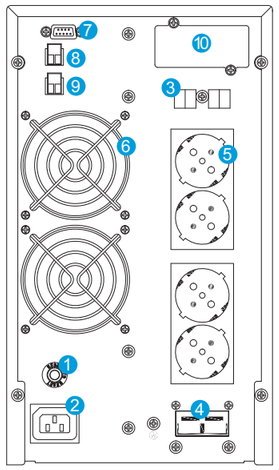
Available Sockets



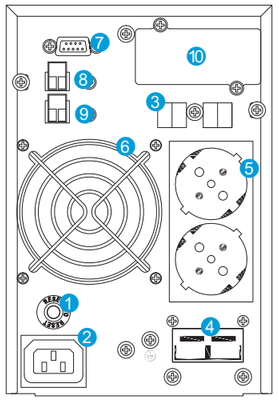
Available Options

Communication Ports
USB / RS485 / AS400 / SNMP / SMS
Software
UPSmart / iStars
Others
Built-in isolation transformer
Emergency Power Off (EPO)
Additional 6A charger (2/3K extensible model)

Details



2 ~ 3 KVA



1 KVA

1. Overcurrent Protection
2. AC Input
3. Modem/Tel/Fax
4. DC Input
5. Outlet
6. Fan
7. RS232
8. USB (optional)
9. EPO (optional)
10. SNMP/AS400 (optional)

Technical specifications

MODEL		APO 1000	APO 2000	APO 3000
Capacity		**1 KVA / 900 W**	**2 KVA / 1800 W**	**3 KVA / 2700 W**
INPUT				
Rated voltage		208 / 220 / 230 / 240 Vac		
Voltage range		110 ~ 176 Vac (linear derating between 50% and 100% load); 176 ~ 280 Vac (no derating); 280 ~ 300 Vac (derating 50%)		
Frequency		40 ~ 70 Hz (auto-sense)		
Power factor		⩾ 0.99		
Bypass voltage range		−25% ~ +15% (settable)		
OUTPUT				
Voltage		208 / 220 / 230 / 240 Vac (settable)		
Voltage regulation		± 1%		
Frequency		Mains mode: synchronized with utility; 45 ~ 55 Hz or 55 ~ 65 Hz (synchronized range) Battery mode: 50 / 60 ±0.1 Hz;		
Waveform		Sinusoidal		
Crest factor		3:1		
Harmonic distortion		⩽ 2% with linear load; ⩽ 5% with non-linear load		
Transfer time		Mains mode to battery mode: 0 ms Inverter mode to bypass mode: 4 ms (typical)		
Overload capability		105% ~ 125%: transfer to bypass in 1 min; 125% ~ 150%: transfer to bypass in 30 s; > 150%: transfer to bypass in 300 ms		
EFFICIENCY				
Mains mode		⩾ 90%	⩾ 91%	⩾ 92%
Battery mode		⩾ 85%	⩾ 86%	⩾ 87%
ECO mode		⩾ 95%	⩾ 96%	⩾ 97%
BATTERIES				
Inbuilt battery / DC voltage	Standard model	12 V / 9 Ah × 2 (24 V)	12 V / 9 Ah × 4 (48 V)	12 V / 9 Ah × 6 (72 V)
		12 V / 7 Ah × 3 (36 V)	12 V / 7 Ah × 6 (72 V)	12 V / 7 Ah × 8 (96 V)
	Extensible model	36 V	72 V	96 V
Charging current (max.)		Standard model: 1 A; Extensible model: 6 A		
Recharge time		Standard model: 90% capacity restored in 3 hours; Extensible model: depend on the capacity of battery		
COMMUNICATIONS				
RS232 (standard) / USB (optional)		Supports Windows® 98 / 2000 / 2003 / XP / Vista / 2008 / Windows® 7 / 8 / 10		
SNMP (optional)		Power management from SNMP manager and web browser		
OTHERS				
Protections		Overload, surge, Short circuit, battery low voltage, battery overcharge, over-temperature		
Operating temperature		0 ~ 40℃		
Relative Humidity		0 ~ 90% (non-condensing)		
Noise level		⩽ 50 dB (1m)		
Dimensions (W × D × H) (mm)	Standard model	144 × 336 × 214 (24V)	191 × 418 × 335	191 × 418 × 335 (72V)
		144 × 414 × 214 (36V)		191 × 464 × 335 (96V)
	Extensible model	144 × 336 × 214		191 × 418 × 335
Packaged dimensions (W × D × H)	Standard model	232 × 417 × 318 (24V)	318 × 533 × 471	318 × 533 × 471 (72V)
		232 × 492 × 318 (36V)		318 × 573 × 471 (96V)
	Extensible model	232 × 417 × 318		318 × 533 × 471
Net weight / Gross weight (Kg)	Standard model	9.5 / 10.5 (24V)	18 / 19.5 (48V)	27.2 / 29 (72V)
		13 / 14.2 (36V)	25.7 / 27.4 (72V)	32 / 34 (96V)
	Extensible model	6 / 7	10.5 / 12	11 / 12.5

* Capacity be derated to 70% in CUCF mode and to 90% when the output voltage is adjusted to 208Vac
* All specifications subject to change without notice

Alpha Pro

6KVA ~ 10KVA
PF 0.9 (1 : 1)

Applications

IT and Network equipment
ATM / Bank terminal system
Small financial trading center
SCADA monitoring system
Electricity & railway signaling system
Precision instruments, Automation system

Highlights

- ☑ **Compact and reliable**
- ☑ **High power factor 0.9**
- ☑ **High availability**
- ☑ **Flexible battery configuration**
- ☑ **Doubling the battery charging speed**
- ☑ **N+X redundancy parallel**
- ☑ **Multiple communication ports**
- ☑ **Powerful background software**

Alpha Pro Series UPS is on-line double-conversion UPS with high power density (Input PF≥ 0.99) and an enhanced output power factor of 0.9. It offers high levels of reliability and protection for IT systems, telecommunications equipment and mission critical systems, ensuring maximum power reliability. In addition to some standard features, like cold start, wide input range, ECO mode, Alpha Pro is also featured with many advanced features, such as auto fan speed control, ABM, configurable switching time, frequency conversion mode, parallelable, powerful battery charger and background software etc.

Features

High reliability

- Advanced DSP digital control technology is applied to rectifier and inverter.
- Fan speed varies intelligently with temperature, reducing noise and increasing its service life.
- Rear ventilation design, fan operating in slow speed, UPS being able to work for a long time in harsh environment.
- Effective software and hardware protection function, powerful self-diagnostic function.
- Advanced digital parallel redundant configuration for power system not only greatly improve system reliability, reduce MTTR, but also allows users to multiply capacity and uptime for future expansion by adding additional UPS systems.

High availability

- Wide input voltage range, self-adaptive 50Hz /60 Hz grid system, suitable for various grid environments.
- Linear derating in low voltage input, reducing battery discharging times, extending the service life of battery.
- Output power factor improved from 0.8 to 0.9, load-carrying capacity increased by 13%.
- Flexible and optimized battery number design (14 ~ 20pcs optional) for more economical battery usage and costs with different DC voltage (168 / 180 / 192 / 204 / 216 / 228 / 240 Vdc optional), and two UPS models
- (Standard model or Extensible model) for options.
- Doubling the battery charging speed, 90% capacity restored in 4 hours for standard model UPS.
- Cold start: Ability to switch on the UPS with batteries in the absence of mains power.
- UPS power supply mode has no transfer time to ensure uninterruptible power.
- Configurable switching time from battery mode to mains mode when mains power is restored, reducing the impact on power grid or generator.
- Frequency conversion mode: 50Hz input / 60Hz output or 60Hz input / 50Hz output.

High usability

- LCD+LED display, multi-functional keys operation, friendly human-machine interface.
- Powerful background software for parameters configuration and online updating.
- Compact internal layout, miniaturized the complete unit for small footprint .

High intelligence

- Advanced multi-platform communications: standard RS232, optional USB, RS485, SNMP and dry contacts communication interfaces are used for monitoring UPS running status. Among them, SNMP is for remote network monitoring and management, by which can configure regular battery self test.
- Intelligent battery management, automatic floating / equalizing charge control, charger dormancy control, improving the reliability of charger and extending battery service life by 50%.

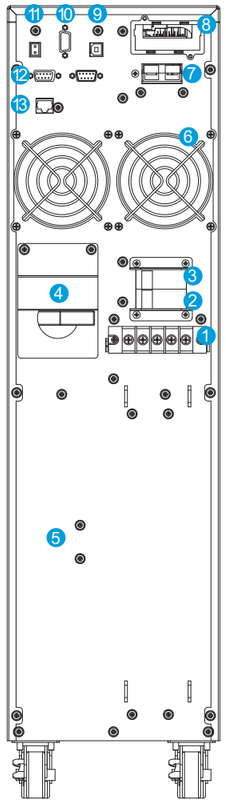
Energy conservation and environment protection

- Active power factor correction (APFC), input power factor up to 0.99.
- Work efficiency up to 98% in ECO mode.
- Auto power ON/OFF according to the load capacity set by users.

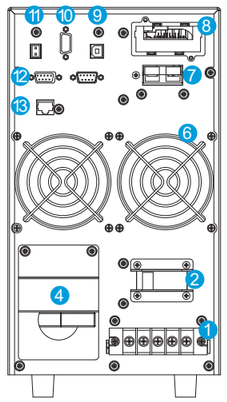
Available Options

Communication Ports
USB / RS485 / SNMP / AS400 / SMS alarms
Software
UPSmart / iStars
Others
Maintenance bypass
Parallel card
Battery temperature compensation
EMD environmental sensors

Details



Standard model



Extensible model

1. Input and output terminal
2. Input breaker
3. Inbuilt battery breaker
4. Maintenance bypass (optional)
5. Inbuilt battery
6. Fan
7. External battery connector
8. Intelligent slot (SNMP / AS400 / RS485 optional)
9. USB (optional)
10. RS232
11. EPO
12. Parallel card (optional)
13. Battery temperature compensation (optional)

Technical specifications

MODEL	APO 6000	APO 10000
Capacity	**6 KVA / 5400 W**	**10 KVA / 9000 W**
INPUT		
Rated voltage	208 / 220 / 230 / 240 Vac	
Voltage range	110 ~ 160 Vac (linear derating between 50% and 100% load); 160 ~ 280 Vac (no derating); 280 ~ 300 Vac (derating 50%)	
Rated frequency	50 / 60 Hz (auto-sense)	
Frequency range	40 ~ 70 Hz	
Power factor	⩾ 0.99	
Total harmonic distortion (THDI)	⩽ 5%	
Bypass voltage range	– 40% ~ + 15% (settable)	
OUTPUT		
Voltage	208 / 220 / 230 / 240 Vac (settable)	
Voltage regulation	± 1%	
Frequency	45 ~ 55 Hz or 55 ~ 65 Hz (synchronized range); 50 / 60 Hz ±0.1 Hz (battery mode)	
Waveform	Sinusoidal	
Crest factor	3:1	
Total harmonic distortion (THDV)	⩽ 2% (linear load); ⩽ 5% (non-linear load)	
Transfer time	Mains mode to battery mode: 0 ms; Inverter mode to bypass mode: 0 ms	
Inverter overload capability	102% ~ 125%: Transfer to bypass in 10 min; 125% ~ 150%: Transfer to bypass in 1 min; > 150%: Transfer to bypass in 0.5 s	
Bypass overload capability	102% ~ 125%: Shut down in 20 min; 125% ~1 50%: Shut down in 2 min; > 150%: Shut down in 1 s	
BATTERIES		
DC voltage	192 Vdc (168 / 180 / 192 / 204 / 216 / 228 / 240 Vdc optional)	
Inbuilt battery of standard model	12V / 7 Ah × 16	12V / 9 Ah × 16
Recharge time	Standard model: 90% capacity restored in 4 hours; Extensible model: depend on the capacity of battery	
SYSTEM		
EFFICIENCY	⩾93%, ECO mode 98%	
Display	LCD + LED	
Protections	Overload, surge, Short circuit, battery low voltage, battery overcharge, over-temperature	
Alarms	Battery mode, low battery voltage, fans fault etc.	
Maximum Parallel numbers	6	
EMI	IEC/EN 62040-2	
EMS	IEC 61000-4-2 (ESD); IEC 61000-4-3 (RS); IEC 61000-4-4 (EFT); IEC 61000-4-5 (Surge)	
COMMUNICATIONS		
RS232 (standard) USB / RS485 / dry contacts (optional)	Supports Windows® 98 / 2000 / 2003 / XP / Vista / 2008 / 7 / 8 / 10	
SNMP (optional)	Power management from SNMP manager and web browser	
OTHERS		
Humidity	20 ~ 90% RH @ 0 ~ 40℃ (non-condensing)	
Noise level	⩽ 55 dB (1m)	
Dimensions (W × D × H) (mm)	191 × 462 × 710 (St); 191 × 462 × 350 (Ex)	
Packaged dimensions (W × D × H) (mm)	308 × 640 × 896 (St); 267 × 573 × 436 (Ex)	
Net weight (kg)	58.7 (St); 15.6 (Ex)	67.2 (St); 16.1 (Ex)
Gross weight (kg)	64.8 (St); 17.9 (Ex)	73.3 (St); 18.4 (Ex)

* Derate capacity to 70% in frequency conversion mode and to 90% when the output voltage is adjusted to 208Vac.
* St means standard model, Ex means extensible model.
* All specifications subject to change without notice.

