



SA200
400VA ~ 2000 VA

Features

- LED display or LCD display selectable
- Microprocessor-based digital control
- Boost and buck AVR for voltage stabilization
- Auto sensing frequency
- Wide input voltage range
- Power-on self test
- Cold start
- Auto restart when mains power is restored
- Auto track mains phase to ensure that inverter output voltage has same phase with utility voltage, reducing transfer time and peak surge
- Intelligent battery management: battery temperature compensation to extend the battery life; three-stage charging to shorten recharge time
- Short circuit, battery overcharge / overdischarge, overload, surge protections
- Automatic charging in OFF mode
- Optional no-load shutdown
- Optional RS232 / USB communication port and RJ11/RJ45 protection
- Unattended safety shutdown: system alarm and auto Power-On/Off by RS232 or USB interface communicating with PC

Rear Panel

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

Technical Specification		SA 240	SA 260	SA 280	SA 2120	SA 2150	SA 2200
INPUT	Capacity	400VA/240W	600VA/360W	800VA/480W	1200VA/720W	1500VA/900W	2000VA/1200W
	Voltage	100 V/110V/120 V: 80 150 Vac /220V/230 V/240 V: 162~ 295 Vac (220 V: 145~ 295 Vac optional)					
	Frequency	50/60 Hz ± 10% (auto-sense)					
OUTPUT	Voltage	100 V/110V/120 Vac ± 10% or 220 V/230 V/240 Vac ± 10%					
	Frequency	50/60 Hz ± 1% (auto-sense)					
	Waveform	Mains mode: pure sine wave; battery mode: simulated sine wave					
BATTERY	Transfer time	Typical 2~7 ms; Max. 10 ms					
	DC voltage	12 V			24 V		
	Configuration	12V/4.5 Ah× 1	12V/7.0 Ah× 1	12V/8.0 Ah× 1	12V/7.0 Ah× 2	12V/8.0 Ah× 2	12V/9.0 Ah× 2
OTHERS	Recharge time	6~8h					
	USB/RS232/SNMP (optional)	Supports Windows® 98/2000/2003/XP/Vista/2008/Windows® 7/8/10					
	Protections	Short circuit - battery overcharge - overdischarge - overload - surge					
PLASTIC CASE	Humidity	20~90% RH @ 0~40℃ (non-condensing)					
	Noise level	≤ 45 dB (1m)					
	Net/Gross weight (kg)	3.8 / 4.3	4.3 / 4.8	5.3 / 5.8	9.5 / 10.0	10.7 / 11.2	/
METAL CASE	Dimensions (W×D×H)(mm)	100×280×140			140×345×170		
	Packaged dimensions (W×D×H)(mm)	139×325×210			198×406×245		
	Quantity / 20ft	2300pcs			1000pcs		
RACK MOUNT	Net/Gross weight (kg)	/	5.5 / 6.0	6.7 / 7.2	10.5/11.2	12.6/13.4	14.0/14.8
	Dimensions (W×D×H)(mm)	/	95×320×160			125×320×225	
	Packaged dimensions (W×D×H)(mm)	/	145×375×230			180×390×295	
	Quantity / 20ft	/	2000pcs			1000pcs	
	Net/Gross weight (kg)	/	7.8 / 8.3	9.0 / 9.5	12.6 / 13.2	15.7 / 16.3	17.0 / 17.6
	Dimensions (W×D×H)(mm)	/	308×438×88			308×438×132	
	Packaged dimensions (W×D×H)(mm)	/	395×525×185			395×525×225	



Features

- Pure sine wave output Output power factor 0.8
- DSP digital control
- Boost and buck AVR for voltage stabilization
- Auto sensing frequency
- Adjustable charging current and battery shutdown point
- Settable ECO mode and no-load shutdown
- Humanized alarm system
- Power-on self test Cold start
- Auto restart when mains power is restored
- Intelligent battery management
- Short circuit and overload protection
- Automatic charging in OFF mode
- USB & RJ45, AS400/SNMP (optional) communication port

Rear Panel

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



3 KAV (H)



3 KAV (S)

optional outlets



RT

Technical Specification		SA 605	SA 610	SA 615	SA 620	SA 630
INPUT DC	Capacity	500 VA / 300 W	1000 VA / 800 W	1500 VA / 1200 W	2000 VA / 1600 W	3000 VA / 2400 W
	Rated voltage	12 V	24 V		36 V(S) 48 V (H)	48 V
	DC input range (default)	10~15 V	20-30 V		30-45 V(S) 40-60 V(H)	40~60 V
	AC input range (bypass mode)	0 ~ 121 V/ 132 V/138 V/144 Vac for 100 V/110V/115 V/ 120 Vac + 10 Vac / 0 ~ 242 V/264 V/276 V/288 Vac for 200 V/220V/230 V/240 Vac ± 10 Vac				
INPUT AC	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%				
OUTPUT	Generator connection	Available (generator input power is settable)				
	Inverter output range	100 V/110V/115 V/ 120/200 V/220V/230 V/240 Vac + 5% (settable)				
	AC output range (bypass mode)	0~121 V/132 V/ 138 V/144 Vac for 100 V/110V/115 V/ 120 Vac ± 10 Vac / 0~242 V/264 V/276 V/288 Vac for 200 V/220V/230 V/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	Pure sine wave				
	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				
BATTERY	THDV (resistive load)	≤ 5%				
	Protections	Overload, short circuit (inverter), battery low voltage, battery overcharge, overtemperature				
	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				
	Battery capacity (H: external expansion)	12 V×1	12 V/ 7Ah×2	12 V/ 9Ah×2	12 V/ 9Ah×3(H12V×4)	12 V/ 9Ah×4
	Charging current	Standard model (S): 1 A (default) / Long time model (H): 10 A (default); < 10 A, set step 1 A; > 10 A, set step 5 A				
	Charging current	Max 10 A (H)	Max 15 A (H)	/	Max 20 A (H)	Max 25 A (H)
	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 adjustabl				
OTHERS	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				
TOWER	USB+RJ45	Supports Windows 98/2000/2003/XP/Vista/2008/7/8/10				
	SNMP (optional)	Power management from SNMP manager and web browser (standard with slot)				
	Operating temperature	5°C -40°C				
	Operating humidity	Relative humidity ≤ 93%				
RACK MOUNT	Noise level	≤ 50 dB (1 m)				
	Dimensions (W×D×H)(mm)	144×345×215(S/H)		144×410×215(S) / 144×345×215(H)		190×467×335.5(S/H)
	Packaged dimensions(W×D×H)(mm)	236×427×316(S/H)		236×492×316(S) / 236×427×16(H)		320×592×462(S/H)
	Net weight (kg)	7.0 (H)	12.2(S) 11.6 (H)	14.2(S)	18.5(S) 17.8 (H)	28.1(S) 28.0(H)
RACK MOUNT	Gross weight (kg)	8.0 (H)	13.2(S) 12.6 (H)	15.2(S)	19.8(S) 18.8(H)	30.2(S) 30.0(H)
	Dimensions (W×D×H)(mm)	/	440×338×88(S)	440×410×132(S)		
	Packaged dimensions	/	611×448×208(S)	611×505×235(S)		
	Net weight(kg)	/	14.6(S)	17.2(S)	21.5(S)	26.7(S)
RACK MOUNT	Gross weight (kg)	/	16.8(S)	20.4(S)	24.5(S)	30.5(S)

STARONE

Pure Sine Wave Inverter

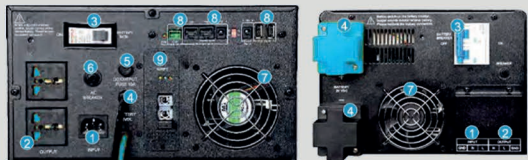
300W ~ 3500W



The Pure Sine Wave 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 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 Charge current Max.60A. Settable charge current and charge 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 10hrs (based on battery bank and loads)
 - Compatible with generators, and matching of inverter and generator is settable
 - Unique functions: optional built-in MPPT modules eable the inverter to work as off-grid solar inverter, optional DC module eable the inverter to apply to communications, router, switch, mobile charging, DC fans and illumination

