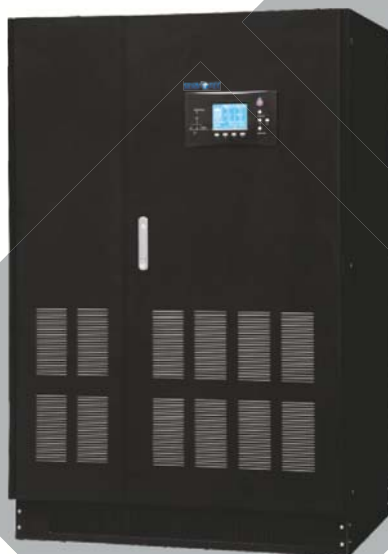




Online UPS



ST900 PRO

1 kVA ~ 3 kVA

PF 0.8



FEATURES

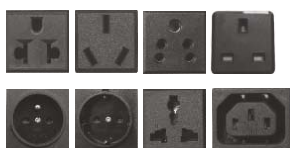
- High frequency on-line double conversion technology
- DSP (Digital signal processors) control technology
- Active power factor correction (APFC), input power factor up to 0.99
- Output power factor 0.8
- Wide input voltage range (110 V ~ 300 Vac) and frequency range (40 ~ 70 Hz)
- Auto sensing frequency
- 50 / 60 Hz 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, and 12 A charger (2/3 kVA only)

REAR PANEL

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



Optional outlets



SPECIFICATIONS

ST900 PRO

MODEL	CH1KS			CH2KS				CH3KS	
Capacity	1 kVA			2 kVA				3 kVA	
INPUT									
Rated voltage	208 / 220 / 230 / 240 Vac								
Voltage range	110V to 280 Volt @ < 50% Load, 170 V to 280 Volt @ 100% Load								
Frequency	40 ~ 70 Hz (auto-sensing)								
Power factor	≥ 0.99								
Bypass voltage range	-25% ~ +15% (settable)								
Total harmonic distortion (THDi)	≤ 6%								
OUTPUT									
Voltage	208 / 220 / 230 / 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	Sine Wave								
Power factor	0.8								
Total harmonic distortion (THDv)	≤ 2% (linear load), ≤ 5% (non-linear load)								
Crest factor	3:1								
Overload	105% ~ 125% for 1 min, 125% ~ 150% for 30 s, > 150% for 300 ms								
BATTERIES									
DC voltage	24 V (S)	36 V (S)	36 V (H)	48 V (S)	72 V (S)	72 V (H)	72 V (S)	96 V (S)	96 V (H)
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	Standard model: 90% capacity restored in 3 hours; Long time model: depend on the capacity of battery								
SYSTEM									
Efficiency	≥ 90% (Mains mode)			≥ 91% (Mains mode)			≥ 92% (Mains mode)		
	≥ 95% (ECO mode)			≥ 96% (ECO mode)			≥ 97% (ECO mode)		
Transfer time	Mains mode to battery mode: 0 ms Inverter mode to bypass mode: 4 ms (typical)								
Protections	Short-circuit, overload, overtemperature, battery discharge protection and fan testing protection								
Communications	RS232 (standard), USB / RS485 / dry contacts / SNMP (optional)								
Display	LCD + LED								
Standards	EN 62040-1, EN 62040-2, EN 61000-3-2, EN 61000-3-3, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11, IEC 61000-2-2, IEC 62040-2, IEC 62040-1, IEC 62040-3								
OTHERS									
Operating temperature	0°C ~ 45°C								
Storage temperature	-25°C ~ 55°C (without batteries)								
Relative Humidity	0 ~ 95% (non-condensing)								
Altitude	≤ 1000 m, derating 1% for each additional 100 m								
IP rating	IP 21								
Noise level at 1m	≤ 40 dB								
Dimensions (W × D × H) (mm)	144 × 336 × 214	144 × 414 × 214	144 × 336 × 214	191 × 418 × 335				191 × 464 × 335	191 × 418 × 335
Packaged dimensions (W × D × H) (mm)	232 × 417 × 318	230 × 492 × 320	232 × 417 × 318	191 × 418 × 335				320 × 573 × 472	318 × 533 × 471
Net weight (kg)	9.5	13	6	18	25.8	10.5	27.2	32	11
Gross weight (kg)	10.5	14.2	7	19.5	27.4	12	29	34	12.5

- Derate capacity to 70% in CUCF mode and to 90% when the output voltage is adjusted to 208 Vac
- S means standard model, H means long time model
- All specifications subject to change without notice
- Custom-made specifications are acceptable