Alpha Pro RT

1KVA ~ 3KVA
PF 0.9 (1 : 1)

Applications

SOHO, PC, POS machines
Blade servers, storage systems
Telecommunication facilities
Small financial trading center
ATM / Bank terminal system
Precision instruments, Automation system

Highlights

- ☑ **Tower / Rack convertible**
- ☑ **High power factor**
- ☑ **Stronger carrying capacity**
- ☑ **Powerful battery charger**
- ☑ **Frequency conversion**
- ☑ **ECO mode**
- ☑ **Low noise level**
- ☑ **Multiple communication ports**

Alpha Pro RT Series UPS is the high density version of on-line double-conversion UPS with advanced full-time DSP control technology and input power factor correction, it is featured with output power factor 0.9 which enable to delivering more stable and clean power without interruption for critical equipment. Its Rack/Tower convertible design can be fitted to multiple applications, such as telecommunication, storage systems, medical systems, industrial applications especially ideal for blade severs. For critical business continuity applications requiring long runtimes, Alpha Pro RT (extensible model) can be installed with battery extension packs.

Features

True On-line double conversion technology

Alpha Pro is an On-line double conversion UPS which provides ideal electrical output performance with continuous and uninterruptable high quality power in switching from AC to DC or DC to AC.

DSP-Digital signal processor technology

Alpha Pro uses advanced USA native CPU chip with ability of faster and more accurate processing of signal data, keep UPS running in a high efficiency and low energy wasting condition. Providing you with rapid failure response and useful failure code for mechanical maintenance, raise MTBF, decrease MTTR.

Tower / Rack convertible and simplified installation

Users can easily install the UPS system as either a tabletop or a rack mounted device by utilizing the easy-shift LCD display.

High power factor

Alpha Pro input power factor closes to 1 with power factor correction, and output power factor 0.9 enables UPS to deliver more power and increase the load capacity by 13% compared with traditional products.

Wide input voltage range & auto sensing frequency

Alpha Pro has excellent voltage regulation ability with an ultra-wide input voltage range from 110 - 300 Vac, and auto-sensing 50 Hz / 60 Hz frequency to meet all kinds of grid environment.

Cold start capability

In the absence of any AC input, the cold start function allows users to start the UPS with the batteries, and without any damage to them or the circuits.

Multiple operating modes

Different operating modes (Line mode, Bypass mode, Stdby mode, Battery mode, ECO mode, CUCF/Frequency conversion mode and Fault mode) can be programmed according to user requirements.

Auto Power-on and Shut-down function

Under low or no-load conditions, the UPS will automatically shut down and switch to bypass mode, when the load is enabled again, the UPS will be automatically turned on and switch back to the mains power mode. This energy saving feature is great suitable for situations like office loads various from day and night.

Excellent performance and reliability

Complete hardware and software protection
Alpha Pro is equipped with over voltage, overload, surge, short circuit, over temperature protection, IGBT pulse by pulse current limiting protection, greatly ensure the stability and reliability of the system.
Power- on self test
The UPS performs advanced self-diagnostics to ensure the functionality of the UPS system and batteries, and to anticipate events before they occur.
Low noise level
Load-based fan speed control makes UPS produce low noise.

Advanced Battery Management (ABM)

Battery test function and deep discharge protection
The system has automatic / manual battery test function and deep discharge protection to optimize battery life. At the end of battery discharge, the system will pre-alarm to remind users.
Advanced charging technology

- Automatic charging in OFF mode.
- By monitoring and control the battery periodically self-test, automatically equalizing charge and floating charge control, effectively extending the battery life.
- By powerful battery charger with rapid and stable charging technology, 90% capacity can be restored in 3 hours for standard model UPS, and higher charging current is available for extensible model.

Flexible and optimized battery number design
More economical battery usage and costs with different DC voltage (24 V / 36 V / 48 V / 72 V / 96V) and two UPS models (Standard model or Extensible model) for options.

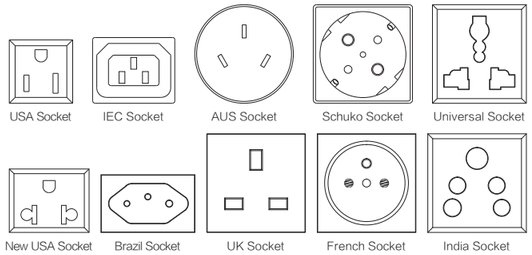
Multiple functions settable via LCD panel

Output voltage, output frequency, Bypass mode, ECO mode, battery low voltage and Frequency Converter enable/disable are settable via LCD panel.

Extensible functions and options

EPO function (Optional)
Alpha Pro is equipped with an Emergency Power Off function, providing users with a way of immediately shutting down all output power from the UPS in the case of emergencies such as fire, flood, and overheating equipment.
Advanced multi-platform communications
Standard RS232 communication port and RJ45 protection
Optional USB / RS485 / dry contacts card / SNMP / SMS / communication port

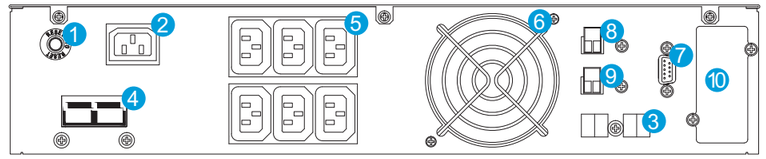
Available Sockets



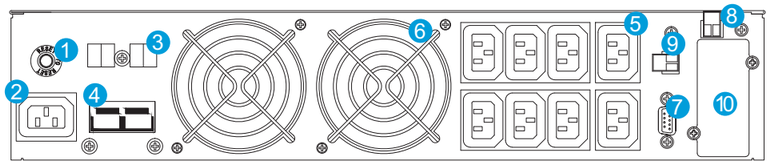
Available Options

Communication Ports
USB / RS485 / AS400 / SNMP / SMS
Software
UPSmart / iStars
Others
External maintenance bypass
Emergency Power Off (EPO)

Details



1 KVA



2 / 3 KVA

1. Overcurrent Protection
2. AC Input
3. Modem/Tel/Fax
4. DC Input
5. Outlet
6. Fan
7. RS232
8. USB (optional)
9. EPO (optional)
10. SNMP/AS400 (optional)

Technical specifications

MODEL		APOR 1000	APOR 2000	APOR 3000
Capacity		**1 KVA / 900 W**	**2 KVA / 1800 W**	**3 KVA / 2700 W**
INPUT				
Rated voltage		208 V / 220 V / 230 V / 240 Vac		
Voltage range		110 ~ 176 Vac (linear derating between 50% and 100% load); 176 ~ 280 Vac (no derating); 280 ~ 300 Vac (derating 50%)		
Frequency		40 ~ 70 Hz (auto-sense)		
Power factor		⩾ 0.99		
Bypass voltage		−25% ~ +15% (settable)		
OUTPUT				
Voltage		208 V / 220 V / 230 V / 240 Vac (settable via LCD)		
Voltage regulation		± 1%		
Frequency		45 ~ 55 Hz or 55 ~ 65 Hz (synchronized range); 50 / 60 Hz ±0.1 Hz (battery mode)		
Waveform		Sinusoidal		
Crest factor		3:1		
Harmonic distortion		⩽ 2% (linear load); ⩽ 5% (non-linear load)		
Transfer time		Mains mode to battery mode: 0 ms Inverter mode to bypass mode: 4 ms (typical)		
Overload capacity		105% ~ 125%: transfer to bypass in 1 min; 125% ~ 150%: transfer to bypass in 30s; >150%: transfer to bypass in 300 ms		
EFFICIENCY				
Mains mode		⩾ 90%	⩾ 91%	⩾ 92%
Battery mode		⩾ 85%	⩾ 86%	⩾ 87%
ECO mode		⩾ 95%	⩾ 96%	⩾ 97%
BATTERIES				
Inbuilt battery / DC voltage	Standard model	12 V / 9 Ah × 2 (24 V)	12 V / 9 Ah × 4 (48 V)	12 V / 9 Ah × 6 (72 V)
		12 V / 7 Ah × 3 (36 V)	12 V / 7 Ah × 6 (72 V)	12 V / 7 Ah × 8 (96 V)
	Extensible model	36 V	72 V	96 V
Charging current (max.)		Standard model 1A; Extensible model 6 A		
Recharge time		Standard model: 90% capacity restored in 3 hours; Extensible model: depend on the capacity of battery		
COMMUNICATIONS				
RS232 (standard) / USB (optional)		Supports Windows® 98 / 2000 / 2003 / XP / Vista / 2008 / Windows® 7 / 8 / 10		
SNMP (optional)		Power management from SNMP manager and web browser		
OTHERS				
Protections		Overload, surge, Short circuit, battery low voltage, battery overcharge, over-temperature		
Operating temperature		0 ~ 40℃		
Relative Humidity		0 ~ 90% (non-condensing)		
Noise level		⩽ 50 dB (1 m)		
Dimensions (W × D × H) (mm)	Standard model	440 × 468 × 88	440 × 658 × 88	440 × 658 × 88 (72V)
				440 × 468 × 88 (UPS) (96V)
				440 × 468 × 88 (BAT pack)
	Extensible model		440 × 468 × 88	440 × 468 × 88
Packaged dimensions (W × D × H)	Standard model	545 × 592 × 198	545 × 782 × 198	545 × 782 × 198 (72V)
				545 × 592 × 198 (UPS) (96V)
				545 × 592 × 198 (BAT pack)
	Extensible model		545 × 592 × 198	545 × 592 × 198
Net weight / Gross weight (Kg)	Standard model	12.26 / 15.78 (24V)	22.73 / 26.63 (48V)	29.26 / 33.16 (72V)
		13.78 / 17.3 (36V)	25.86 / 29.76 (72V)	9.45 / 12.97 (UPS)
				27.2 / 30.2 (BAT) (96V)
	Extensible model	7.58 / 11.1	9.66 / 13.18	10.04 / 13.56

* Capacity be derated to 70% in CUCF mode and to 90% when the output voltage is adjusted to 208Vac
* All specifications subject to change without notice

Alpha RT

6KVA ~ 10KVA
PF 0.9 (1 : 1)

Features

- Rack / Tower design
- High frequency and true double-conversion
- DSP digital control technology
- Input power factor correction (PFC)
- Wide input voltage range (110 V ~ 300 V)
- Output power factor 0.9
- Cold start
- Auto sensing frequency
- ECO mode operation for energy saving
- Selectable output voltage via LCD
- 50 Hz / 60 Hz frequency conversion mode
- Selectable battery low voltage via LCD
- Power-on self test
- Advanced battery management (ABM)
- Short circuit and overload protection
- Automatic charging in OFF mode
- Fan speed auto control when temperature varies
- Standard RS232 communication port and RJ45 protection
- Optional USB / SNMP communication port
- Optional emergency power off (EPO)
- Optional extension battery bank
- Optional N+X redundancy parallel
- Optional external maintenance bypass