Rear Panel	
1. Input	6. AC Breaker
2. Output	7. Fan
3. Battery Breaker	8. DC Output (optional)
4. Battery Input	9. MPPT Module (optional)
5. Fuse	



Technical Specification		300 W	600 W	1000 W	1600 W	2500 W	3500 W
INPUT DC	Nominal input voltage	12 V			24 V		
	DC input voltage range	10 V - 15 V			20 V - 30 V		
INPUT AC	Bypass voltage	0~264 Vac for 220 Vac / 230 Vac / 240 Vac, 0~132 Vac for 100 Vac / 110 Vac / 115 Vac / 120 Vac					
	AC voltage	150~282 Vac for 220 Vac, 156 294 Vac for 230 Vac, 163 307 Vac for 240 Vac, 68 ~ 128 Vac for 100 Vac, 75 ~ 141 Vac for 110 Vac, 79 ~ 148 Vac for 115 Vac, 82 ~ 154 Vac for 120 Vac					
	Frequency	50 Hz / 60 Hz (auto-sense), 42.5 ~ 57.5 Hz for 50 Hz, 51 ~ 69 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, 45 ~ 128 Vac for 100 Vac, 50 ~ 141 Vac for 110 Vac, 52 ~ 148 Vac for 115 Vac, 54 ~ 154 Vac for 120 Vac					
	Input frequency at generator	40~70 Hz					
	Input power limitation	Rated power 10% ~ 150%, regulating step 10%, default 120%					
OUTPUT	DC mode output voltage	220 Vac / 230 Vac / 240 Vac ± 5% or 100 Vac / 110 Vac / 115Vac / 120 Vac ± 5% (settable)					
	AC mode output voltage	174 ~ 242 Vac for 220 Vac, 182 ~ 253 Vac for 230 Vac, 190 ~ 264 Vac for 240 Vac, 79 ~ 109 Vac for 100 Vac, 87 ~ 121 Vac for 110 Vac, 93 ~ 125 Vac for 115 Vac, 95 ~ 133 Vac for 120 Vac					
	Nominal cutput frequency	50 Hz / 60 Hz ± 0.3 (auto-sense & settable)					
	Output waveform	Pure sine wave					
	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, time can be set (1 ~ 99 min), load can be set (3% ~ 50%)					
	Transfer time	≤10 ms				≤15 ms	
	Power factor	1.0					
BATTERY	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)					
	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 14.4 Vdc (default), 13.6 ~ 15 Vdc adjustable					
	Float ng charge voltage	Single battery 13.7 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					
MPPT MODULES (OPTIONAL)	Reverse warning	Buzzer					
	Model	10 A / 20 A / 30 A / 40 A				/	
	Max. PV input voltage (Voc)	40 V			60 V		/
	PV optimum operating voltage (Vmp)	18 V - 32 V			29 V - 48 V		/
OTHERS	Max. PV power	120 W/ 240 W / 360 W / 480W			240 W/ 480 W / 720 W / 9600W		/
	DC MODULES (OPTIONAL) Model	5 V (2 A), 9 V / 12 V (1 A), 15 V / 24 V (1 A), 12 V / 24 V (10 A)					
	Human-machine interface	LCD & BUZZER					
	Operating temperature	0 °C ~ 40 °C					
	Operating humidity	5% ~ 95% RH					
	Forced air cooling	Variable speed fans					
	Net weight (kg)	8.0 (w/o option) / 8.5 (w/ option)	10.9 (w/o option) / 11.4 (w/ option)	14.0 (w/o option) / 14.6 (w/ option)	18.0 (w/o option) / 18.5 (w/ option)	32.0	36.0
	Gross weight (kg)	9.0 (w/o option) / 9.5 (w/ option)	11.9 (w/o option) / 12.4 (w/ option)	15.0 (w/o option) / 15.6 (w/ option)	19.0 (w/o option) / 19.5 (w/ option)	34.0	38.0
	Dimensions (W×D×H) (mm)	280×258×120 (w/o option) / 293×280×160 (w/ option)			293×280×160		302×479×209
	Packaged cimensiors (W×D×H) (mm)	330×352×200 (w/o option) / 370×355×235 (w/ option)			370×355×235		353×582×287

Inverter



SA900Pro

1 kVA ~ 3 kVA

PF 0.9

Features	
• High frequency on-line double conversion technology	
• DSP (Digital signal processors) control technology	
• Active power factor correction (APFC), input power factor up to 0.99	
• Output power factor 0.9	
• Wide input voltage range (110V ~ 300Vac) and frequency range (40 ~ 70Hz)	
• Auto sensing frequency	
• 50/60Hz frequency conversion	
• Cold start	
• Rear ventilation design and variable speed fan	
• Effective software and hardware protection	
• Quick and stable charging, 90% capacity restored in 3 h (standard model UPS)	
• Linear derating in low voltage input reducing battery discharging times	
• Settable delayed start when power is restored	
• Advanced battery management (ABM)	
• Multiple functions settable via LCD: output voltage, EOD, auto-start, bypass mode, ECO mode and frequency conversion mode	
• Multi-platform communications: RS232 (standard), USB / RS485/SNMP / dry contacts (optional)	
Available Options	
Optional USB, RS485 card, AS400 dry contacts, SNMP card, SMS alarms, EPO function, 12A charger (2-3KVA only) and built-in isolation transformer	
Rear Panel	
1. Overcurrent Protection	6. Fan
2. AC Input	7. RS232
3. Modem/Tel/Fax	8. USB (optional)
4. DC Input	9. EPO (optional)
5. Outlet	10. SNMP/AS400 (optional)

Technical Specification		SA 901 PS		SA 901 PH		SA 902 PS		SA 902 PH		SA 903 PS		SA 903 PH	
INPUT	Capacity	1 KVA / 900 W			2 KVA / 1800 W				3 KVA / 2700 W				
	Rated voltage	208 V/220V/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 range	-25% ~ +15% (settable)											
OUTPUT	Voltage	208 V/220V/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)											
EFFICIENCY	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											
	Mains mode	≥ 90%			≥ 91%				≥ 92%				
	Battery mode	≥ 85%			≥ 86%				≥ 87%				
BATTERY	ECO mode	≥ 95%			≥ 96%				≥ 97%				
	DC voltage	24 V	36 V	36 V	48 V	72 V	72 V	72 V	96 V	96 V			
	Inbuilt battery	2×9 Ah	3×7 Ah	/	4×9 Ah	6×7 Ah	/	9×6 Ah	8×7 Ah	/			
	Charging current (max.)	1 A		6 A	1 A		6 A	1 A		6 A			
ALARMS	Recharge time	8 h											
	Utility failure	4 s per beep											
	Low battery	1 s per beep											
	Overload	1 s twice beep											
	UPS fault	Long beep											
OTHERS	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											
	Operating temperature	0~40°C											
	Relative Humidity	0~90% (non-condensing)											
	Noise level	≤ 50 dB (1m)											
	Dimensions (W×D×H) (mm)	144×336×214	144×414×214	144×336×214	191×418×335				191×464×355		191×418×355		
	Packaged dimensions (W×D×H) (mm)	232×417×318	231×492×316	232×417×318	318×533×471				320×573×471		318×533×471		
Net weight (kg)	9.5	13	6	18	25.7	10.5	27.2	32	11				
Gross weight (kg)	10.5	14.2	7	19.5	27.4	12	29	34	12.5				