ST900 G4

5 kVA ~ 10 kVA

PF 0.8



FEATURES

- Advanced DSP and 3-level technology
- Output power factor 0.8
- Active power factor correction (APFC), input power factor up to 0.99
- High efficiency 95% (up to 98% in ECO mode)
- Advanced digital parallel technology
- 3:1 to 1:1 model settable
- Wide input voltage range (190 ~ 499 Vac) and frequency range (40 ~ 70 Hz)
- 50 / 60 Hz frequency auto sensing
- Two modes of frequency conversion: 50 Hz input / 60 Hz output or 60 Hz input / 50 Hz output
- Dual-input design, supporting independent bypass
- Flexible battery configuration (settable 16 - 20 pcs batteries)
- Digitally controlled charger
- High charging current available (Max. 10 A)
- Charging voltage and current configured by demands
- Linear derating in low voltage input reducing battery discharging times, extending the service life of battery
- Intelligent battery management, automatic floating / equalizing charge control, charger dormancy control, increasing battery life by 50%

- Ability to switch on the UPS with batteries
- Settable delayed start time when mains power is restored, reducing the impact on power grid or generator
- Fan speed varies intelligently with temperature, reducing noise and extending its service life
- Equipped with self-aging function
- 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
- Advanced multi-platform communications: RS232, USB, RS485, SNMP and dry contacts communication interfaces
- Effective software and hardware protection function, robust self-diagnostic function, and abundant event log for check

AVAILABLE OPTIONS

- RS232 and smart card slot included
- Optional parallel function, battery temperature compensation, SNMP card, USB, RS485 card, dry contacts, EMD, and SMS alarms

REAR PANEL

- | | |
|--|-------------------------|
| 1. RS232 | 8. Fans |
| 2. EPO | 9. Bypass Breaker |
| 3. Parallel Port (optional) | 10. Input Breaker |
| 4. USB (optional) | 11. GND |
| 5. Temperature Detection (optional) | 12. Terminals and Cover |
| 6. Intelligent Slot | |
| 7. Reserved for manual bypass or battery breaker or outlets etc. | |



6/10 kVA (H)



6/10 kVA (S)

MODEL	CH5KS	CH6KS	CH10KS
Capacity	5 kVA	6 kVA	10 kVA
INPUT			
Input wiring	Single-phase three-wire (1Φ + N + PE)		
Rated voltage	208 / 220 / 230 / 240 Vac		
Voltage range	110V to 280 Volt @ < 50% Load, 170 V to 288 Volt @ 100% Load		
Rated frequency	50 / 60 Hz (auto-sensing)		
Frequency range	40 ~ 70 Hz		
Power factor	≥ 0.99		
Bypass voltage range	- 40% ~ +15% (settable)		
Total harmonic distortion (THDi)	≤ 5%		
OUTPUT			
Output wiring	Single-phase three-wire (1Φ + N + PE)		
Rated voltage	220 / 230 / 240 Vac		
Voltage regulation	± 1%		
Frequency	Synchronized to bypass in mains mode; 50 / 60 Hz ± 0.1% Hz in battery mode		
Waveform	Sine Wave		
Power factor	0.8		
Total harmonic distortion (THDv)	≤ 1% (linear load); ≤ 4% (non-linear load)		
Crest factor	3:1		
Overload	102% ~ 110% for 10 min, 110% ~ 125% for 1 min,125% ~ 150% for 30 s		
BATTERIES			
DC voltage	192 Vdc (192 ~ 240 Vdc settable)		
Number of battery	16 pcs (16 ~ 20 settable)		
Inbuilt battery (standard model)	12 V / 7 Ah × 16	12 V / 9 Ah × 16	
Charging current	Standard model: 1 A; Long time model: 5 A (default), 1 ~ 5 A settable; 12 A (optional)		
Recharge time	Standard model: 90% capacity restored in 8 hours; Long time model: depend on the capacity of battery		
SYSTEM			
Efficiency	≥ 94% at 100% load, max. 95% at 60% load, ≥ 98% in ECO mode		
Transfer time	0 ms		
Protections	Short-circuit, overload, overtemperature, battery low voltage, overvoltage, undervoltage and fan failure		
Max. number of parallel connections	4		
Communications	RS232 (standard), USB / RS485 / dry contacts / SNMP / battery temperature compensation (optional)		
Display	LCD + LED		
OTHERS			
Operating temperature	0°C ~ 45°C		
Storage temperature	-25°C ~ 55°C (without battery)		
Relative humidity	0 ~ 95% (non-condensing)		
Altitude	≤ 1000 m, derating 1% for each additional 100 m		
IP rating	IP 21		
Noise level at 1 m	≤ 45 dB	≤ 50 dB	
Dimensions (W × D × H) (mm)	191 × 465 × 711 (S), 191 × 465 × 350 (H)	191 × 495 × 711 (S), 191 × 495 × 350 (H)	
Packaged dimensions (W × D × H) (mm)	310 × 654 × 941 (S), 318 × 595 × 475 (H)	310 × 685 × 941 (S), 318 × 617 × 475 (H)	
Net weight (kg)	53 (S), 14.5 (H)	62 (S), 16.5 (H)	
Gross weight (kg)	61 (S), 16 (H)	70 (S), 18 (H)	