Details

1. AC Input
2. Modem/Tel/Fax
3. DC Input
4. Outlet
5. Fan
6. RS232
7. USB (optional)
8. EPO (optional)
9. SNMP/AS400 (optional)
10. Parallel Card (optional)

Technical specifications

MODEL		ALR 6000	ALR 10000
Capacity		**6 KVA / 5400 W**	**10 KVA / 9000 W**
INPUT			
Rated voltage		208 V / 220 V / 230 V / 240 Vac	
Voltage range		(115 ~ 295) ±5 Vac,(linear derating between 50% and 100%load); full load (165 ~ 295) ±5 V ac	
Frequency		40 ~ 70 Hz ±0.5% (auto-sense)	
Power factor		⩾ 0.99	
Bypass voltage range		rated output voltage*73%~ rated output voltage*115%	
OUTPUT			
Voltage		208 V / 220 V / 230 V / 240 Vac (settable via LCD)	
Voltage regulation		±1%	
Frequency		Synchronized with utility in mains mode; 50 / 60 Hz ±0.2 Hz in battery mode	
Waveform		Sinusoidal	
Crest factor		3:1	
Harmonic distortion		⩽ 2% (linear load); ⩽ 5% (non-linear load)	
Transfer time		Mains mode to battery mode: 0 ms; Inverter mode to bypass mode: 0 ms	
Overload		105% ~ 125% for 3 mins, 125% ~ 150% for 30 s, >150% for 0.5 s	
EFFICIENCY			
Mains mode		⩾ 92%	
Battery mode		⩾ 91%	
ECO mode		⩾ 98%	
BATTERIES			
DC voltage		192 V	
Inbuilt battery of standard model		12 V / 7.0 Ah × 16	12 V / 9.0 Ah × 16
Charging current	Standard model	1 A	
	Long time model	1 A / 3 A / 5 A / 8 A	
Recharge time		8 h	
ALARMS			
Utility failure		4 s per beep	
Low battery		1 s per beep	
Overload		1 s twice beep	
UPS fault		Long beep	
COMMUNICATIONS			
RS232 (standard), USB (optional)		Supports Windows® 98 / 2000 / 2003 / XP / Vista / 2008 / Windows® 7 / 8 / 10	
SNMP (optional)		Power management from SNMP manager and web browser	
OTHERS			
Humidity		20~90% RH @ 0~40℃ (non-condensing)	
Noise level		⩽ 55 dB (1m)	
Extensible model	Dimensions (W ×D ×H) (mm)	440 ×555 ×132	
	Packaged dimensions (W × D × H) (mm)	535 ×660 ×215	
	Net / Gross weight (kg)	16.4 / 20.7	17.1 / 21.4
Standard model	Dimensions (W ×D ×H) (mm)	440 ×580 ×132 (UPS), 440 ×580 ×132 (BAT)	
	Packaged dimensions (W × D × H) (mm)	535 ×660 ×215 (UPS), 540 ×685 ×235 (BAT)	
	Net / Gross weight (kg)	16.4 / 20.7 (UPS)	17.1 / 21.4 (UPS)
		43.6 / 47.1 (BAT)	49.6 / 53.1 (BAT)

* Derate capacity to 70% in CUCF mode and to 90% when the output voltage is adjusted to 208Vac
* All specifications subject to change without notice

Axiom

6KVA ~ 20KVA
PF 0.9 (3:1)

Features

- High frequency and true double-conversion
- DSP digital control technology
- Wide input voltage range (110V ~ 300V)
- Output power factor 0.9
- Optimized battery configuration: 192V / 240V
- Cold start
- Auto sensing frequency
- ECO mode operation for energy saving
- 50/60Hz frequency conversion mode
- Selectable output voltage via LCD
- Selectable battery shutdown voltage (EOD) via LCD
- Selectable input mode via LCD (3:1 or 1:1)
- Power-on self test
- Advanced battery management (ABM)
- Short circuit and overload protection
- Automatic charging in OFF mode
- Fan speed auto control when temperatures varies
- Standard RS232 / USB communication port
- Standard emergency power off (EPO)
- Optional RS485 / SNMP / AS400 communication port
- Optional extension battery bank
- Optional battery temperature compensation
- Optional built-in isolation transformer
- Optional manual bypass
- Optional N+X redundancy parallel

Details

1. AC Input
2. DC Input
3. Outlet
4. Fan
5. RS232
6. USB
7. EPO
8. Manual Bypass (optional)
9. SNMP/AS400 (optional)
10. Breaker
11. Parallel Card (optional)
12. BAT_NTC (optional)

6 / 10 K (St) 15 / 20 K (Ex) 6 / 10 K (Ex)

Technical specifications

MODEL		AXM 06	AXM 10	AXM 15	AXM 20
Capacity		**6 KVA / 5.4 KW**	**10 KVA / 9 KW**	**15 KVA / 13.5 KW**	**20 KVA / 18 KW**
INPUT					
Rated voltage		3:1: 360 / 365 / 380 / 400 / 415 Vac; 1:1: 208 / 210 / 220 / 230 / 240 Vac (settable via LCD)			
Voltage range		3:1: half load (190 ~ 520) ±5Vac, full load (277 ~ 520) ±5 Vac; 1:1: half load (110 ~ 300) ±5Vac, full load (160 ~ 300) ±5 Vac.			
Frequency		40 ~ 70 Hz (auto-sense)			
Power factor		3:1 ⩾ 0.95; 1:1 ⩾ 0.99			
BYPASS					
Voltage range		160 V ~ rated output voltage +32 V			
Frequency		50 / 60 Hz ±5 Hz			
OUTPUT					
Voltage		208 / 210 / 220 / 230 / 240 Vac (settable via LCD)			
Voltage regulation		±1%			
Frequency		Synchronized with utility in mains mode; 50 / 60 ±0.2 Hz in battery mode			
Waveform		Sinusoidal			
Crest factor		3:1			
Harmonic distortion		⩽ 2% (linear load); ⩽ 5% (non-linear load)			
Transfer time		0 ms			
Overload capability		105% ~ 125%: transfer to bypass in 3 mins; 125% ~ 150%: transfer to bypass in 30 s; > 150%: transfer to bypass in 0.5 s			
EFFICIENCY					
Mains mode		⩾ 92%			
Battery mode		⩾ 91%			
ECO mode		⩾ 98%			
BATTERIES					
DC voltage		192 / 240 Vdc			
Inbuilt battery of standard model		12 V / 7.0 Ah × 16 / 20	12 V / 9.0 Ah × 16 / 20	/	
Charging current	Standard model	1 A		/	
	Extensible model	7 A			
Recharge time		Standard model (St): 8 h (90% capacity restored in 3 hours); Extensible model (Ex): depend on the capacity of battery			
ALARMS					
Utility failure		4 s per beep			
Low battery		1 s per beep			
Overload		1 s twice beep			
UPS fault		Long beep			
COMMUNICATIONS					
RS232 / USB (standard)		Supports Windows® 98 / 2000 / 2003 / XP / Vista / 2008 / Windows® 7 / 8 / 10			
SNMP (optional)		Power management from SNMP manager and web browser			
OTHERS					
Humidity		20 ~ 90% RH @ 0 ~ 40℃ (non-condensing)			
Noise level		⩽ 58 dB (1m)			⩽ 60 dB (1m)
Dimensions (W × D × H) (mm)		262×580×455 (Ex), 262×580×732 (St)		262×580×628 (Ex)	
Packaged dimensions (W × D × H) (mm)		355×682×615 (Ex), 359×687×937 (St)		359×687×832 (Ex)	
Net weight (kg)		25.0 (Ex), 73.0 (St)	25.5 (Ex), 74.0 (St)	38.5 (Ex)	39.0 (Ex)
Gross weight (kg)		28.5 (Ex), 82.5 (St)	29.0 (Ex), 83.5 (St)	47.0 (Ex)	47.5 (Ex)

* Derate capacity to 70% in CUCF mode and to 90% when the output voltage is adjusted to 208Vac
* 3:1 means three-phase input and single-phase output mode; 1:1 means single-phase input and single-phase output mode
* St means standard model, Ex means extensible model
* All specifications subject to change without notice

Aegis Pro

10KVA ~ 30KVA
PF 0.9 (3 : 3)

Applications

IDC – Internet Data Center
IPC – Industrial process control
ISP – Internet Service Provider
Financial transaction / Clearing center
Precision instruments, Automation system

Highlights

- **Compact**
- **Dual input**
- **High reliability & availability**
- **Flexible battery configuration**
- **Advanced fast charging technology**
- **N+X redundancy parallel**
- **Multiple communication ports**
- **Powerful background software**

Aegis Pro series UPS is three phase on-line double-conversion UPS designed in small footprints with input power factor correction (Input PF≥0.99) and an enhanced output power factor to 0.9. It's the ideal solution for critical information and telecommunication systems, network services. Aegis series UPS includes dual-mains input, automatic and maintenance bypass which make the system more reliable and easy to maintenance, moreover scalable runtime with flexible built-in/external batteries for increased availability.

Features

High reliability

- Advanced DSP digital control technology is applied to rectifier and inverter
- Fan speed varies intelligently with temperature, reducing noise and increasing its service life
- Rear ventilation design, fan operating in slow speed, UPS being able to work for a long time in harsh environment
- Effective software and hardware protection function, powerful self-diagnostic function and abundant historical log
- Advanced digital parallel redundant configuration for power system not only greatly improve system reliability, reduce MTTR, but also allows users to multiply capacity and uptime for future expansion by adding additional UPS systems

High availability

- Wide input voltage range, self-adaptive 50Hz /60 Hz grid system, suitable for various grid environments
- Linear derating in low voltage input, reducing battery discharging time, extending the service life of battery
- Dual input design, independent bypass available
- Output power factor improved from 0.8 to 0.9, load-carrying capacity increased by 13%
- Flexible and optimized battery number design with different DC voltage for more economical battery usage and costs (168/192/216/240Vdc optional), and two UPS models (Standard model or Extensible model) for options
- Doubling the battery charging speed, 90% capacity restored in 4 hours for standard model UPS, and higher charging current available for extensible model
- Cold start: Ability to switch on the UPS with batteries in the absence of mains power
- UPS power supply mode has no transfer time to ensure uninterruptible power
- Configurable switching time from battery mode to mains mode when mains power is restored, reducing the impact on power grid or generator
- Frequency conversion mode: 50Hz input / 60Hz output or 60Hz input / 50Hz output

High usability

- LCD+LED display, multi-functional keys operation, friendly human-machine interface
- Powerful background software for parameters configuration, online updating
- Compact internal layout, miniaturized the complete unit for small footprint
- Standard Emergency Power Off (EPO), standard maintenance bypass

High intelligence

- Advanced multi-platform communications: standard RS232 & USB, optional RS485, SNMP and dry contacts communication interfaces are used for monitoring UPS running status. Among them, SNMP is for remote network monitoring and management, by which can configure regular battery self test
- Advanced battery management (ABM), automatic floating / equalizing charge control, charger dormancy control, improving the reliability of charger and extending battery service life by 50%

Energy conservation and environment protection

- Active power factor correction (APFC), input power factor up to 0.99
- Work efficiency up to 98% in ECO mode
- Auto power ON/OFF according to the load capacity set by users

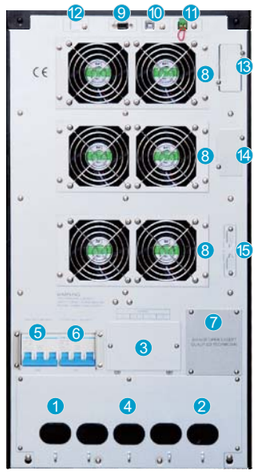
Available Options

Communication Ports
RS485 / AS400 / SNMP and SMS alarm
Software
UPSmart / iStars
Others
Parallel card
Battery temperature compensation
EMD environmental sensors