SA900Pro

6 kVA ~ 10 kVA

PF 0.9

Features	
• High frequency on-line double conversion technology	
• DSP (Digital signal processors) technology	
• Active power factor correction (APFC), input power factor up to 0.99	
• Output power factor 0.9	
• Wide input voltage range (110V ~ 300Vac) and frequency range (40 ~70Hz)	
• Auto sensing frequency	
• 50/60Hz frequency conversion	
• Cold start	
• Rear ventilation design and variable speed fan	
• Effective software and hardware protection	
• Flexible battery configuration (Settable 14 - 20 pcs batteries)	
• Quick and stable charging, 90% capacity restored in 4 h (standard model UPS)	
• Linear derating in low voltage input reducing battery discharging times	
• Settable delayed start when power is restored	
• Advanced battery management (ABM)	
• Multiple functions settable via LCD: output voltage, battery quantity, EOD, EPO, ECO mode, frequency conversion mode and parallel enable	
• Powerful background software for parameters configuration, function settings and online updating	
• Multi-platform communications: RS232 (standard), USB/ RS485/SNMP / dry contacts (optional)	
Available Options	
Optional USB, RS485 card, AS400 dry contacts, SNMP card, SMS alarms, maintenance bypass, EPO function, parallel function, battery temperature compensation and EMD environmental sensors	
Rear Panel	
1.Input and output terminal	8. Intelligent slot (SNMP / AS400/RS485 optional)
2.Input breaker	9. USB (optional)
3. Battery breaker	10.RS232
4.Maintenance bypass (optional)	11.EPO
5.Inbuilt battery	12. Parallel card (optional)
6. Fan	13. Battery temperature compensation (optional)
7.External battery connector	

Technical Specification		SA 906 PS	SA 906 PH	SA 9010 PS	SA 9010 PH
Capacity		6 KVA / 5400 W		10 KVA / 9000 W	
INPUT	Rated voltage	208 V/220V/230 V/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 V/220V/230 V/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		Pure sine wave			
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 mins; 125%~ 150% : Transfer to bypass in 1 min; > 150%: Transfer to bypass in 0.5 s			
BATTERY	Bypass overload capability	102%~ 125% : Shut down in 20 mins; 125% ~150%: Shut down in 2 mins; > 150%: Shut down in 1 s			
	DC voltage	192 VDC (168/180/192/204/216/228/240 VDC optional)			
	Inbuilt battery	16× 7 Ah	/	16× 9 Ah	/
SYSTEM	Recharge time	Standard model (S): 90% capacity restored in 4 hours; Long time model (H): depend on the capacity of battery			
	EFFICIENCY	≥ 93%, ECO mode 98%			
	Display	LCD+LED			
	Alarms	Battery mode, battery voltage low, fans fault etc.			
	Maximum Parallel numbers	6			
OTHERS	EMI	IEC/EN62040-2			
	EMS	IEC61000-4-2 (ESD) ; IEC61000-4-3 (RS); IEC61000-4-4 (EFT) ; IEC61000-4-5 (Surge)			
	RS232/USB/RS485/ dry contacts	Supports Windows® 98/2000/2003/XP/Vista/2008/7/8/10			
	SNMP	Power management from SNMP manager and web browser			
	Humidity	20~90% RH @ 0-40°C (non-condensing)			
	Noise level	≤ 55 dB (1m)			
	Dimensions (W×D×H) (mm)	191×462×710	191×462×350	191×462×710	191×462×350
	Packaged dimensions (W×D×H) (mm)	308×640×896	267×573×436	308×640×896	267×573×436
Net weight (kg)	58.7	15.6	67.2	16.1	
Gross weight (kg)	64.8	17.9	73.3	18.4	



Features

- High frequency on-line double conversion technology
- DSP (Digital signal processors) control technology
- Active power factor correction (APFC), input power factor up to 0.99
- Output power factor 0.9
- Wide input voltage range (110V ~ 300Vac) and frequency range (40 ~ 70Hz)
- Auto sensing frequency
- 50/60Hz frequency conversion
- O Cold start
- Rear ventilation design and variable speed fan
- Effective software and hardware protection
- Quick and stable charging, 90% capacity restored in 3 h (standard model UPS)
- Linear derating in low voltage input reducing battery discharging times
- Settable delayed start when power is restored
- Advanced battery management (ABM)
- Multiple functions settable via LCD: output voltage, EOD, auto-start, bypass mode, ECO mode and frequency conversion mode
- Multi-platform communications: RS232 (standard), USB/ RS485/SNMP / dry contacts (optional)

Available Options

Optional USB, RS485 card, AS400 dry contacts, SNMP card, SMS alarms, EPO function, MBS (External maintenance bypass switch)

Rear Panel

- | | |
|---------------------------|----------------------|
| 1. Overcurrent Protection | 6. FAN |
| 2. AC Input | 7. RS232 |
| 3. Modem/Tel/Fax | 8. EPO (optional) |
| 4. DC Input | 9. USB (optional) |
| 5. Outle | 10. Intelligent Slot |

SA900 Pro RT

1 kVA ~ 3 kVA
PF 0.9

Technical Specification		SA 901 PS RT			SA 901 PH RT			SA 902 PS RT			SA 902 PH RT			SA 903 PS RT			SA 903 PH RT		
INPUT	Capacity	1 KVA / 900 W						2 KVA / 1800 W						3 KVA / 2700 W					
	Rated voltage	208 V/220V/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																	
OUTPUT	Bypass voltage range	-25% ~+15% (settable)																	
	Voltage	208 V/220V/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																	
EFFICIENCY	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 capability	105%~ 125%: transfer to bypass in 1 min; 125%~ 150%: transfer to bypass in 30 s; > 150%: transfer to bypass in 300 ms																	
	Mains mode	≥ 90 %			≥ 91 %			≥ 92 %											
BATTERY	Battery mode	≥ 85 %			≥ 86 %			≥ 87 %											
	ECO mode	≥ 95 %			≥ 96 %			≥ 97 %											
	DC voltage	24 V	36 V	36 V	48 V	72 V	72 V	72 V	96 V	96 V									
ALARMS	Inbuilt battery	2 × 9 Ah	3 × 7 Ah	/	4 × 9 Ah	6 × 7 Ah	/	6 × 9 Ah	8 × 7 Ah	/									
	Charging current (max.)	1 A		6 A	1 A		6 A	1 A		6 A									
	Recharge time	8 h																	
OTHERS	Utility failure	4 s per beep																	
	Low battery	1 s per beep																	
	Overload	1 s twice beep																	
OTHERS	UPS fault	Long beep																	
	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																	
	Operating temperature	0 ~ 40°C																	
	Relative Humidity	0~90% (non-condensing)																	
	Noise level	≤ 50 dB (1m)																	
	Dimensions (W×D×H) (mm)	440×468×88						440×658×88			440×468×88			440×658×88	440×468×88 (UPS) 440×440×86 (BAT)		440×468×88		
	Packaged dimensions (W×D×H) (mm)	545×592×198						545×782×198			545×592×198			545×782×198		545×592×198 (UPS) 590×580 ×200 (BAT)		545×592×198	
Net weight (kg)	12.26	13.78	7.58	22.73	25.86	9.66	29.26	9.45(UPS) / 27.2(BAT)	10.4										
Gross weight (kg)	15.78	17.3	11.1	26.63	29.76	13.18	33.16	12.97(UPS) / 30.2(BAT)	13.56										



SA900II RT

6 kVA ~ 10 kVA

PF 0.9

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 mod • 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		
Rear Panel		
1. AC Input	6. USB (optional)	
2. DC Input	7. EPO (optional)	
3. Outlet	8. SNMP/AS400 (optional)	
4. Fan	9. Parallel Card (optional)	
5. RS232		