- S means standard model; H means long time model.
- All specifications are subject to change without notice.

ST900 G4

10 kVA ~ 20 kVA
(3:1 / 1:1)

PF 0.8



FEATURES

- Advanced DSP and 3-level technology
- Output power factor 0.8
- Active power factor correction (APFC), input power factor up to 0.99
- High efficiency 95% (up to 98% in ECO mode)
- Advanced digital parallel technology
- 3 1 to 1 1 model settable
- Wide input voltage range (190 ~ 499 Vac) and frequency range (40 ~ 70 Hz)
- 50 / 60 Hz frequency auto sensing
- Two modes of frequency conversion: 50 Hz input / 60 Hz output or 60 Hz input / 50 Hz output
- Dual-input design, supporting independent bypass
- Flexible battery configuration (settable 16 - 20 pcs batteries)
- Digitally controlled charger
- High charging current available (Max. 10 A)
- Charging voltage and current configured by demands
- Linear derating in low voltage input reducing battery discharging times, extending the service life of battery
- Intelligent battery management, automatic floating / equalizing charge control, charger dormancy control, increasing battery life by 50%

- Ability to switch on the UPS with batteries
- Settable delayed start time when mains power is restored, reducing the impact on power grid or generator
- Fan speed varies intelligently with temperature, reducing noise and extending its service life
- Equipped with self-aging function
- 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
- Advanced multi-platform communications: RS232, USB, RS485, SNMP and dry contacts communication interfaces
- Effective software and hardware protection function, robust self-diagnostic function, and abundant event log for check

AVAILABLE OPTIONS

- RS232 and smart card slot included
- Optional parallel function, battery temperature compensation, SNMP card, USB, RS485 card, dry contacts, EMD, and SMS alarms

REAR PANEL

- | | |
|---|-------------------------|
| 1. RS232 | 8. Fans |
| 2. EPO | 9. Bypass Breaker |
| 3. Parallel Port (optional) | 10. Input Breaker |
| 4. USB (optional) | 11. GND |
| 5. Temperature Detection (optional) | 12. Terminals and Cover |
| 6. Intelligent Slot | |
| 7. Reserved for manual bypass battery breaker or outlets etc. | |



10 kVA (H)

15/20 kVA (H)

10 kVA (S)