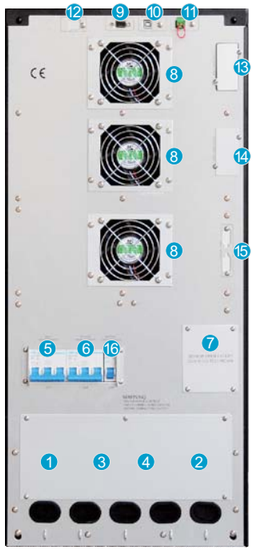
Details

1. Mains Input
2. DC Input
3. Bypass Input
4. Output
5. Mains Input Breaker
6. Bypass Input Breaker
7. Maintenance Bypass
8. Fan
9. RS232
10. USB
11. EPO
12. Battery Temperature Compensation (Optional)
13. Intelligent Slot 1 (SNMP / AS400 / RS485 Optional)
14. Intelligent Slot 2 (SNMP / AS400 / RS485 Optional)
15. Parallel Card (optional)
16. Battery Breaker

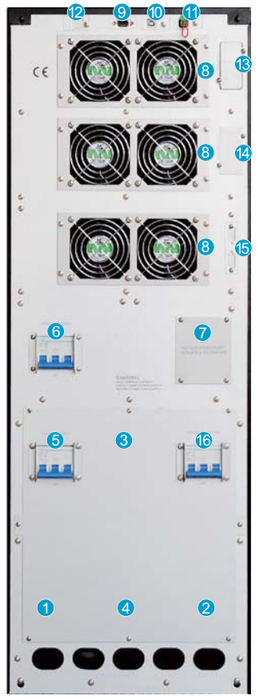
10 K (Ex)



15 ~ 30 K (Ex)



10 K (St)



15 ~ 30 K (St)

Technical specifications

MODEL	AGSP 10	AGSP 15	AGSP 20	AGSP 30
Capacity	**10 KVA / 9 KW**	**15 KVA / 13.5 KW**	**20 KVA / 18 KW**	**30 KVA / 27 KW**
INPUT				
Rated voltage	360 / 380 / 400 / 415 Vac			
Voltage range	277 ~ 485 Vac (no derating); 190 ~ 277 Vac (linear derating between 50% and 100% load)			
Rated frequency	50 / 60 Hz (auto-sense)			
Frequency range	40 ~ 70 Hz			
Power factor	⩾ 0.99			
Total harmonic distortion (THDI)	⩽ 5%			
Bypass voltage range	-40% ~ +15% (settable)			
OUTPUT				
Voltage	360 / 380 / 400 / 415 Vac (settable)			
Voltage regulation	± 1%			
Frequency	45 ~ 55 Hz or 55 ~ 65 Hz (synchronized range); 50 / 60 Hz ±0.1 Hz (battery mode)			
Waveform	Sinusoidal			
Crest factor	3:1			
Total harmonic distortion (THDV)	⩽ 2% with linear load; ⩽ 5% with non-linear load			
Transfer time	Mains mode to battery mode: 0 ms; Inverter mode to bypass mode: 0 ms			
Inverter overload capability	102% ~ 125%: transfer to bypass in 10 mins; 125% ~ 150%: transfer to bypass in 1 min; > 150%: transfer to bypass in 0.5 s			
Bypass overload capability	102% ~ 125%: shut down in 20 mins; 125% ~ 150%: shut down in 2 mins; > 150%: shut down in 1 s			
BATTERIES				
DC voltage	Standard model: 240 VDC; Extensible model: 192 VDC (168V / 192V / 216V / 240V optional)			
Inbuilt battery of standard model	12 V / 7.0 Ah × 20	12 V / 7.0 Ah × 40	12 V / 9.0 Ah × 40	12 V / 9.0 Ah × 60
Recharge time	Standard model: 4 h to 90% capacity; Extensible model: depend on the capacity of battery			
SYSTEM				
Efficiency	⩾ 93%, ⩾ 98% in ECO mode			
Display	LCD+LED			
Protections	Overload, surge, Short circuit, battery low voltage, battery overcharge, over-temperature			
Alarm	Battery mode, low battery, fans fault etc.			
Max. parallel numbers	6			
EMI	IEC/EN62040-2			
EMS	IEC61000-4-2 (ESD) ; IEC61000-4-3 (RS); IEC61000-4-4 (EFT) ; IEC61000-4-5 (surge)			
COMMUNICATIONS				
RS232 / RS485 / USB / dry contacts	Supports Windows® 98 / 2000 / 2003 / XP / Vista / 2008 / 7 / 8 / 10			
SNMP	Power management from SNMP manager and web browser			
OTHERS				
Humidity	20 ~ 90% RH @ 0-40℃ (non-condensing)			
Noise level	⩽ 60 dB (1m)	⩽ 65 dB (1m)		
Dimensions (W×D×H) (mm)	350 ×655 ×732 (Ex)			
	350 ×785 ×858 (St)	350 ×785 ×1078 (St)		
Packaged dimensions (W×D×H) (mm)	472 ×780 ×920 (Ex)			
	472 ×910 ×1050 (St)	472 ×910 ×1260 (St)		
Net weight (kg)	55 (Ex), 115 (St)	60 (Ex), 155 (St)	61 (Ex), 175 (St)	65 (Ex), 235 (St)
Gross weight (kg)	65 (Ex), 125 (St)	70 (Ex), 170 (St)	71 (Ex), 190 (St)	75 (Ex), 250 (St)

* Derate capacity to 90% when the output voltage is adjusted to 360 Vac.
* St means standard model, Ex means extensible model.
* All specifications subject to change without notice.

Aegis

10KVA ~ 120KVA
PF 0.9 (3 : 3)

Applications

IDC-Internet Data Center
SCADA monitoring system
Laboratory Precision instruments
Electricity & Railway signaling system
Network & Telecommunication facilities
Precision instruments, Automation system

Highlights

- ☑ **Modular design**
- ☑ **Dual input**
- ☑ **High efficiency**
- ☑ **High reliability**
- ☑ **Digitized charger**
- ☑ **Multiple communication ports**
- ☑ **Powerful background software**
- ☑ **Share battery pack in parallel operation**
- ☑ **Built-in isolation transformer (Optional)**

Aegis series UPS is the high density version of three phase on-line double-conversion UPS offers high levels of reliability and protection for IT systems, telecommunication equipment and mission critical systems like small data centers, large retail stores and regional offices. Its modularized design of subsystem, dual-mains input and standard maintenance bypass make maintenance easier on site, and high overall efficiency ensures low power consumption. Moreover for increased availability, scalable runtime is available with flexible built-in/external batteries. Meanwhile optional built-in isolation transformer makes the whole system more reliable.

Features

High reliability

- Advanced DSP digital control technology
- True On-line double conversion technology with strong carrying capacity
- Modular design with high reliability and easy to maintenance
- Effective software and hardware protection function, robust self-diagnostic function and abundant historical log for future check
- Three-level password control technology, including the power-on password, user password and maintenance password control
- Advanced digital parallel redundant configuration (up to 6 units) for power system not only greatly improve system reliability, reduce MTTR, but also allows users to multiply capacity and uptime for future expansion by adding additional UPS systems

High availability

- Dual input distribution makes system availability higher
- Wide input voltage range, self-adaptive 50Hz /60 Hz grid system, suitable for various grid environments
- Linear derating in low voltage input, reducing battery discharging times, extending the service life of battery
- Input power factor closes to 1, harmonic distortion of current is very low, and output power factor 0.9 enable UPS to deliver more power and increase the load capacity
- Frequency conversion mode: 50Hz input / 60Hz output or 60Hz input / 50Hz output
- Users can choose share battery pack to save cost or separate battery pack for different UPS with longer automation time
- Battery cold start and mains restoration auto-restart are available
- Optional built-in output isolation transformer meets customer's special requirement on electric isolation on UPS output

High usability

- 5.7 inches LCD touch screen, multi-functional keys operation, friendly human-machine interface
- Robust background software for parameters configuration, online updating
- Compact internal layout, miniaturized the complete unit for small footprint
- Standard Emergency Power Off (EPO)

High intelligence

- Advanced multi-platform communications: standard RS232 / USB / RS485 / dry contacts, optional SNMP communication interfaces are used for monitoring UPS running status
- Advanced intelligent battery management technique, digitized charger with flexible charger parameters setting and battery configuration (32 / 34 / 36 / 38 / 40 pcs selectable)
- When the batteries are out of warranty, the system will remind you

Energy conservation and environment protection

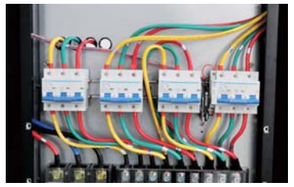
- Active power factor correction (APFC), input power factor up to 0.99
- Work efficiency up to 98.5% in ECO mode

Available Options

Communication Ports
SNMP and SMS alarm
Software
UPSmart / iStars
Others
Parallel card
Built-in isolation transformer
Battery temperature compensation

Details

1. SNMP (optional)
2. RS232
3. RS485
4. USB
5. Temp compensation
6. Battery protection
7. Dry contact
8. Parallel port (optional)



Technical specifications

MODEL	AGS 10	AGS 20	AGS 30	AGS 40	AGS 60	AGS 80	AGS 100	AGS 120
Capacity	10 KVA 9 KW	20 KVA 18 KW	30 KVA 27 KW	40 KVA 36 KW	60 KVA 54 KW	80 KVA 72 KW	100 KVA 90 KW	120 KVA 108 KW
INPUT								
Rated voltage	380 V / 400 V / 415 Vac							
Voltage range	204 ~ 242 Vac (load ⩽ 50%); 242 ~ 305 Vac (load ⩽ 70%); 305 ~ 520 Vac (load ⩽ 100%)							
Rated frequency	50 / 60 Hz (auto-sense)							
Frequency range	40 ~ 70 Hz							
Power factor	⩾ 0.99							
Total harmonic distortion (THDI)	⩽ 3%							
Bypass voltage range	Rated output voltage -40% ~ + 20% (settable via LCD)							
OUTPUT								
Voltage	380 V / 400 V / 415 Vac							
Voltage regulation	± 1%							
Frequency	Battery mode: 50 / 60 Hz; Mains mode: synchronized with utility; Frequency conversion mode: 50 Hz input and 60 Hz output or 60 Hz input and 50 Hz output							
Waveform	Sinusoidal							
Crest factor	3:1							
Total harmonic distortion (THDV)	⩽ 1% (linear load); ⩽ 5% (non-linear load)							
Transfer time	0 ms							
Inverter overload capability	102% ~ 127%: transfer to bypass in 10 mins; 127% ~ 150%: transfer to bypass in 1 min; > 150%: transfer to bypass in 0.5 s							
Bypass overload capability	⩽ 150%: long time running > 150%: shut down in 10 s							
BATTERIES								
DC voltage	± 192 V (options: ±204 V / ±216 V / ±228 V / ±240 V)							
Inbuilt battery of standard model	12 V / 9 Ah × 32	12 V / 9 Ah × 64	Extensible model only					
Charging current	1 ~ 12 A (settable via LCD)		1 ~ 24 A (settable via LCD)			1 ~ 24 A (settable via LCD) 1 ~ 48 A (optional)		
SYSTEM								
Efficiency	⩾ 93%; 98.5% in ECO mode							
Display panel	5.7 Inches LCD touch screen							
Alarm	Battery mode, low battery, fans fault etc.							
Max. parallel numbers	6							
EMI	EN62040-2							
EMS	IEC61000-4-2 (ESD) ; IEC61000-4-3 (RS) IEC61000-4-4 (EFT) ; IEC61000-4-5 (surge)							
COMMUNICAITONS								
RS232 / RS485 / USB / dry contacts (standard)	Supports Windows® 98 / 2000 / 2003 / XP / Vista / 2008 / 7 / 8 / 10							
SNMP (optional)	Power management from SNMP manager and web browser							
OTHERS								
Protections	Overload, surge, Short circuit, battery low voltage, battery overcharge, over-temperature							
Humidity	0 ~ 95% RH @ 0 ~ 40℃ (non-condensing)							
Noise level	⩽ 60 dB							
Dimensions (W × D × H) (mm)	600 × 800 × 1360					600 × 800 × 1680		
Packaged dimensions (W × D × H) (mm)	720 × 920 × 1500					720 × 920 × 1820		
Net / Gross weight (kg) Without inbuilt battery	180 / 200	186 / 205	188 / 210	227 / 245	231 / 250	316 / 376	354 / 414	

* All specifications subject to change without notice.