Technical Specification		SA 906 II RT	SA 9010 II RT
INPUT	Capacity	6 kVA/ 5400 W	10 kVA/ 9000 W
	Rated voltage	208 V/220V/230 V/240 Vac	
	Voltage range	110~160 Vac (50~10% load linear derating) ; 160~ 300 Vac (no derating)	
	Frequency	40~70 Hz ± 0.5% (auto-sense)	
	Power factor	≥ 0.99	
	Bypass voltage range	-40 ~ +15% (settable)	
OUTPUT	Voltage	208 V/220V/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)	
EFFICIENCY	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	
	Mains mode	≥ 92 %	
	Battery mode	≥ 91 %	
BATTERY	ECO mode	≥ 98 %	
	DC voltage	192 V	
	Inbuilt battery of standard model	16×7 Ah	16×9 Ah
	Charging current (Standard model)	1 A	
ALARMS	Charging current (Long time model)	1A/3A/5A/8A	
	Recharge time	8 h	
	Utility failure	4 s per beep	
	Low battery	1 s per beep	
OTHERS	Overload	1 s twice beep	
	UPS fault	Long beep	
	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	
Long time model	Humidity	20~90% RH @ 0~40°C (non-condensing)	
	Noise level	≤ 55 dB (1m)	
	Dimensions (W×D×H) (mm)	440×580×132(UPS)	
	Packaged dimensions (W×D×H) (mm)	530×703×227(UPS)	
Standard model	Net/Gross weight (kg)	16.4 / 20.7	17.1 / 21.4
	Dimensions (W×D×H) (mm)	440×580×132(UPS) ; 440×580×132(BAT)	
	Packaged dimensions (W×D×H) (mm)	530×703×227(UPS) ; 530×703×227(BAT)	
	Net/Gross weight (kg)	16.4 / 20.7 (UPS) ; 43.6 / 47.1 (BAT)	17.1 / 21.4 (UPS) ; 49.6 / 53.1 (BAT)



SA900II

6 kVA ~ 20 kVA(3:1)

PF 0.9

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

Technical Specification		SA 906 II	SA 9010 II	SA 9015 II	SA 9020 II
Capacity		6 KVA / 5.4 KW	10 KVA / 9 KW	15 KVA / 13.5 KW	20 KVA / 18 KW
INPUT	Rated voltage	3:1: 360V/380 V/400V/415 Vac; 1:1: 208 V/220V/230 V/240 Vac (settable via LCD)			
	Voltage range	3:1: 190~277 Vac (derating 50%),277~ 520 Vac (no derating); 1:1:110~160 Vac (derating 50%), 160~ 300 Vac (no derating)			
BYPASS	Frequency	40~70 Hz (auto-sense)			
	Power factor	3:1 ≥ 0.95 ; 1:1 ≥ 0.99			
BYPASS	Voltage range	- 40% ~ +15% (settable)			
	Frequency	50/60 Hz ± 5 Hz			
OUTPUT	Voltage	208 V/220V/230 V/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			
EFFICIENCY	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			
	Mains mode	≥ 92 %			
	Battery mode	≥ 91 %			
	ECO mode	≥ 98 %			
BATTERY	DC voltage	192 Vdc/240 Vdc			
	Inbuilt battery of standard model	16 / 20×7 Ah	16 / 20×9 Ah	/	
	Charging current (Standard model)	1 A		/	
	Charging current (Long time model)	7 A			
ALARMS	Recharge time	8 h			
	Utility failure	4 s per beep			
	Low battery	1 s per beep			
	Overload	1 s twice beep			
OTHERS	UPS fault	Long beep			
	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			
	Humidity	20 ~ 90% RH @ 0 ~ 40°C (non-condensing)			
	Noise level	≤ 58 dB (1m)			≤ 60 dB (1m)
	Dimensions (W×D×H) (mm)	262×580×455 (H) ; 262×580×732(S)			262×580×628 (H)
	Packaged dimensions (W×D×H) (mm)	355×682×615(H) ; 359×687×937(S)			359×687×832 (H)
Net weight (kg)	25.0 (H) ; 73.0 (S)	25.5 (H) ; 74.0 (S)	38.5 (H)	39.0 (H)	
Gross weight (kg)	28.5 (H) ; 82.5 (S)	29.0 (H) ; 83.5 (S)	47.0 (H)	47.5 (H)	



SA900Pro

10 kVA ~ 30 kVA(3:3)

PF 0.9

Features	
• DSP digital control technology • Active power factor correction (APFC), input power factor up to 0.99 • Output power factor 0.9 • Cold start • Dual input • Wide input voltage range (190V~ 485V) Auto sensing frequency • 50/60Hz frequency conversion mode • Work efficiency up to 98% in ECO mode • Auto control fan speed when loads varies • Auto power ON/OFF according to the load capacity set by users • Flexible battery configuration for using 14/16/18/20 pcs batteries • Compact internal layout, miniaturized the complete unit for small footprint • LCD+LED display, multi-functional keys operation, friendly human-machine interface • Powerful background software for parameters configuration and online updating • Doubling the battery charging speed, 90% capacity restored in 4 hours (standard model UPS) • Linear derating in low voltage input, reducing battery discharging times, extending the service life of battery • Advanced battery management (ABM), automatic floating / equalizing charge control, charger dormancy control • Configurable switching time from battery mode to mains mode when mains power is restored, reducing the impact on power grid or generator • Effective software and hardware protection function, powerful self-diagnostic function, abundant historical records • Standard emergency power off (EPO) • Standard maintenance bypass • Standard RS232/USB communication port • Optional RS485/SNMP / AS400 communication port and SMS alarms • Optional N+X redundancy parallel up to 6 units • Optional battery temperature compensation, EMD environmental sensors	
Rear Panel	
1. Mains Input	9. RS232
2. DC Input	10. USB
3. Bypass Input	11. EPO
4. Output	12. Battery Temperature Compensation (Optional)
5. Mains Input Breaker	13. Intelligent Slot 1 (SNMP) AS400/RS485 Optional)
6. Bypass Input Breaker	14. Intelligent Slot 2 (SNMP/AS400/RS485 Optional)
7. Maintenance Bypass.	15. Parallel Card (optional)
8. Fan	16. Battery Breaker

Technical Specification		SA 9010 P	SA 9015 P	SA 9020 P	SA 9030 P
Capacity		10 KVA / 9 KW	15 KVA / 13.5 KW	20 KVA / 18 KW	30 KVA / 27 KW
INPUT	Rated voltage	360 V/380 V/400 V / 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 V/380 V/400 V/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% (linear load); ≤ 5% (non-linear load)			
	Transfer time	Mains mode to battery mode: 0 ms; Inverter mode to bypass mode: 0 ms			
BATTERY	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			
	DC voltage	Standard model: 240 VDC; Long time model: 192 VDC (168V/192V/216V/240V optional)			
SYSTEM	Inbuilt battery of standard model	20 ×7Ah	40 ×7Ah	40 ×9Ah	60 ×9Ah
	Recharge time	Standard model: 90% capacity restored in 4 hours; Long time model: depend on the capacity of battery			
	Efficiency	≥ 93%, ECO mode 98%			
	Display	LCD + LED			
	Alarm	Battery mode, low battery, fans fault etc.			
	Max. parallel numbers	6			
	EMI	IEC/EN62040-2			
OTHERS	EMS	IEC61000-4-2 (ESD); IEC61000-4-3 (RS); IEC61000-4-4 (EFT); IEC61000-4-5 (surge)			
	RS232/USB/RS485/dry contacts	Supports Windows 98/2000/2003/XP/Vista/2008/7/8/10			
	SNMP	Power management from SNMP manager and web browser			
	Humidity	20~90% RH @ 0~40°C (non-condensing)			
	Noise level	≤ 60 dB (1m)	≤ 65 dB (1m)		
	Dimensions (W×D×H) (mm)	350×655×732(H)			
		350×785×858 (S)	350×785×1078(S)		
	Packaged dimensions (W×D×H) (mm)	472×780×920(H)			
		472×910×1050 (S)	472×910×1260(S)		
	Net weight (kg)	55(H) ; 115(S)	60(H) ; 155(S)	61(H) ; 175(S)	65(H) ; 235(S)
Gross weight (kg)	65(H) ; 125 (S)	70(H) ; 170(S)	71(H) ; 190 (S)	75(H) ; 250(S)	



SA990

10 kVA ~ 120 kVA(3:3)