SPECIFICATIONS

ST900 G4

MODEL	CH310K	CH315K	CH320K
Capacity	10 kVA	15 kVA	20 kVA
INPUT			
Input wiring	Three-phase five-wire (3Φ + N + PE)		
Rated voltage	380 / 400 / 415 Vac		
Voltage range	190 ~ 305 Vac @50% and 100% load; 305 ~ 499 Vac		
Rated frequency	50 / 60 Hz (auto-sensing)		
Frequency range	40 ~ 70 Hz		
Power factor	≥ 0.99		
Bypass voltage range	- 40% ~ +15% (settable)		
Total harmonic distortion (THDi)	≤ 5%		
OUTPUT			
Output wiring	Single-phase three-wire (1Φ + N + PE)		
Rated voltage	220 / 230 / 240 Vac		
Voltage regulation	± 1%		
Frequency	Synchronized to bypass in mains mode; 50 / 60 Hz ± 0.1% Hz in battery mode		
Waveform	Sine Wave		
Power factor	0.8		
Total harmonic distortion (THDv)	≤ 1% (linear load); ≤ 3% (non-linear load)		
Crest factor	3:1		
Overload	102% ~ 110% for 10 min, 110% ~ 125% for 1 min, 125% ~ 150% for 30 s		
BATTERIES			
DC voltage	192 Vdc (192 ~ 240 Vdc settable)		
Number of battery	16 pcs (16 ~ 20 settable)		
Inbuilt battery (standard model)	12 V / 9 Ah × 16	NA	NA
Charging current	Standard model: 1 A; Long time model: 5 A (default), 1 ~ 5 A settable; 10 A (optional)		
Recharge time	Upto 8 Hrs.		
SYSTEM			
Efficiency	≥ 94% at 100% load, max. 95% at 60% load, ≥ 98% in ECO mode		
Transfer time	0 ms		
Protections	Short-circuit, output overload, overtemperature, battery low voltage, overvoltage / undervoltage and fan failure		
Max. number of parallel connections	4		
Communications	RS232 (standard), USB / RS485 / dry contacts / SNMP / battery temperature compensation (optional)		
Display	LCD + LED		
OTHERS			
Operating temperature	0°C ~ 45°C		
Storage temperature	-25°C ~ 55°C (without battery)		
Relative humidity	0 ~ 95% (non-condensing)		
Altitude	≤ 1000 m, derating 1% for each additional 100 m		
IP rating	IP 21		
Noise level at 1 m	≤ 58 dB		
Dimensions (W × D × H) (mm)	191 × 495 × 711 (S) 191 × 495 × 350 (H)	191 × 495 × 515 (H)	
Packaged dimensions (W × D × H) (mm)	310 × 685 × 941 (S) 318 × 617 × 475 (H)	285 × 593 × 618 (H)	
Net weight (kg)	64 (S) 18.5 (H)	26.5 (H)	
Gross weight (kg)	72 (S) 20 (H)	28 (H)	

- S means standard model, H means long time model
- All specifications subject to change without notice

ST900 PRO

10 kVA ~ 30 kVA

(3:3)

PF 0.8



FEATURES

- DSP digital control technology
- Active power factor correction (APFC), input power factor up to 0.99
- Output power factor 0.8
- Cold start
- Dual input
- Wide input voltage range (190 V ~ 485 V)
- Auto sensing frequency
- 50 / 60 Hz 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. Main Input
2. DC Input
3. Bypass Input
4. Output
5. Mains Input Breaker
6. Bypass Input Breaker
7. Maintenance Bypass
8. Fan
9. FS232
10. USB
11. EPO
12. Battery Temperature Compensation (Optional)
13. Intelligent Slot 1 (SNMP/AS400/RS485 Optional)
14. Intelligent Slot 2 (Optional)
15. Parallel Card (Optional)
16. Battery Breaker



Optional 5" colorful touch screen display



SPECIFICATIONS

ST900 PRO

MODEL	CH 3310 K	CH 3315 K	CH 3320 K	CH 3330 K
Capacity	10 kVA	15 kVA	20 kVA	30 kVA
INPUT				
Rated voltage	360 / 380 / 400 / 415 Vac			
Voltage range	277 ~ 485 Vac (no derating); 190 ~ 277 Vac @50% and 100% load			
Rated frequency	50 / 60 Hz (auto-sense)			
Frequency range	40 ~ 70 Hz			
Power factor	≥ 0.99			
Bypass voltage range	-40% ~ +15% (settable)			
Total harmonic distortion (THDi)	≤ 5%			
OUTPUT				
Rated 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	Sine Wave			
Power Factor	0.8			
Total harmonic distortion (THDv)	≤ 2% (linear load), ≤ 5% (non-linear load)			
Crest factor	3:1			
Overload (Inverter)	102% ~ 125% for 10 min, 125% ~ 150% for 1 min, > 150% for 0.5 s			
Overload (Bypass)	102% ~ 125% for 20 min, 125% ~ 150% for 2 min, > 150% for 1 s			
BATTERIES				
DC voltage	Standard model: 240 VDC; Long time model: 192 VDC (168 / 192 / 216 / 240 V optional)			
Inbuilt battery of standard model	20 x 7 Ah	40 x 7 Ah	40 x 9 Ah	60 x 9 Ah
Charging current	Long time model: 7 A to 10Amp Standard model: 1 A, 2 A, 3.5 A settable			
Recharge time	Upto 8-12 Hrs			
SYSTEM				
Efficiency	≥ 93%, ECO mode 98%			
Transfer time	0 ms			
Max. number of parallel connections	6			
Protections	Short-circuit, overload, overtemperature, battery low voltage, overvoltage, undervoltage and fan failure			
Communications	RS232 / USB (standard), RS485 / dry contacts / SNMP (optional)			
Display	LCD+LED			
Standards	EN 62040-1, EN 62040-2, EN 61000-3-12, EN 61000-3-2, EN 61000-3-11, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11, IEC 61000-2-2			
OTHERS				
Operating temperature	0°C ~ 45°C			
Storage temperature	-25°C ~ 55°C (without batteries)			
Relative humidity	0 ~ 95% (non-condensing)			
Altitude	≤ 1000 m, derating 1% for each additional 100 m			
IP rating	IP 21			
Noise level at 1 m	≤ 60 dB (1m)	≤ 65 dB (1m)		
Online thermal dissipation	3504 BTU/hr	5773 BTU/hr	8281 BTU/hr	9929 BTU/hr
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), 110 (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)