ACE

6KVA ~ 10KVA (1:1)
10KVA ~ 30KVA (3:1)
PF 0.8

Applications

SME Data Center
Industrial / Military energy system
Financial transaction / Clearing center
Medical system , Precision instruments

Highlights

- ☑ **High reliability**
- ☑ **Dual input**
- ☑ **Strong compatibility**
- ☑ **High overload capacity**
- ☑ **Built-in isolation transformer**
- ☑ **Superior protection**
- ☑ **Powerful battery charger**
- ☑ **N+X redundancy parallel**

ACE series UPS is on-line double-conversion UPS with built-in output isolation transformer, offering highly reliable power for most applications, especially suitable for medical system and industrial automation system. The ACE range includes single-phase input and single-phase output versions 6/10KVA and three-phase input and single-phase output versions from 10KVA to 30KVA. Its bypass dual DSP control design and high overload capability (up to 150%) make it ideal solution to protect critical devices in harsh and unstable grid environment.

Features

High reliability

- Advanced DSP digital control technology bring ACE UPS high precision, fast speed, simple control circuit and high reliability
- Standard configuration with output isolation transformer, which prevent the harm to equipment caused by DC component of UPS output voltage, effectively reduce neutral to earth voltage of output and effectively decrease the direct interference from the harmonic currents of loads to improve the UPS reliability
- High overload capability (up to 150%)
- Bypass powered by independent power supply, and inside using dual DSP redundant design. When the main control system is abnormal or fails, the bypass system can still work normally to ensure uninterruptible power supply to loads
- Superior protection (surge, short-circuit, overvoltage, under-voltage, over-charge, reverse connection protection etc), especial IGBT drive circuit and IGBT overcurrent soft-shutdown technology greatly improve the reliability and safety of the inverter
- Advanced parallel redundant configuration with current sharing control technology which not only greatly improve system reliability, reduce MTTR, but also allows users to multiply capacity and uptime for future expansion by adding additional UPS systems

High usability and availability

- Single / single-phase models, and three / single-phase models for 380 / 400 / 415 V, 50 / 60 Hz grid system
- Wide input voltage and input frequency range make the UPS convenient to connect the generator or other power-generation equipment
- Strong compatibility, suitable for all kinds of loads (resistive, inductive, capacitive and non-linear loads)
- Dual input and hot standby in series make the system more reliable and available
- Battery cold start and mains power start are available. In the absence of mains power, battery cold start function allows users to start the UPS with the batteries to meet the emergency, and in the absence of batteries, users can start the UPS with the utility power and use it as high-precision regulated power supply
- LCD+LED display with friendly user interface and multi-functional button operation
- Abundant historical log available for future to retrieve and when fault occurs the fault code display on the screen will help maintenance personnel exclude the cause of issue

High intelligence

- Advanced multi-platform communications: standard RS232 / USB, optional RS485 / dry contacts, SNMP communication interfaces are used for monitoring UPS running status
- Advanced intelligent battery management technology with powerful charging capability and flexible charging parameters setting: 2 A / 4 A / 6 A / 8 A / 10 A / 12 A selectable (standard configuration), 14 A / 16 A / 18 A / 20 A / 22 A / 24 A selectable (optional configuration)

Available Options

Communication Ports
RS485 / dry contacts, SNMP and SMS alarm
Software
UPSmart / iStars
Others
Parallel kits
Harmonic suppressor
Input isolation transformer
Bypass isolation transformer

Details

1. EPO
2. USB
3. RS232
4. Parallel port
5. SNMP (optional)
6. Fan
7. Breaker
8. Terminal

Technical specifications

MODEL	ACE 06 (1:1)	ACE 10 (1:1)	ACE 10 (3:1)	ACE 15 (3:1)	ACE 20 (3:1)	ACE 30 (3:1)
Capacity	**6 KVA 4800 W**	**10 KVA 8 KW**	**10 KVA 8 KW**	**15 KVA 12 KW**	**20 KVA 16 KW**	**30 KVA 24 KW**
INPUT						
Rated voltage	220 / 230 / 240 Vac (1 ϕ + N + PE)		380 / 400 / 415 Vac (3 ϕ + N + PE)			
Voltage range	165 ~ 275 Vac		285 ~ 475 Vac			
Rated frequency	50 Hz / 60 Hz					
Frequency range	40 ~ 70 Hz					
Frequency tracking range	± 5% Hz					
BYPASS						
Rated voltage	220 / 230 / 240 Vac (1 ϕ + N + PE)					
Overload capability	Load current < 150% rated current: long time running 150% ⩽ load current < 200%: 1 min 200% rated current ⩽ load current: 200ms					
BATTERIES						
Battery voltage	192 Vdc					
Battery type	VRLAAGM maintenance-free lead based					
Number of battery	12 V × 16 pcs					
Charging voltage	220 Vdc					
EOD	168 Vdc					
Charging current	Default 8 A (2 A / 4 A / 6 A / 8 A / 10 A / 12 A selectable)					
OUTPUT						
Rated voltage	220 / 230 / 240 Vac (1 ϕ + N + PE)					
Power factor	0.8					
Waveform	Sinusoidal					
Rated frequency	50 Hz / 60 Hz (settable)					
Frequency precision	Mains mode: track bypass input in the state of synchronization Battery mode: 50 / 60 ±0.1 Hz					
Voltage precision	± 1%					
Recovery time of transient voltage	< 20 ms					
Crest factor	3:1					
THDV	⩽ 3% (linear load); ⩽ 6% (non-linear load)					
Overload capability	Load ⩽ 105%: long time running; 105% < load ⩽ 125%: transfer to bypass in 10 mins; 125% < load ⩽ 150%: transfer to bypass in 1 min 150% < load ⩽ 200%: transfer to bypass in 200 ms 200% < load: transfer to bypass in 100 ms					
OTHERS						
Transfer time	0 ms					
Protections	Overload, surge, Short circuit, Over/under-voltage, battery overcharge/over-discharge, over-temperature					
Communications	RS232 / USB (standard); RS485 / SNMP / dry contacts (optional)					
Operating temperature	0 ~ 40℃					
Storage temperature	-25℃ ~ 55℃ (without batteries);					
Relative humidity	0 ~ 95% (non-condensing)					
Operating altitude	⩽ 1000 m (derating 1% for each additional 100 m)					
Noise level	< 60 dB (at 1 m)					
MTBF	MTBF > 200000 h					
MTTR	MTTR < 0.5 h					
IP rating	IP20					
Dimensions (W × D × H) (mm)	210 × 585 × 590	310 × 600 × 880		400 × 815 × 1100		
Net weight (kg)	54	96	130	201	230	277
Gross weight (kg)	64	108	142	216	245	292

* All specifications subject to change without notice.

Armor

10KVA ~ 120KVA
PF 0.9 (3 : 3)

Applications

IDC – Internet Data Center
ISP – Internet Service Provider
Industrial / Military energy system
Financial transaction / Clearing center
Medical system , Precision instruments

Highlights

- ☑ **DDC & DSP technology**
- ☑ **High MTBF (> 200,000h)**
- ☑ **Low MTTR (< 0.5h)**
- ☑ **Permissible 100% load unbalance**
- ☑ **High overload capacity**
- ☑ **Superior protection**
- ☑ **N+X redundancy parallel**
- ☑ **Powerful monitoring platform**
- ☑ **Advanced battery management (ABM)**
- ☑ **Built-in output isolation transformer**

Armor series UPS 10 ~ 120KVA is intelligent three-phase online double conversion low frequency UPS with HPWM and full DSP technology, friendly man-machine interface and intelligent monitoring managment, integrating high reliability, security and maintainability to offer strong power guard for all kinds of loads, such as the IT systems, strongly inductive or capacitive loads, induction motors ect.

Features

High reliability

- Intelligent digital control
  - ➢ Use high-speed MCU to achieve real-time control, parameter settings, running program management, self-test and self-detect functions; be able to detect all independent circuit on circuit boards and provides failsafe
  - ➢ Use advanced DDC (Direct Digital Control), DSP (Digital Signal Processor) technology and specific IC to make the product have excellent performance
  - ➢ Use advanced IGBT modules featured with high-speed switch, high voltage and high current, its high efficiency and miniaturized drive circuit improve the overall efficiency and reliability of the product effectively
- Permissible 100% load unbalance
  - ➢ Use three-phase independent modulation and full-bridge inverter technology, provide normal power supply at 100% unbalanced three-phase load
- Built-in output isolation transformer
  - ➢ Standard configuration with output isolation transformer prevents the harm to equipment caused by DC component of UPS output voltage, effectively reduces neutral to earth voltage of output and effectively decreases the direct interference from the harmonic currents of loads to improve the UPS reliability
- Full isolation of input and output avoid risk of DC sneaking into loads
- High overload capability
  - ➢ Load < 105% for long running, 105% ≤ load < 110% for 60 minutes, 110% ≤ load < 125% for 10 minutes
- Extra long MTBF (> 200,000h) and short MTTR (< 0.5h)
- Batteries are directly connected to BUS line, and output has strong impact resistance capacity
- Intelligent self-diagnosing function and superior protections (short-circuit, overload, over-temperature, overvoltage, under-voltage, over-current, battery low voltage and fan failure protections)
- Advanced parallel redundant configuration (up to 6 units) for power system not only greatly improve system reliability, reduce MTTR, but also allows users to multiply capacity and uptime for future expansion by adding additional UPS systems
- ECO mode and EPO (Emergency Power Off) mode

High usability and availability

- Three / three-phase models for 380 / 400 / 415 V, 50 / 60 Hz grid system
- Unique ventilation design, compact whole structure for small footprint
- Similar modular design makes field maintenance quick and easy
- Front access makes maintenance and replacement easy (50 ~ 120KVA)
- Abundant historical log (10000 records) available for future check
- Flexible and optimized battery number design (28 ~ 32pcs optional)
- Strong compatibility, suitable for all kinds of loads (resistive, inductive, capacitive and non-linear loads)
- 5.7 inches LCD touch screen with friendly human-machine interface, supports touch screen and multi-functional button operation
- Battery cold start and mains power start are available. In the absence of mains power, battery cold start function allows users to start the UPS with the batteries to meet the emergency, and in the absence of batteries, users can start the UPS with the utility power and use it as high-precision regulated power supply

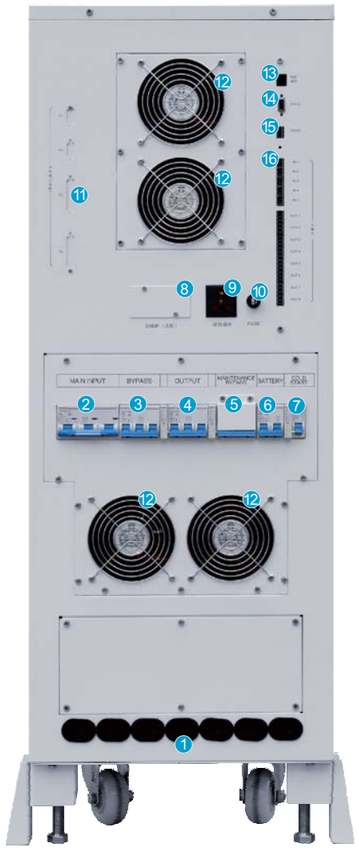
High intelligence

- Powerful network monitoring management with multi-platform communications: standard RS232 / RS485 / dry contacts, optional SNMP communication interfaces are used for monitoring UPS running status
- Advanced intelligent battery management (ABM)
- Use integrated design of rectifier / charger, set up parameters on interface according to the configured battery capacity and automatically adjust the charging current by software, meanwhile enable to set the time of battery self-test and charge / discharge interval according to the grid security situation to extend the lifetime of the battery