PF 0.9

Features
• High frequency online double-conversion with DSP control
• Modular design, high reliability, easily maintenance
• Double input distribution, higher reliability of system
• Input power factor correction (PFC)
• ECO mode operation for energy saving
• Wide input voltage range, 50 Hz/60 Hz auto-sense frequency
• Support two modes of frequency conversion: 50 Hz input / 60 Hz output and 60 Hz input / 50 Hz output
• Input power factor > 0.99, input THDi ≤ 3%, output THDV ≤ 5%
• Output power factor 0.9
• High efficiency: load > 10%, efficiency ≥ 90%; load > 50%, efficiency ≥ 93%
• Digitized charger: flexible charger parameter and battery configuration setting, monitoring battery disconnected on line
• Share battery pack in parallel operation or separate battery pack for different UPS
• Flexible charger parameter and battery configuration setting, selectable battery number
:32 pcs/34 pcs/36 pcs/38 pcs/40 pcs
• Advanced intelligent battery management technique, prolong the working life of battery effectively
• Support battery cold start and mains supply self-starting
• 5.7 inches LCD touch screen, friendly human & machine interface
• Perfect protective function in hard and software, robust self-diagnosing, abundant event log for future check
• Perfect password control technology, including the first power-on password control, user password control and Maintenance password control.
• Reminders of battery out of warranty
• Standard emergency power off (EPO)
• Standard RS232/USB/RS485/ dry contacts communication port
• Optional SNMP communication port
• Optional N+1 redundancy parallel up to 4 units
• Optional built-in isolation transformer
• Optional battery temperature compensation

Technical Specification		SA 9910	SA 9920	SA 9930	SA 9940	SA 9960	SA 9980	SA 99100	SA 99120
Capacity		10KVA / 9W	20KVA / 18W	30KVA / 27W	40KVA / 36W	60KVA / 54W	80KVA / 72W	100KVA / 90W	120KVA / 108W
INPUT	Rated voltage	380 V/400 V/415 Vac							
	Voltage range	204~242 Vac (load ≤ 50%); 242~305 Vac (50% <load ≤ 70%); 305~520 Vac (70% < 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% ~rated output voltage +20% (settable via LCD)							
Voltage		380 V/400 V/415 Vac							
Voltage regulation		±1%							
OUTPUT	Frequency	Synchronized with utility in mains mode; Frequency conversion mode: 50 Hz input and 60 Hz output or 60 Hz input and 50 Hz output 50/60 Hz in battery mode							
	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							
BATTERY	DC voltage	± 192 V (options: ± 204 V / +216 V/ ± 228 V / ± 240 V)							
	Inbuilt battery of standard model	32×12V / 9 Ah	64×12V / 9 Ah		NO				
Charging current		1 ~ 2 A (Settable via LCD)			1 ~ 24 A (Settable via LCD)			1~24 A (Settable via LCD) / 1~48 A (Optional)	
Efficiency		≥ 93%, ECO mode 98.5%							
SYSTEM	Display panel	5.7 Inches LCD touch screen							
	Alarm	Battery mode, low battery, fans fault etc							
	Max. parallel numbers EMI	4							
	EMS	EN62040-2							
RS232/RS485/USB/dry contacts (standard)		IEC61000-4-2 (ESD); IEC61000-4-3 (RS); IEC61000-4-4 (EFT) ;IEC61000-4-5 (surge)							
SNMP (optional)		Supports Windows® 98 / 2000/2003/XP/Vista/2008/7/8/10							
Humidity		Power management from SNMP manager and web browser							
OTHERS	Noise level	0 ~ 95% RH @ 0 ~ 40°C (non-condensing)							
	Dimensions (W×D×H) (mm)	≤ 60 dB							
	Packaged dimensions (W×D×H) (mm)	600×800×1360						600×800×1680	
	Net/Gross weight (kg)	720×920×1500						720×920×1820	
	Without inbuilt battery	180/200	186/205	188/210	227/245	231/250	316/376	354/414	

STARONE



SA990 series 150KVA~ 800KVA is three-phase input and three-phase output uninterruptible power supply system with high frequency on-line double-conversion technology controlled by DSP (Digital Signal Processor) microprocessor. It adopts a highly intelligent modular design to achieve utmost compact layout and improve reliability of the system. It meets the protection demands of critical loads in data centres or other improtant appications with high electrical performance and hardware/software protections.

Features
• DSP digital control technology
• Pure sine wave double conversion, with strong load capacity
• Modular design, high reliability and easy maintenance
• Dual input power distribution for higher usability
• Input power factor > 0.99, THDI < 3%, environment friendly and high-efficiency and energy-saving
• Keep high efficiency operation at low load rate: 96% at 40% rated load
• High power density, 500KVA system only 1.02 m footprint
• High Efficiency operating in on-line mode up to 96%, in ECO mode up to 99%
• Wide input voltage range, 50Hz/60Hz frequency anto-sense, adapt to all kind of grid
• Support two modes of frequency conversion: 50Hz input/60Hz output and 60Hz / input 50Hz output
• Output power factor 0.9, load capability improved 12.5% more than traditional products
• Advanced parallel expansion technology, support 4 units in parallel
• Share battery pack in parallel operation, saving user's battery cost
• Flexible charger parameter and battery configuration setting, battery number 30-46 pcs selectable
• Intelligent battery management (Intelligent charge/discharge management and float charging voltage temperature compensation), extending battery lifespan
• Support battery cold start and utility self boot
• Self-aging function, easy debugging and test on site
• Complete hardware and software protection function, robust self-diagnostic function, and abundant event log for check
• 7 inches LCD touch screen, friendly human-machine interface
• Monitoring unit with built-in SNMP, supports RS485 and dry contacts

SA990

150KVA~800KVA[3:3]
PF 0.9

Technical Specification		SA 99150	SA 99200	SA 99300	SA 99400	SA 99500	SA 99600	SA 99800
INPUT	Rated capacity	150KVA/135KW	200KVA/180KW	300KVA/270KW	400KVA/360KW	500KVA/450KW	600KVA/540KW	800KVA/640KW
	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						
	Current distortion	<3%						
BATTERY	Battery voltage	±240 Vdc (± 180, ±192, ±204, ±216, ± 228, ± 252, ± 264, ± 276 selectable)						
	Number of battery	40 pcs 12 V batteries (supports 30/32/34/36/38/42/44/46 pcs)						
OUTPUT	Output wiring	3Ph+N+PE						
	Rated voltage	380/400/415 Vac						
	Voltage regulation accuracy	± 1%						
	Frequency	Synchronized with utility on mains power mode: 50Hz/60Hz ± 0.25% in battery mode:						
	Power factor	0.9						
	Voltage distortion	≤1% with liner load / ≤ 3% with non-linear load						
	Crest factor	3:1						
SYSTEM	Inverter overload capacity	105% <load ≤110%: transfer to bypass in 60 min / 110% <load ≤ 125%: transfer to bypass in 10 min 125% load ≤ 150%: transfer to bypass in 1 min / Load > 150%: transfer to bypass in 200 ms						
	Bypass overload capacity	Load ≤135% for long term; < 1000% load for 100 ms						
	Efficiency	96 %						
	Max. number of parallel	4 units						
	Transfer time	0 ms						
	Protection	Lack-phase protection, phase-error protection, short circuit protection, overload protection, over-temperature protection, battery low voltage protection,output over/low voltage protection, fans failure protection ect						
	Communications	RS485, dry contacts, SNMP						
OTHERS	Display	7 inches LCD touch screen						
	Operating temperature	0-40°C						
	Storage temperature	-40°C ~70°C						
	Humidity	0~95% (non-condensing)						
	Altitude	≤1000 m. Above 1000 m, derating 1% for each additional 100 m						
	Protection level	IP 20						
	Noise level at 1 m	< 65 dB			< 68 dB			
Dimensions (W×D×H) (mm)		600×850×2000			1200×850×2000		1400×850×2000	2400×850×2000
Weight (kg)		333	365	439	680	795	1011	1540