- Derate capacity to 90% when the output voltage is adjusted to 360 Vac.
- All specifications are subject to change without notice.
- S means standard model, H means long time model.
- Custom-made specifications are acceptable.

ST990 G4

40 kVA ~ 120 kVA
(3:3)

PF 0.8



FEATURES

- Advanced dual-core DSP control technology, rectification and inversion are controlled by dual DSP
- Output power factor 0.8, load capacity improved 11% more than traditional products
- Active Power Factor Correction Technology, input power factor up to 0.99
- System efficiency improved to 96%, energy saving rate is doubled
- Working efficiency up to 99% in ECO mode
- Dual input design, supporting independent bypass
- Advanced digital and parallel technology, providing higher reliability than single system
- Wide input voltage range, 50 / 60 Hz auto-sensing frequency
- 50 Hz / 60 Hz frequency conversion mode
- Compact internal layout, small footprint
- Fan speed varies intelligently with temperature, reducing noise and extending its service life
- Features strong fault tolerance, one fan damaged takes 50% of the load, two fans damaged take 30% of the load
- Conformal coating technology to make UPS operate in harsh environment for a long time
- Effective hardware and software protection, robust self-diagnosis function, abundant event log for future check
- Linear downgrading in low voltage input reducing battery discharging times
- Flexible battery configuration setting, selectable battery numbers: 30 ~ 46 pcs
- Ability to switch on the UPS by battery in the absence of mains power (Cold start)
- Zero switching time for UPS power supply mode when the mains power is unstable, ensuring the output is uninterrupted
- Settable delayed start time when mains power is restored
- 5 inches LCD colorful touch screen, friendly human & machine interface
- Powerful background software for parameters configuration and online upgrade
- Advanced multi-platform communication for UPS monitoring: RS232, USB, RS485, CAN, NET, dry contacts, SNMP card, Wi-Fi card and GPRS card
- Intelligent battery management, automatic equalized and float charging control, charger dormancy control, improving the reliability of charger and extending the battery life
- Options and accessories: supplied RS232, USB, RS485, CAN, NET, parallel, LBS, dry contacts, EPO and battery temperature compensation interface; optional SNMP card, Wi-Fi card, GPRS card, battery temperature sensor, EMD detector and SMS alarms
- 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