Available Options

Communication Ports
SNMP card
Software
UPSmart / iStars
Others
Parallel kits
Input isolation transformer
Bypass isolation transformer
Harmonic suppressor

Details



10 – 40KVA Rear panel

1. Terminal
2. Main Input Breaker
3. Bypass Input Breaker
4. Output Breaker
5. Maintenance Bypass Breaker
6. Battery Breaker
7. Cold Start Breaker
8. SNMP (Optional)
9. Maintenance Socket
10. FUSE
11. Parallel Port
12. Fan
13. Battery Temperature Compensation
14. RS232
15. RS485
16. Dry Contact

60 – 120KVA Communication interface

Technical specifications

MODEL	ARM 10	ARM 15	ARM 20	ARM 30	ARM 40	ARM 60	ARM 80	ARM 100	ARM 120
Capacity	10 KVA 9 KW	15 KVA 13.5 KW	20 KVA 18 KW	30 KVA 27 KW	40 KVA 36 KW	60 KVA 54 KW	80 KVA 72 KW	100 KVA 90 KW	120 KVA 108 KW
INPUT									
Rated voltage	380 V / 400 V / 415 Vac								
Voltage range	± 25%								
Rated frequency	50 / 60 Hz								
Frequency range	50 / 60 Hz ±5 Hz								
Power factor	⩾ 0.95 (with filter)								
Bypass voltage range	± 20% (settable)								
Delayed start of rectifier	1 ~ 300 s (settable via display panel)								
ECO voltage range	± 10% (settable)								
OUTPUT									
Voltage	380 V / 400 V / 415 Vac								
Voltage regulation	± 1%								
Frequency	Battery mode: 50 / 60 Hz ±0.1%; Mains mode: synchronized with utility; Frequency conversion mode: 50 Hz input and 60 Hz output or 60 Hz input and 50 Hz output								
Waveform	Sinusoidal								
Power factor	0.9								
Crest factor	3:1								
Total harmonic distortion(THDV)	⩽ 2% (linear load); ⩽ 5% (non-linear load)								
Transfer time	AC mode to battery mode: 0 ms Inverter mode to bypass mode: 0 ms Inverter mode to ECO mode: 5 ~ 10 ms								
Inverter overload capability	105%: long time running; 105% ~ 110%: transfer to bypass in 1 h 110% ~ 125%: transfer to bypass in 10 mins 125% ~ 150%: transfer to bypass in 1 min 150% ~ 200%: transfer to bypass in 200 ms > 200%: transfer to bypass in 100 ms								
Slight adjustment of inverter output voltage	± 5 V								
BATTERIES									
DC Voltage	12 V ×configured battery number (settable via display panel)								
Number of battery	28 ~ 32 pcs (settable)								
Charging current	10 A ~ 60 A (settable)								
Charging	Three-stage charging, auto switch floating / equalizing charge								
Battery state display	Display battery backup time, battery remaining capacity								
Battery self-test	Settable periodic self-test; manually configurable test time and voltage								
SYSTEM									
Efficiency	In line mode: Max. 93%; ECO mode: ⩾ 98%								
Max. Parallel numbers	6								
Protections	Overload, short circuit, over/under-voltage, battery overcharge/over-discharge, over-temperature, fan failure								
IP rating	IP 20								
EMI	EN62040-2								
EMS	IEC61000-4-2 (ESD) / IEC61000-4-3 (RS) / IEC61000-4-4 (EFT) / IEC61000-4-5 (surge)								
COMMUNICATIONS									
RS232 / RS485 / dry contacts (standard)	Supports Windows® 98 / 2000 / 2003 / XP / Vista / 2008 / 7 / 8 / 10								
SNMP (optional)	Power management from SNMP manager and web browser								
OTHERS									
Humidity	0 ~ 95% RH @ 0 ~ 40℃ (non-condensing)								
Noise level	55 dB					60 dB	65 dB		
Dimensions (W × D × H) (mm)	400 × 800 × 1100					600×700×1500	700 × 800 × 1700		
Packaged dimensions (W × D × H) (mm)	490 × 890 × 1170					690×790×1570	790 × 890 × 1770		
Net / Gross weight (kg)	158 / 200	165 / 207	175 / 217	210 / 252	260 / 302	460 / 480	590 / 620	630 / 660	690 / 720

* All specifications subject to change without notice.

Armor

160KVA ~ 600KVA
PF 0.9 (3 : 3)

Applications

IDC – Internet Data Center
ISP – Internet Service Provider
Military energy system
Power transmission / distribution system
Industrial automation / manufacturing system

Highlights

- Full DSP technology
- High MTBF (> 200,000 h)
- Low MTTR (< 0.5h)
- Strong mixed load capacity
- High overload capacity
- Superior protection
- High input power factor (0.99)
- N+X redundancy parallel
- Full isolation of input and output
- Built-in output isolation transformer
- Being placed up against the wall

Armor series UPS 160~600KVA acquires online double conversation with full DSP technology. Its rectifier adopts three-level PWM rectifier technology based on IGBT components, realizing excellent performance of high input power factor and low input harmonic current. Its inverter also adopts PWM technology based on IGBT components, and is equipped with output isolation transformer, realizing high performance of stable voltage, stable frequency, low waveform distortion, strong load capacity and impact resistance capacity. Armor series UPS remains a high efficiency of an output power factor to 0.9, offering high quality power for all kinds of loads, especially inductive or capacitive loads in industrial applications.

Features

High reliability

- Intelligent digital control
  - Use high-speed MCU to achieve real-time control, parameter settings, running program management, self-test and self-detect functions; be able to detect all independent circuit on circuit boards and provides failsafe
  - Use advanced DDC (Direct Digital Control), full DSP (Digital Signal Processor) technology and specific IC to make the product have excellent performance
  - Use advanced IGBT modules featured with high-speed switch, high voltage and high current, its high efficiency and miniaturized drive circuit improve the overall efficiency and reliability of the product effectively
- Permissible 100% load unbalance
  - Use three-phase independent modulation and full-bridge inverter technology, provide normal power supply at 100% unbalanced three-phase load
- Built-in output isolation transformer
  - Standard configuration with output isolation transformer prevents the harm to equipment caused by DC component of UPS output voltage, effectively reduces neutral to earth voltage of output and effectively decreases the direct interference from the harmonic currents of loads to improve the UPS reliability
- Full isolation of input and output avoid risk of DC sneaking into loads
- Extra long MTBF (> 200,000 h) and short MTTR (< 0.5 h)
- Latest IGBT rectifier technology, high input power factor up to 0.99 and low harmonic current to provide high efficiency, energy saving and environmental protection
- High overload capability
  - 105% < load ⩽ 110% for 60 minutes, 110% < load ⩽ 125% for 10 minutes
- High efficiency at light load, reducing operating cost
- ECO mode and EPO (Emergency Power Off) mode
- Batteries are directly connected to BUS line, and output has strong impact resistance capacity
- Intelligent self-diagnosing function and superior protections (short-circuit, overload, over-temperature, overvoltage, under-voltage, over-current, battery low voltage and fan failure protections)
- Advanced parallel redundant configuration (up to 6 units) for power system not only greatly improve system reliability, reduce MTTR, but also allows users to multiply capacity and uptime for future expansion by adding additional UPS systems

High usability and availability

- Three / three-phase models for 380 / 400 / 415 V, 50 / 60 Hz grid system
- Excellent compatibility with generators
- Unique ventilation design, compact whole structure for small footprint
- Similar modular design makes field maintenance quick and easy
- Front access makes maintenance and replacement easy, being placed up against the wall save room space
- Two cable entry systems: bottom cable entry and side cable entry
- Abundant historical log (10000 records) available for future check
- Flexible and optimized battery number design (48 / 49 / 50 / 51 / 52pcs optional)
- Strong compatibility, suitable for all kinds of loads (mixed, resistive, inductive, capacitive and non-linear loads)
- 5.7 inches LCD touch screen with friendly human-machine interface, supports touch screen and multi-functional button operation
- Battery cold start (optional): in the absence of mains power, battery cold start function allows users to start the UPS with the batteries to meet the emergency

High intelligence

- Powerful network monitoring management with multi-platform communications: **standard RS232 / RS485 / dry contacts, optional SNMP** communication interfaces are used for monitoring UPS running status
- Advanced intelligent battery management (ABM)
  - ➢ Use integrated design of rectifier / charger, set up parameters on interface according to the configured battery capacity and automatically adjust the charging current by software, meanwhile enable to set the time of battery self-test and charge / discharge interval according to the grid security situation to extend the lifetime of the battery

Available Options

Communication Ports
SNMP card and SMS
Software
UPSmart / iStars
Others
Parallel kits
SPD
Battery cold start
Battery temperature compensation
Low battery voltage release (for ABB T4-T6 breaker)
LBS (Load Bus Synchronization)
Top cable entry cabinet (optional for 200 ~ 300 KVA)
Maintenance bypass cabinet (optional for 400 ~ 600 KVA)
Short circuit soft copper bar for 400 ~ 600 KVA single input (for SOCOMEC switch)

Technical specifications

MODEL	ARM 160	ARM 200	ARM 250	ARM 300	ARM 400	ARM 500	ARM 600
Capacity	**160 KVA 144 KW**	**200 KVA 180 KW**	**250 KVA 225 KW**	**300 KVA 270 KW**	**400 KVA 360 KW**	**500 KVA 450 KW**	**600 KVA 540 KW**
INPUT							
Rated voltage	380 V / 400 V / 415 Vac						
Voltage range	346 V ~ 456 V (full load) 304 V ~ 346 V (power derating 10%)						
Rated frequency	50 / 60 Hz						
Frequency range	50 / 60 Hz ±5 Hz						
Power factor	⩾ 0.99						
Total harmonic distortion (THDI)	⩽ 3%						
Input current-limiting	1.1 times of rated current (0.1 ~ 1.1 settable)						
Rectifier delay start	10 s (1 ~ 300 settable)						
Bypass voltage range	± 20% (settable)						
OUTPUT							
Rated voltage	380 V / 400 V / 415 Vac						
Voltage regulation	± 1%						
Frequency	Mains mode: synchronized with utility; Battery mode: 50 / 60 Hz ±0.1%						
Waveform	Sinusoidal						
Crest factor	3:1						
Total harmonic distortion (THDV)	⩽ 2% (resistive load); ⩽ 5% (non-linear load)						
Transfer time	0 ms						
Inverter overload capability	105% ~ 110% for 60 minutes, 110% ~ 125% for 10 minutes						
Slight adjustment of inverter output voltage	± 5 V						
BATTERIES							
Number of battery	50 pcs (48 / 49 / 51 / 52 pcs selectable)						
DC voltage	600 Vdc (576 V / 588 V / 612 V / 624 Vdc selectable)						
Charging current	Charging rate (settable) × battery capacity (settable) × number of battery group (settable)						
Battery state display	Battery remaining capacity and backup time						
Battery self-test	Settable periodic self-test; manually configurable testing time and voltage						
SYSTEM							
Efficiency	Line mode ⩾ 93%, ECO mode ⩾ 98%						
Max. parallel numbers	6						
Protections	Short-circuit, overload, over-temperature, overvoltage, undervoltage, battery low voltage and fan failure						
Display	5.7 inches LCD touch screen						
IP rating	IP 20						
COMMUNICAITONS							
RS232 / RS485 / dry contacts	Supports Windows® 98 / 2000 / 2003 / XP / Vista / 2008 / 7 / 8 / 10						
SNMP (optional)	Power management from SNMP manager and web browser						
OTHERS							
Operating temperature	0 ~ 40℃						
Storage temperature	- 25℃ ~ 55℃ (without battery)						
Humidity	0 ~ 95% (non-condensing)						
Noise level at 1 m	< 65 dB				< 70 dB		
Dimensions (W × D × H) (mm)	800 × 860 × 1700	1210 × 860 × 1950			2380 × 860 × 1950		
Packaged dimensions (W × D × H) (mm)	900 × 950 × 1950	1300 × 950 × 2200			1300 × 950 × 2200 (× 2)		
Net / Gross weight (kg)	790 / 820	1135 / 1260	1275 / 1400	1355 / 1480	2090 / 2200	2300 / 2500	2690 / 2800

* All specifications subject to change without notice.