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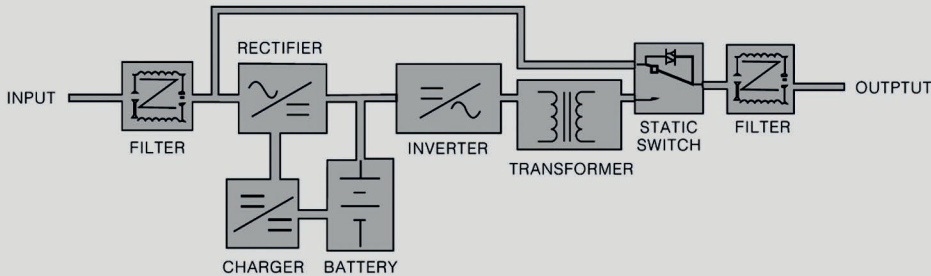


SA800

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

Features

- Single / single-phase, three / single-phase models with on- line double conversion technology
- DSP (Digital Signal Processors) technology
- Suitable for all kinds of loads (resistive, inductive and non- linear loads etc)
- High overload capability (up to 150%)
- Bypass dual DSP control design to enhance more reliability
- Supports dual input, hot standby in series
- Redundant & parallelable with advanced parallel current- sharing control technology Cold start and mains start function
- High charging capability: 2 A/4A/6A/8A/10 A/12 A selectable (standard), 14 A / 16 A / 18 A / 20 A / 22 A / 24 A selectable (options)
- Standard configuration with output isolation transformer Superior protection (surgers, short -circuit, overvoltages, undervoltages, overcharge, reverse connection protection etc)
- Advanced communications (RS232 and USB ports(standard), SNMP, dry contacts and RS485 (options)
- Other options (parallel kits, input isolation transformer, bypass isolation transformer and harmonic suppressor)



Technical Specification		SA 806 (1:1)	SA 810 (1:1)	SA 810 (3:1)	SA 815 (3:1)	SA 820 (3:1)	SA 830 (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: 200 ms					
BATTERY	Battery voltage	192 Vdc					
	Battery type	VRLA AGM maintenance-free lead based					
	Number of battery	12 V x 16 pcs					
	Charging voltage	220 Vdc					
	EOD	168 Vdc					
OUTPUT	Charging current	Default 8 A (2A/4A/6A/8A/10A/12 A selectable)					
	Rated voltage	220/230/240 (1ϕ+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)					
OTHERS	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					
	Transfer time	0 ms					
	Protections	Short-circuit- overload- overvoltage -undervoltage -low battery-overtemperature					
	Communications	RS232/USB (standard); RS485/SNMP/dry contacts (optional)					
	Operating temperature	0-40°C					
	Storage temperature	-25°C ~ 55°C (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	
Packaged dimensions(W×D×H) (mm)		328×716×805	430×710×1080			525×925×1305	
Net weight (kg)		54	96	130	201	230	277
Gross weight (kg)		64	108	142	216	245	292

STARONE



SA890 series UPS is a intelligent 3 phase in 3 phase out uninterruptible power supply, it adopts double transform high frequency PWM and high performance digital control technique (DSP), with perfect protection, super network management function, reasonable man-machine interface and a series of precision design, meets all high reliability requirements of uninterruptible power supply and integrates reliable, safety, maintainability characteristics of a new generation low frequency UPS.

Features

- Online double-conversion with full DSP control
- IGBT inverter with output isolation transformer
- 100% unbalance load capability
- Output power factor 0.9
- Generator compatible
- Support battery cold start and auto-restart when mains power is restored
- ECO mode operation for energy saving
- Superior protection
- 5.7 inches LCD touch screen, friendly human & machine interface
- Front access makes maintenance and replacement easy (60 ~ 120KVA)
- Intelligent self-diagnosing function, all kinds of failure protection, large capability of history records storage
- High MTBF (>200,000h)
- Low MTTR (<0.5h)
- Standard emergency power off (EPO)
- Standard RS232, RS485, dry contacts communication port
- Optional SNMP communication port
- Optional N+X redundancy parallel up to 6 units
- Optional input filter to improve input power factor

SA890

10KVA~120KVA[3:3]
PF 0.9

Technical Specification		SA 8910	SA 8915	SA 8920	SA 8930	SA 8940	SA 8960	SA 8980	SA 89100	SA 89120
INPUT	Capacity	10KVA / 9 KW	15KVA /13.5 KW	20KVA/18 KW	30KVA / 27 KW	40KVA / 36 KW	60KVA / 54 KW	80KVA / 72 KW	100KVA / 90 KW	120KVA / 108 KW
	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/400V/415 Vac								
	Voltage regulation	±1%								
	Frequency	Synchronized with utility in mains mode; 50/60 Hz ± 0.1% in battery mode								
	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								
BATTERY	Slight adjustment of inverter output voltage	± 5 V								
	DC Voltage	12V × configured battery number (settable via display panel)								
	Number of battery	28~32 pcs (settable)								
	Charging current	10 A default/Settable								
	Charging	Three-stage charging, auto switch floating/equalizing charge								
	Battery state display	Display battery backup time, battery remaining capacity								
SYSTEM	Battery self-test	Settable periodic self-test; manually configurable test time and voltage								
	Efficiency	In line mode: Max. 93% ; ECO mode: ≥ 98%								
	Max. Parallel numbers	6								
	Protections	Short-circuit - overload - overvoltage - undervoltage - low battery - overtemperature - fan fault								
	IP rating	IP20								
	EMI	EN62040-2								
OTHERS	EMS	IEC61000-4-2 (ESD) ; IEC61000-4-3 (RS) ; IEC61000-4-4 (EFT) ; IEC61000-4-5 (surge)								
	RS232/RS485/ dry contacts (standard)	Supports Windows 98/2000/2003/XP/Vista/2008/Windows 7/8/10								
	SNMP (optional)	Power management from SNMP manager and web browser								
	Humidity	0 ~ 95% RH @ 0 ~ 40°C (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

STARONE



SA890 series UPS 160KVA 500KVA use double conversation technology with a very advanced design criteria improves the performance of components, minimizes the quantity of raw material used on the magnetic and reduces the number of semiconductors thus reducing servicing time and ownership costs. This UPS has high efficiency (>93%) and input power factor (>0.99) built-in output isolation transformer. The inverter transformer prevents the direct feed-through of the battery potential into the critical load and allows a very high rejection ratio of the power supply disturbances (spikes, surges etc).

Features

- Online double-conversion with DSP control
- IGBT rectifier and high input power factor (>0.99)
- High efficiency 93%
- Output power factor 0.9
- Low input distortion: THD<5% Generator compatible
- Output isolation transformer
- Inverter IGBT technology with high frequency communication
- High immunity to external disturbances Independent control on the three inverter phases
- High instantaneous overload capacity
- High MTBF (>200,000h)
- Capability of supplying distorted loads, containing output voltage distortion with crest factors
- Front access makes maintenance and replacement easy, save space
- Intelligent self-diagnosing function, all kinds of failure protection, large capability of history records storage
- Low MTTR (<0.5h)
- Standard emergency power off (EPO)
- Standard RS232/RS485/dry contacts communication port
- Optional SNMP communication port
- Optional N+X redundancy parallel up to 6 units

SA890

160KVA~500KVA[3:3]
PF 0.9

Technical Specification		SA 89160	SA 89200	SA 89250	SA 89300	SA 89400	SA 89500
Capacity		160KVA / 144KW	200KVA / 180KW	250KVA / 225KW	300KVA / 270KW	400KVA / 360KW	500KVA / 450KW
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)					
	Rated voltage	380 V/400 V/415 Vac					
OUTPUT	Voltage regulation	± 1%					
	Frequency	Synchronized with utility in mains mode; 50/60 Hz ± 0.1% in battery mode					
	Waveform	Sinusoidal					
	Crest factor	3:1					
	Total harmonic distortion (THDV)	≤ 2% (linear load); ≤ 5% (non-linear load)					
	Transfer time	0 ms					
	Inverter overload capability	105% ~ 110% for 60 minutes ; 110% ~ 125% for 10 minutes;					
BATTERY	Slight adjustment of inverter output voltage	± 5V					
	DC voltage	600 Vdc (support 576 Vdc / 588 Vdc/612 Vdc / 624 Vdc)					
	Number of battery	50 pcs (support 48/49/51/52 pcs)					
	Charging current	Charging rate (settable) × battery capacity (settable) × number of battery group (settable)					
	Battery state display	Battery remaining capacity and backup time					
SYSTEM	Battery self-test	Settable periodic self-test; manually configurable test time and voltage					
	Efficiency	Line mode ≥ 93%, ECO mode ≥ 98%					
	Max. parallel numbers	6					
	Protections	Short-circuit, overload, overtemperature, overvoltage, undervoltage, battery low voltage and fan failure					
OTHERS	IP rating	IP 20					
	Display	5.7 inches LCD touch screen					
	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					
	Operating temperature	0 ~ 40°C					
	Storage temperature	-25°C ~ 55°C (no battery)					
	Humidity	5% ~ 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)	900×1000×1950	1300×1000×2200			1300×1000×2200 (×2)	
	Net/Gross weight (kg)	790 / 810	1135 / 1200	1275 / 1340	1355 / 1420	2090 / 2200	2300 / 2410

Online Transformerless UPS

STARONE



With extendable capacity up to 160KVA/160KW in each closet and full DSP control technology, SA660 series is the third generation of three phase high frequency modular UPS. All internal modules (power module, charger module and monitormodule) are modularly designed and hot swappable. In addition, they are constructed with small modules, assuring both system compactness and reliability. Its full isolation design between fragile components and air flue makes the best of combination of reliability, functionality and flexibility. Moreover, this system adopts advanced "N+X" wireless parallel and redundancytechnology, avoiding single point failure, and further strengthening the reliability.

Features
•High frequency online double-conversion with DSP control
•Hot swappable operation for all modules
•Inbuilt integrated PDU system, easy installation and economic initial investment
•Wide input voltage range, 50Hz/60Hz auto sensing frequency
•Support two modes of frequency conversion: 50Hz input/60Hz output and 60Hz input / 50Hz output
•Input power factor>0.99, input THDi 3%, output THDV < 5%
•Advanced "N+X" wireless parallel and redundancy technology easily set up different numbers of redundancy UPS module via LCD
•Inbuilt battery module available, 40 x 12V/9AH for each module
•Share battery pack in parallel operation, saving user's battery cost
•System capacity up to 160KVA/160KW constructed by each module 20KVA/20KW, single charger module be equipped with 30 A charging current, 4 modules be configured maximally
•Flexible charger parameter and battery configuration setting, selectable battery number: 32 pcs/34 pcs/36pcs/38 pcs/40 pcs
•Advanced intelligent battery management technique, prolong the working life of battery effectively
•Support battery cold start and mains auto restart
•Complete isolation between key components and air duct effectively improve the system reliability
•Fragile components can be replaced easily as modules at low maintenance cost
•Front accessible maintenance, top/bottom cable entry compatible
•Perfect protection for hardware and software (C class lighting protection, circuit breaker, fuse, software and hardware protection), robust self detection, abundant event log for future check
•5.7 inches LCD touch screen, friendly human machine interaction
•Standard emergency power off (EPO)
•Standard RS232/USB/RS485/dry contacts communication portOptional SNMP communication port
•Optional battery temperature compensation

SA660

20KVA~160KVA
PF 0.1

Technical Specification		SA 6680	SA 66160
INPUT	Capacity	80 KVA / 80 KW	160 KVA / 160 KW
	Numbers of parallel module	1 ~ 4	1 ~ 8
	Numbers of redundancy module	0 ~ 3	0 ~ 7
	UPS power module	20 KVA/20 KW	
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	Frequency range 50/60 Hz (auto-sense)	
	Power factor	40 ~70 Hz	
OUTPUT	Total harmonic distortion (THDI)	≥ 0.99	
	Bypass voltage Range	≤ 3%	
	Voltage	Rated output voltage -40% ~ rated output voltage +20% (settable via LCD)	
	Voltage regulation	380 V/400 V/415 Vac	
SYSTEM	Frequency	± 1%	
	Power factor	Synchronized with utility in mains mode; 50/60 Hz ± 0.1% in battery mode	
	Waveform	1.0	
	Crest factor	Pure sine wave	
BATTERY	Total harmonic distortion (THDV)	3:1	
	Transfer time	≤ 1% (linear load) ; ≤ 5% (non-linear load)	
	Inverter overload capability	0 ms	
	Bypass 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	
OTHERS	DC voltage	≤ 150%: long time running ; > 150%: power off in 10 s	
	Inbuilt battery of standard model	± 240 Vdc (options: ± 192 Vdc / ± 204 Vdc / ± 216 Vdc / ± 228 Vdc)	
	Charging current	40 × 12V / 9 Ah for each module	
	Efficiency	1~30 A /60 A (settable via LCD)	
SYSTEM	Display panel	≥ 94%	
	Alarm	5.7 Inches LCD touch screen	
	EMI	Battery mode, low battery, fans fault etc.	
	EMS	EN62040-2	
OTHERS	RS232/RS485/USB/dry contacts (standard)	IEC61000-4-2 (ESD) ; IEC61000-4-3 (RS) ; IEC61000-4-4 (EFT) ; IEC61000-4-4 (EFT) ; IEC61000-4-5 (surge)	
	SNMP (option)	Supports Windows 98/2000/2003/XP/Vista/2008/Windows 7/8/10	
	Humidity	Power management from SNMP manager and web browser	
	Noise level	0 ~ 95% RH @0 ~ 40°C (non-condensing)	
OTHERS	Module dimensions (mm)(W×D×H)	≤ 60 dB	
	Module weight	482 × 590 × 131	
	UPS dimensions (mm)(W×D×H)	28 kg/power module, 27 kg/charger module, 7 kg/monitoring module	
	UPS packaged dimensions(mm)(W×D×H)	600×1000×1600	600×1000×2000
OTHERS	UPS Net/Gross weight (kg)	700×1070×1760	700×1070×2160
	Without inbuilt battery and power module	225/245	290/310
	Input/output/bypass breaker	Yes	Yes

STARONE



SA660 is the third generation of three phase high frequency on-line double-conversion modular UPS. Its single unit is extendable to 800 KVA, system capacity can be expanded to 3.2 MVA constructed by each power module 50 KVA. All internal modules (Power module, bypass module and control module) are modularly designed and hot-swappable.

Features
• DSP digital control technology
• Pure sine wave double conversion, with strong load capacity
• Flexible modularity and easy scalability with all hot-swappable module design
• Keep high efficiency operation at low load rate: 96% at 40% rated load and 95% at 20% rated load
• High power density of 50 KVA / 3U power module
• 500 KVA system only 1.02 m2 footprint
• Inbuilt integrated PDU system, easy installation and saving investment
• Input power factor > 0.99, THDI < 3%, environment friendly and high-efficiency and energy-saving
• Wide input voltage range, 50 Hz/60 Hz frequency auto-sense, adapt to all kind of grid
• Soft-start technology improves generator matching up to 1:1.1
• Support two modes of frequency conversion: 50 Hz input / 60 Hz output and 60 Hz input / 50 Hz output
• Intelligent hibernation design enable UPS to operate efficiently at low load rate
• Advanced parallel expansion technology, support 4 units in parallel
• Share battery pack in parallel operation, saving user's battery cost
• Flexible charger parameter and battery configuration setting, battery number 30-46 pcs selectable
• Intelligent battery management (Intelligent charge/discharge management and float charging voltage temperature compensation), extending battery lifespan
• Support battery cold start and utility self boot
• Self-aging function, easy debugging and test on site
• Fault-tolerant design for fan system: 30% load can be driven when 2 fans fail and 50% load when 1 fan fails Front accessible maintenance, top/bottom cable entry compatible
• Complete hardware and software protection function, robust self-diagnostic function, and abundant event log for check
• 7 inches LCD touch screen, friendly human-machine interface
• Monitoring unit with built-in SNMP, supports RS485 and dry contacts