Modular 20

20KVA ~ 160KVA

PF 1.0 (3 : 3)

Applications

IDC – Internet Data Center
ISP – Internet Service Provider
SCADA monitoring system
Electricity & Railway signaling system
Bank or Bond Trading / Clearing center
Precision instruments, Automation system

Highlights

- ☑ **Hot-swappable modularity**
- ☑ **Easy expandability and scalability**
- ☑ **High power density**
- ☑ **High output power factor (PF1.0)**
- ☑ **Integrated power distribution**
- ☑ **Dual-mains input**
- ☑ **Small footprint**

Modular 20 series UPS is redundant, scalable, 3 - Phase UPS power protection system with on-line double-conversion and full DSP control technology and a highly enhanced output power factor to 1.0. Its hot-swappable and flexible power module configuration makes the capacity scalable from 20KVA / 20KW up to 160KVA / 160KW, and system capacity can be expanded to 320KVA / 320KW by advanced "N+X" wireless parallel and redundancy technology. All internal modules (monitoring module, power module and charging module) are modularly designed and hot-swappable, assuring system compactness, reliability and easy maintenance. Modular 20 series UPS was specifically designed to ensure maximum protection of mission critical data center or critical applications loads.

Features

Excellent performance and high reliability

- Full DSP control technology has been used on rectifier, inverter and charger
- High input power factor > 0.99, THDi < 3%
- "N+X" parallel and redundancy technology: easily set up numbers of redundancy module on LCD panel, support 2 complete UPS in parallel, avoid single point failure and further strengthen the reliability
- Unique air isolation technology: isolation between key components and air duct effectively avoid the dust influence on key components
- Intelligent fan speed regulation: fan speed varies intelligently with the inner temperature, reducing noise and increasing the service life of the fan
- Standard configuration with SPD module: SPD (class C) effectively prevent the damage of lightning shock to the equipment
- Consistently reliable protection for hardware and software, sophisticated detection inside the UPS, abundant event log for future check

High usability

- 5.7 inches LCD touch screen provides easy-to-use feature with complete graphic user interface
- Easy maintenance with hot swappable operation for all modules
  - ➢ Hot-swappable modular design enables users to replace standard modules on-line, no need to turn off the UPS or switch to bypass for maintenance. This feature greatly decrease maintenance time, maintenance cost and difficulty
- Load sharing technology
  - ➢ If any of the UPS modules fail, the load will be taken over by the rest of the modules without interruption. This increases the real time operation and power availability
- Easy expandability and scalability
  - ➢ System capacity is scalable up to 160KVA/160KW constructed by each power module of 20KVA / 20KW, single charger module provides maximum 30A charging current. Users can periodically increase power modules and charger modules according to load expansion plan to effectively control initial cost and reduce energy consumption per unit
- Integrated power distribution
  - ➢ Mains input, bypass, maintenance and output breakers are integrated inside the UPS. It is easy for installation and save the cost of users
- Flexible charging settings
  - ➢ Number of battery groups, battery capacity, charging rate and temperature compensation coefficient can be set up on the LCD screen of monitoring module. The charging module automatically adjusts the output current and output voltage according to the configured settings
- Configurable output voltage
  - ➢ Output voltage 380V / 400V / 415V is settable for different target applications, and fine-tuning of the output voltage can be done on the front panel
- High power density and small footprint
  - ➢ Modular 20 is featured with high power density of 20 KVA / 3U power module, and 160 KVA system has only 0.6 m^2 footprint, improving the room space utilization
- Front accessible maintenance
  - ➢ Top / bottom cable entry compatible for 160KVA cabinet

High availability

- Ultra wide input voltage range and frequency
  - ➢ Modular 20 has a wide input voltage range (-45% ~ 36%) and frequency range (40 ~ 70 Hz). It allows 100% unbalanced load in the range of 277 V ~ 520 V and support two modes of frequency conversion: 50Hz input / 60Hz output and 60Hz input / 50Hz output
- Dual input distribution
  - ➢ Dual-mains input design makes system availability higher. When both mains input and battery fail to provide power supply, the system can be uninterruptedly switched to bypass
- High output power factor 1.0
  - ➢ Output power factor 1.0 enables UPS to deliver more power and increase the load capacity

- Flexible battery quantity settings
  - ➢ The battery quantity (32 ~ 40pcs) can be configured flexibly. If there is battery failure, only removing the failed battery and resetting the battery quantity are required, no need to replace the whole group of battery
- Cold start
  - ➢ Battery cold start is available. In the absence of mains power, battery cold start function allows users to start the UPS with the batteries to meet the emergency
- Share battery pack in parallel operation, saving user's battery cost
  - ➢ Standard Emergency Power Off (EPO)

High intelligence

- Advanced multi-platform communications: standard RS232 / USB / RS485 / dry contacts, optional SNMP communication interfaces are used for monitoring UPS running status
- Advanced intelligent battery management function: flexible battery configuration (32 / 34 / 36 / 38 / 40 pcs selectable), settable charging current (0 ~ 30 A), automatic floating / equalizing charge control, periodic self-test, automatic temperature compensation, prediction of battery remaining capacity and discharge time

Available Options

Communication Ports
SNMP and SMS alarm
Software
UPSmart / iStars
Others
Parallel kits
15-output PDU module
Built-in battery module
Battery temperature compensation

Battery module (Optional)

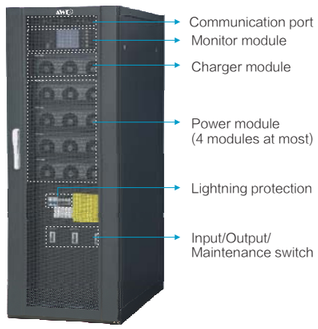
Battery Pack with 10pcs 12V/9AH

Battery Module with 20pcs 12V/9AH

Hot swap connector

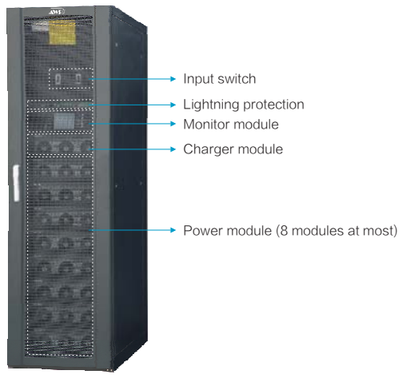
Modular 80KVA

80KVA cabinet is 1.6 meters high, and can configure 4 ×20KVA power modules at most.



Modular 160KVA

160KVA cabinet is 2 meters high, and can configure 8 ×20KVA power modules at most.



Technical specifications

MODEL	MOD 80	MOD 160
Capacity	**20KVA ~ 80KVA 20KW ~ 80KW**	**20KVA ~ 160KVA 20KW ~ 160KW**
Numbers of parallel module	1 ~ 4	1 ~ 8
Numbers of redundancy module	0 ~ 3	0 ~ 7
Rated capacity of each power module	20 KVA / 20KW	
INPUT		
Rated voltage	380 V / 400 V / 415 Vac	
Voltage range	204 ~ 242 Vac (load ⩽ 50%); 242 ~ 277 Vac (50% < load ⩽ 70%); 277 V ~ 520 Vac (70% < load ⩽ 100%)	
Rated frequency	50 / 60Hz (auto-sense)	
Frequency range	40 ~ 70Hz	
Power factor	⩾ 0.99	
Total harmonic distortion (THDI)	⩽ 3%	
Bypass voltage range	Rated output voltage: - 40% ~ + 20% (settable via LCD)	
OUTPUT		
Voltage	380 V / 400 V / 415 Vac	
Voltage regulation	± 1%	
Frequency	Mains mode: Synchronized with utility Battery mode: 50 / 60Hz ±0.1%	
Power factor	1.0	
Waveform	Pure sine wave	
Crest factor	3:1	
Total harmonic distortion(THDV)	⩽ 1% (linear load); ⩽ 5% (non-linear load)	
Transfer time	0 ms	
Inverter overload capability	110% ~130%: transfer to bypass in 10 mins; 130% ~ 150%: transfer to bypass in 1 min; > 150%: transfer to bypass in 0.5 s	
Bypass overload capability	⩽ 150%: long time running; > 150%: power off in 10 s	
BATTERIES		
DC voltage	±240Vdc (±192V / ±204V / ±216V / ±228Vdc selectable)	
Inbuilt battery of standard model	12 V / 9 Ah × 40 for each module	
Charging current	1 ~ 30 A / 60 A (settable via LCD)	
SYSTEM		
Efficiency	⩾94%	
Display panel	5.7 Inches LCD touch screen	
Protections	Short-circuit, overload, over-temperature, overvoltage, undervoltage, IGBT pulse -by pulse current limiting, early warning of battery low voltage and battery overcharge protections	
Alarm	Battery mode, low battery, fans fault etc.	
EMI	EN62040-2	
EMS	IEC61000-4-2 (ESD); IEC61000-4-3 (RS); IEC61000-4-4 (EFT); IEC61000-4-5 (Surge)	
COMMUNICAITONS		
RS232 / RS485 / USB / dry contacts (standard)	Supports Windows® 98/2000/2003/XP/Vista/2008/7/8/10	
SNMP (option)	Power management from SNMP manager and web browser	
OTHERS		
Humidity	0~95% RH @ 0~40℃ (non-condensing)	
Noise level	⩽ 60dB	
Module dimensions (mm) W × D × H	482 × 590 × 131	
Module weight	28 kg / power module, 27 kg / charger module, 7 kg / monitoring module	
UPS dimensions (mm) W × D × H	600 × 1000 × 1600	600 × 1000 × 2000
UPS packaged dimensions (mm) W × D × H	700 × 1070 × 1760	700 × 1070 × 2160
UPS Net/Gross weight (kg) Without inbuilt battery and power module	225 / 245	290 / 310
Input / output / bypass breaker	Yes	Yes

* All specifications subject to change without notice.

Modular 50

50KVA ~ 600KVA

PF 0.9 (3 : 3)

Applications

IDC – Internet Data Center
ISP – Internet Service Provider
SCADA monitoring system
Electricity & Railway signaling system
Bank or Bond Trading / Clearing center
Precision instruments, Automation system

Highlights

- ☑ **Hot-swappable modularity**
- ☑ **Easy expandability and scalability**
- ☑ **High power density**
- ☑ **High efficiency**
- ☑ **Small footprint**
- ☑ **Intelligent hibernation design**
- ☑ **Integrated power distribution**

Modular 50 series UPS is redundant, scalable, 3 – Phase UPS power protection system with on-line double-conversion and full DSP control technology. Its hot-swappable and flexible power module configuration makes the capacity scalable from 50KVA up to 600KVA, and the system capacity can be expanded to 2400KVA by advanced "N+X" wireless parallel and redundancy technology. All internal modules (control module, power module and bypass module) are modularly designed and hot-swappable, assuring system compactness, reliability and easy maintenance.

Features

Excellent performance and high reliability

- Latest DSP digital control technology
- High input power factor > 0.99, THDi < 3%, high efficiency 96%
- "N+X" wireless parallel and redundancy technology: easily set up numbers of redundancy module on LCD panel, support 4 complete UPS in parallel, avoid single point failure and further strengthen the reliability
- Consistently reliable protection for hardware and software, sophisticated detection inside the UPS, abundant event log for future check
- Fault-tolerant design for fan system: 30% load can be taken when 2 fans fail and 50% load can be taken when 1 fan fails
- High overload capability
  - ➢ 105% ~ 110% for 60 minutes, 110% ~ 125% for 10 minutes, 125% ~ 150% for 1 minute
- Intelligent hibernation design enables UPS to operate efficiently at low load rate
- Independent bypass module design and redundant power supply components ensure higher reliability
- Synchronous control function for 2N double bus system

High usability

- 7 inches LCD touch screen provides easy-to-use user interface
- Easy maintenance with hot swappable operation for all modules
  - ➢ Hot-swappable modular design enables users to replace standard modules on-line, no need to turn off the UPS or switch to bypass for maintenance. This feature greatly decrease maintenance time, lower maintenance cost and difficulty
- Load sharing technology
  - ➢ If any of the UPS modules fail, the load will be taken over by the rest of the modules without interruption. This increases the real time operation and power availability
- Easy expandability and scalability
  - ➢ System capacity is scalable up to 600KVA constructed by each power module of 50KVA, each power module is equipped with charging function with maximum 10 A charging current. Users can periodically increase power modules according to load expansion plan to effectively control initial cost and reduce energy consumption per unit
- Integrated power distribution
  - ➢ Mains input, bypass, maintenance and output breakers are integrated inside the UPS. It is easy for installation and save the cost of users
- High power density
  - ➢ Modular 50 is featured with high power density of 50 KVA / 3U power module
- Front accessible maintenance, top / bottom cable entry compatible (200KVA top cable entry)
- Self-aging function make it easier to debug and test on site
- Standard configuration with parallel port and BSC port

High availability

- Ultra wide input voltage range and frequency
  - ➢ Modular 50 has a wide input voltage range (138 ~ 485Vac) and frequency range (40 ~ 70 Hz). It provides 50 Hz / 60Hz frequency auto-sense and two modes of frequency conversion: 50Hz input / 60Hz output and 60Hz input / 50Hz output
- High output power factor 0.9
  - ➢ Output power factor 0.9 enables UPS to deliver more power and increase the load capacity
- Flexible battery quantity settings
  - ➢ The battery quantity (30 ~ 46 pcs) can be configured flexibly. If there is battery failure, only removing the failed battery and resetting the battery quantity are required, no need to replace the whole group of battery

- Cold start
  - ➢ Battery cold start is available. In the absence of mains power, battery cold start function allows users to start the UPS with the batteries to meet the emergency
- Share battery pack in parallel operation, saving user's battery cost
- Soft-start technology improves generator matching up to 1:1.1
- Standard Emergency Power Off (EPO)
- Standard maintenance bypass switch

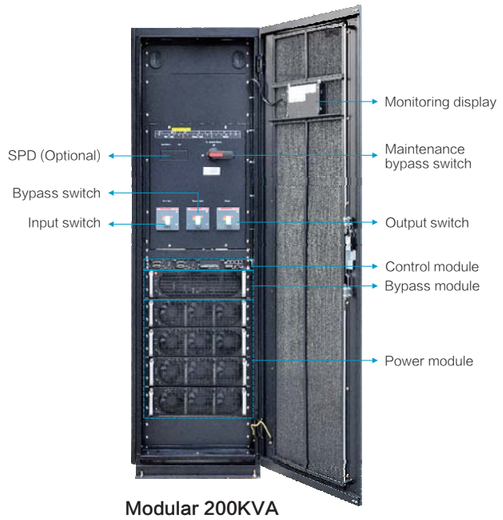
High intelligence

- Advanced multi-platform communications: **standard USB / RS485 / dry contacts and SNMP** communication interfaces
- Advanced intelligent battery management function: flexible battery configuration (30 / 32 / 34 / 36 / 38 / 40 / 42 / 44 / 46 pcs selectable), intelligent charging / discharging and float charging voltage temperature compensation

Available Options

Parallel cable
BSC cable (for double bus system)

Power Module



Modular 200KVA

Modular 300 / 400 / 500 / 600KVA

* The above pictures are only for reference, please make the object as the standard.

Technical specifications

MODEL	MOD 200	MOD 300	MOD 400	MOD 500	MOD 600
Rated max. capacity	**200KVA**	**300KVA**	**400KVA**	**500KVA**	**600KVA**
Numbers of power modules	4	6	8	10	12
Rated capacity of each power module	50 KVA				
INPUT					
Input wiring	3Ph + N + PE				
Rated voltage	380 / 400 / 415 Vac				
Voltage range	138 ~ 485 Vac (305 ~ 485 Vac without power downgrading; 138 ~ 305 Vac with linear downgrading 40%)				
Input frequency	40 ~ 70 Hz				
Power factor	≥ 0.99				
Harmonic current distortion	< 3% THDi				
BATTERIES					
Type	VRLA AGM maintenance-free lead based				
Battery voltage	± 240 Vdc (± 180V / 192V / 204V / 216V / 228V / 252V / 264V / 276Vdc selectable)				
Number of battery	40 pcs (30 / 32 / 34 / 36 / 38 / 42 / 44 / 46 pcs selectable)				
Max. charging current	10A ×quantity of configured power modules (settable)				
OUTPUT					
Output wiring	3Ph + N + PE				
Rated voltage	380 / 400 / 415 Vac				
Voltage accuracy	± 1%				
Frequency	Mains mode: synchronized with utility; Battery mode: 50 Hz / 60 Hz ±0.25%				
Power factor	0.9				
Voltage distortion	≤ 1% with liner load / ≤ 3% with non-linear load				
Dynamic variation	± 5%				
Transient recovery time	< 20 ms				
Crest factor	3:1				
Inverter overload capacity	105% ~ 110% for 60 minutes, 110% ~ 125% for 10 minutes, 125% ~ 150% for 1 minute, > 150% for 200 ms				
Bypass overload capacity	Load ≤ 135% for long term running; 135% < Load <1000% for 100ms				
SYSTEM					
Efficiency	96 %				
Max. number of parallel	4 units				
Transfer time	0 ms				
Protection	Short-circuit, overload, over-temperature, overvoltage, undervoltage, battery low voltage, output low/over voltage, fans failure, etc.				
Communications	RS485, dry contacts, FE port(SNMP)				
Display	7 inches LCD touch screen				
OTHERS					
Operating temperature	0 ~ 40℃				
Storage temperature	− 40℃ ~ 70℃				
Humidity	0 ~ 95% (non-condensing)				
Altitude	0 m ~ 4000 m ; Above 1000m, derating 1% for each additional 100 m				
IP rating	IP 20				
Noise level at 1 m	< 65 dB			< 68 dB	
Cabinet dimensions (W×D×H) (mm)	600 × 850 × 2000	1200 × 850 × 2000			1400 × 850 × 2000
UPS module dimensions (W×D×H) (mm)	442 × 620 × 130				
Cabinet weight (kg)	213	426	426	448	568
UPS module weight (kg)	32				

* All specifications subject to change without notice.

Outdoor UPS

Pure Sine Wave Line Interactive
500VA ~ 3000VA

Pure sine wave interactive outdoor UPS is specially designed for outdoor communication equipment, networking equipment, traffic control system and other applications of city corner, countryside, or mountainous area. High temperature resistance, frost resistance, corrosion resistant, dust prevention, and water resistance are based. With advanced functions like wide range of input voltage and frequency, high reliability, energy saving, environmental protection, anti-thunder, remote control, remote detection, etc. Our UPS can guarantee stable power supplying to communication, networking, traffic control and other devices. It is ideal helpmate for critical outdoor devices.

Features

- Strong environmental adaptability
- High reliability, energy saving, environmental protection
- Wide adaptability to power grid
- Unattended and intelligent monitoring (optional)
- Inverter isolation & pure sine wave technology
- Online UPS protection function
- Intelligent no-load shutdown (optional)
- Auto restart when mains power is restored

Technical specifications

MODEL	500 VA	1000 VA	2000 VA	3000 VA
Capacity	**300 W**	**600 W**	**1200 W**	**1800 W**
DISPLAY				
Panel indicator	LED / LCD (customized)			
MAINS STATES				
Applications	Outdoor lighting system; Traffic monitoring system; Telecommunication / network base station system			
Input voltage range	100 Vac / 110 Vac / 115Vac / 120 Vac / 200Vac / 220 Vac / 230 Vac / 240 Vac ±25%			
Input frequency range	45 ~ 65 Hz (over-frequency automatically transfer to inverter power)			
Stable output voltage range	174 ~ 216 Vac / 190 ~ 238 Vac / 199 ~ 250 Vac / 210 ~ 260 Vac ±10 Vac for 200 Vac / 220 Vac / 230 Vac / 240 Vac 87 ~ 108 Vac / 96 ~ 120 Vac / 100 ~ 125 Vac / 105 ~ 130 Vac ±10 Vac for 100 Vac / 110 Vac / 115 Vac / 120 Vac			
Input P.F. (AC/DC)	98%			
Efficiency	Mains mode ⩾ 96%			
Mains overload	110% for 120 s, 125% for 60 s, 150% for 10s			
Short circuit	Input fuse			
INVERTER STATES				
Inverter output voltage	100 Vac / 110 Vac / 115Vac / 120 Vac / 200Vac / 220 Vac / 230 Vac / 240 Vac ±5% (battery ⩾ 11 Vdc)			
Output frequency	50 Hz / 60 Hz ±1% frequency adaptive			
Output power factor	⩾ 0.6			
Waveform distortion	Linear load ⩽ 5%			
Transfer time	⩽ 10 ms			
Efficiency	Inverter mode ⩾ 80%			
Inverter overload	110% for 60 s; 125% for 10 s, 150% for 5 s			
No-load shut-off (option)	load < 5% auto shutdown in 1 min			
Short circuit	the system automatically shut down			
ALARM				
Mains abnormal	1 / 4 s, be silent in 40 s			
Low battery	1 / 0.2 s			
Overload	1 / 1 s			
BATTERIES				
DC voltage	24 Vdc		48 Vdc	
Inner battery space	12V / 38 Ah ×2 / 12V / 120 Ah ×2		12V / 38 Ah ×4	12V / 120 Ah ×4
Charging current	Max. 12 A			
Communication interface (option)	Dry contacts / RS232 / USB / SNMP			
OTHERS				
Installing	Floor standing or Wall-mounted			
Surge protection	Class C			
Safety	IEC62040-2:2006, GB4943-2001			
EMC	EA50091-2; IEC62040-1:2006; EA61000-3-2:2006; EA61000-3-3:2008			
Protection grade	IP 55			
Environmental temperature	0℃ ~ 50℃ (-30℃ optional)			
Environmental humidity	10% ~ 95% (non-condensing)			
Noise	⩽ 50 dB			
Weight (kg)	17.5 / 36.7		36.7	60.7
Dimensions (mm) W ×D ×H	430 ×245 ×550 / 470 ×245 ×900		470 ×245 ×900	800 ×560 ×1100
Packaged dimensions (mm) W × D × H	500 ×330 ×620 / 540 ×330 ×980		540 ×330 ×980	948 ×648 ×1142

* All specifications subject to change without notice

Monitoring Software UPSmart

Product Introduction

UPSmart is monitoring software for single UPS developed on RS232/USB interface. When mains input is normal, UPSmart can display the input voltage, output voltage, frequency, load, battery capacity and many other parameters with real time data curves. When mains input is abnormal or other fault occurs, UPSmart can save the document automatically, make system turned off safely and automatically send alarm information by email or SMS messages. With UPSmart, users don't need to worry about any loss to the system cause by the abnormal mains power; users can make the necessary processing at the first time, and learn the historical operation information of equipment through query historical data and events saved in the system.

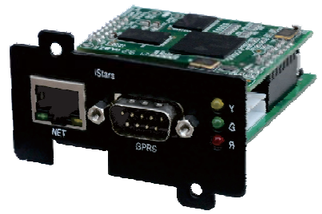
Application platform

Windows 98; Windows NT; Windows 2000; Windows ME; Windows XP; Windows 2003; Windows Vista; Windows 7; Windows 10; Linux; Ubuntu Linux; Centos;

Features

- Working status: mains, battery, inverter, bypass, self test, etc.
- Real time monitoring: voltage, frequency, load, battery and other information
- Automatically securely saves data for common applications before shut down the system
- Multiple test methods for UPS diagnostic testing
- Automatic sequence turning on / off time of computer and UPS is configurable
- Historical parameters, operations and events can be inquired
- Local alarm and remote alarm functions are available
- Auto restart is settable

SNMP Card



Internal SNMP card

Internal SNMP card

External SNMP card

Application schematic diagram