SA660

50KVA~800KVA
PF 0.9

Technical Specification		SA 66200	SA 66300	SA 66400	SA 66500	SA 66600	SA 66800
Rated capacity		200 KVA	300 KVA	400 KVA	500 KVA	600 KVA	800 KVA
Numbers of power modules		4	6	8	10	12	16
Rated capacity of 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					
BATTERY	Current distortion	< 3%					
	Battery voltage	± 240 Vdc (± 180, ± 192, ± 204, ± 216, ± 228, ± 252, ± 264, ± 276 selectable)					
	Number of battery	40 pcs 12 V batteries (30/32/34/36/38/42/44/46 pcs selectable)					
OUTPUT	Output wiring	3Ph +N+ PE					
	Rated voltage	380/400/415 Vac ± 1%					
	Frequency	Synchronized with utility in mains power mode: 50 Hz / 60 Hz ± 0.25% in battery mode:					
	Power factor	0.9					
	Voltage distortion	≤ 1% with liner load / ≤ 3% with non-linear load					
	Crest factor	3:1					
	Inverter overload capacity	105% < load ≤ 110%: transfer to bypass in 60 mins / 110% < load ≤ 125%: transfer to bypass in 10 mins 125% < load ≤ 150%: transfer to bypass in 1 min / Load > 150%: transfer to bypass in 200 ms					
Bypass overload capacity	Load ≤135% for long term; < 1000% load for 100 ms						
SYSTEM	Efficiency	96%					
	Max. number of parallel	4 units					
	Transfer time	0 ms					
	Protection	Short circuit protection, overload protection, over-temperature protection, battery low voltage protection, output over/low voltage protection, fans failure protection etc.					
	Communications	RS485, dry contacts, SNMP					
OTHERS	Display	7 inches LCD touch screen					
	Operating temperature	0 ~ 40℃					
	Storage temperature	-40℃ ~ 70℃					
	Humidity	0 ~ 95% (non-condensing)					
	Altitude	≤ 1000 m. Above 1000 m, derating 1% for each additional 100 m					
	Protection level	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	2400×850×2000
UPS module dimensions (W×D×H) (mm)	442×620×130						
Cabinet weight (kg)	233	415		465	617	1025	
UPS module weight (kg)	32						



SA660

Battery Module
Internal Structure

Hot swappable battery module is supporting modular UPS design products, the battery module uses the power module size, completely compatible with the power module drawer, without changing the modular cabinet of UPS system can be directly inserted, working on the power module position.
Supporting online hot swap, easy maintenance, and support redundant battery module, providing high availability.

Features
•The overall design using the same size as power module, power module slot compatible.
•Keep modular UPS maximum expansion function, readily removable battery module, without changing the system cabinet, can directly increase the power module to expand system power.
•Each battery module equipped with circuit breaker, with short circuit protection function, more safety and reliability.
•Battery module has low voltage & over discharge protection function,to prevent damage to the battery.
•Battery module using hot swap design. Simple operation, easy maintenance.
•Hot swappable and parallelizability battery module function, provide higher availability through redundancy battery module.
•Internal battery module using high performance free maintenance lead-acid batteries, with long service life. Battery module according to the 2 groups of multiple selection, each battery module contains 2 battery pack, and each battery pack containing 10PCs 12V/9AH batteries.

SA660~80KVA
80K use cabinet of 1.6 meter tall, and can match 4x20KVA power modules at most, so the biggest capacity is 80KVA. UPS adopt full front operation, and with power distribution inside, can match top cables and bottom cable connection.

SA660~160KVA
160K use cabinet of 2 meter tall, and can match 8x20KVA power modules at most, so the biggest capacity is 160KVA. UPS adopt full front operation, and with power distribution inside, can match top cables and bottom cable connection.



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 a type of ideal helpmate for running these important outdoor devices.

Features

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

Outdoor UPS

Pure Sine Wava Line Interactive
500 VA ~ 3000 VA

Technical Specification		SA 500 VA	SA 1000 VA	SA 2000 VA	SA 3000 VA
Capacity		300 W	600 W	1200 W	1800 W
Display (Panel indicator)		LED/LCD (customized)			
Applications		PC, banking system, ATM, medical system			
Input voltage range		100 Vac/110 Vac / 115 Vac/120 Vac/200 Vac / 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 10 s			
Short circuit		Input fuse			
Inverter output voltage		100 Vac/110 Vac/115 Vac/120 Vac/200 Vac/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			
Mains abnormal		1/4 s, be silent in 40 s			
Low battery		1/0.2 s			
Overload		1/1 s			
DC voltage		24 Vdc		48 Vdc	
Inner battery space		2Pcs × 12V / 38 Ah / 2Pcs × 12V / 120 Ah		4Pcs × 12V / 38 Ah	4Pcs × 12V / 120 Ah
Charging current		Max . 12 A			
Communication interface (option)		Dry contacts/RS232/USB/SNMP			
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°C ~ 50°C (-30°C option)			
Environmental humidity		10% ~ 95% (no cooling)			
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

Stabilizer AVR

500 VA ~ 5000 VA



AVR series AC automatic regulators apply the advanced control technology with well qualified components. It has the features of wide input voltage compatibility, high reliability, output voltage stabilizing, energy saving etc.; it has over voltage and low voltage protection and delayed output protection etc.. it could supply stabilized power to lights, TVs, air-conditioners, refrigerator, computers and duplicating machines and other household equipment in schools, offices, hotels, meeting rooms where the stabilized voltage is needed.

Features

- Classic series, EI transformer, relay type
- Input and output voltage LED / Meter / LCD display
- High temperature protection
- Circuit breaker protection
- Efficiency: 98%

Technical Specification		SA 500 VA	SA 800 VA	SA 1000 VA	SA 1500 VA	SA 2000 VA	SA 3000 VA	SA 5000 VA
INPUT	Phase	Single Phase + N + GND						
	Voltage range	140 Vac ~ 270 Vac (option: 100 ~ 270 V)						
OUTPUT	Voltage range	200~ 240 V (no load)						
	Frequency	50/60 Hz						
	Overvoltage protection	250 V ± 5 V (overvoltage indicator on, output off)						
	Undervoltage protection	180 V ± 5 V (overvoltage indicator on, output off)						
OTHERS	Efficiency	≥ 95%						
	Display mode	LED indicator light; pointer voltmeter / LCD display (selectable)						
	Input/output setting	Plug / Socket						Terminal blocks
	Time-delay	short delay: < 3s ; long delay: 3 mins						
	Output short circuit protection	fuse/breaker						
	Waveform distortion	No additional waveform distortion						
	Insulation resistance	> 2 MΩ						
	Dielectric strength	Low frequency sine voltage 1500 V for 1 minute (without phenomena of breakdown and flashover)						
	Ambient temperature	-10°C ~ ±40°C						
	Relative humidity	≤ 95%						
	Working	Continuing working						
	Dimensions Metal case (W×D×H) mm	125×230×135			143×285×185		210×291×201	299×345×220
	Dimensions Plastic case (W×D×H) mm	100×215×160			---			
	Net weight Metal case (kg)	2.5	2.9	3.1	5.4	6.5	9.2	13.0
	Net weight Plastic case (kg)	2.1	2.5	2.7	---			
	Packaged dimensions Metal case (W×D×H) mm	176×280×207			192×310×252		262×343×273	271×396×303
	Packaged dimensions Plastic case (W×D×H) mm	145×265×229			---			
	Gross weight Metal case (kg)	2.8	3.2	3.4	5.6	6.7	9.6	13.55
	Gross weight Plastic case (kg)	2.4	2.8	3.0	---			
	Quantity / 20ft	2400 pcs			1600 pcs		900 pcs	730 pcs