SPECIFICATIONS

ST990 G4

MODEL	CH 3340 K	CH 3360 K	CH 3380 K	CH 33120 K
Capacity	40 kVA	60 kVA	80 kVA	120 kVA
INPUT				
Input wiring	Three-phase five-wire (3Φ + N + PE)			
Rated voltage	380 / 400 / 415 Vac			
Voltage range	304 ~ 485 Vac 138 ~ 304 @40% ~ 100% load			
Frequency range	40 ~ 70 Hz			
Power factor	≥ 0.99			
THDi	≤ 3%			
Bypass voltage range	-60% ~ +20% (settable)			
Battery voltage	±192 Vdc (±180 ~ ± 276 Vdc settable)			
Number of battery	32 pcs 12 V batteries (30 ~ 46 pcs settable)			
OUTPUT				
Output wiring	Three-phase five-wire (3Φ + N + PE)			
Rated voltage	380 / 400 / 415 Vac			
Voltage regulation	±1%			
Frequency	Synchronized with utility in mains mode, 50 / 60 Hz ± 0.1% in battery mode			
Waveform	Sine Wave			
Power factor	0.8			
Total harmonic distortion (THDV)	≤ 1% (linear load); ≤ 5% (non-linear load)			
Crest factor	3:1			
Overload capability	105% ~110% for 60 min, 110% ~ 125% for 10 min, 125% ~ 150% for 1 min, > 150% for 0.2 s			
BATTERIES				
DC voltage	± 192 Vdc (± 180 ~ ± 276 Vdc Settable)			
Number of batteries	32 pcs (30 - 46 pcs settable)			
Charging current	12 A	24 A	36 A	
Recharge time	Upto 8-12 Hrs			
SYSTEM				
Max. efficiency	Max 96% in online mode, 99% in ECO mode			
Transfer time	0 ms			
Max. number of parallel connections	4			
Protection	Short-circuit – overload – overtemperature –excessive low battery – overvoltage / undervoltage - fans failure			
Communications	Standard configuration: RS232, USB, RS485, NET, dry contacts; Optional configuration: SNMP card, Wi-Fi card, GPRS card			
Display	5 inches colorful LCD touch screen			
OTHERS				
Operating environment	0°C ~ 45°C			
Storage temperature	-25°C ~ 55°C (without batteries)			
Relative humidity	0 ~ 95% (non-condensing)			
Altitude	≤ 1000 m; above 1000 m, downgrading 1% for each additional 100 m			
IP rating	IP 21			
Noise	≤ 65 dB			
Dimensions (W × D × H) (mm)	360 × 850 × 950		360 × 850 × 1200	440 × 850 × 1200
Packaged dimensions (W × D × H) (mm)	460 × 950 × 1113		460 × 950 × 1363	540 × 950 × 1363
Net weight (kg)	93	125	157	192
Gross weight (kg)	106	138	170	207

- All specifications are subject to change without notice.
- Custom-made specifications are acceptable.
- Derate capacity to 90% when the number of batteries is set to 30 pcs.

ST800

5 kVA ~ 10 kVA (1:1)

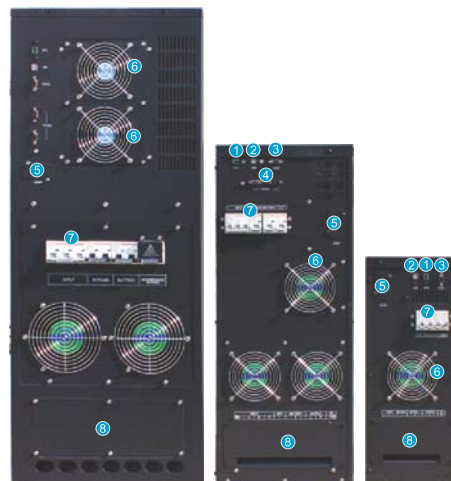
10 kVA ~ 30 kVA (3:1)

PF 0.8



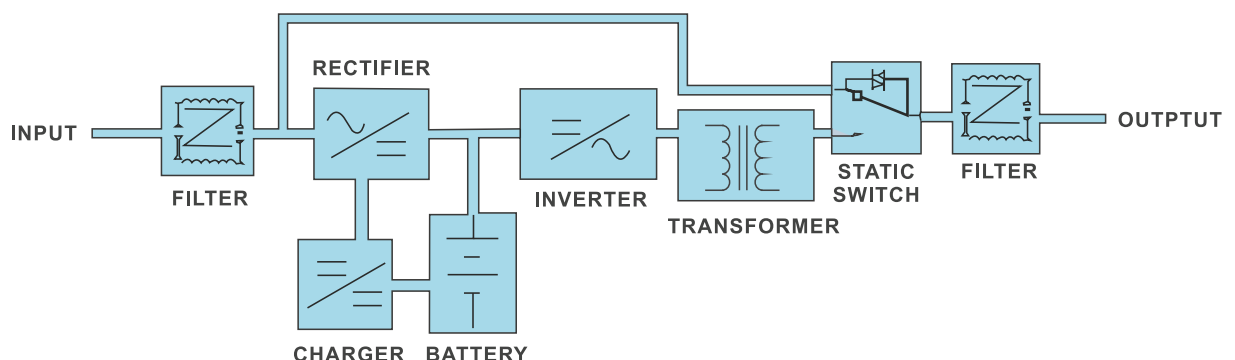
FEATURES

- 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
- Bypass dual DSP control design to enhance more reliability
- Supports dual input, hot standby
- Redundant & parallelable with advanced parallel currentsharing control technology
- Cold start and mains start function
- High charging capability: 2 A / 4 A / 6 A / 8 A / 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 (surges, 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)



REAR PANEL

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



SPECIFICATIONS

ST800

MODEL	SU5K	SU6K	SU10K	SP10K	SP15K	SP20K	SP30K
Capacity	5 kVA	6 kVA	10 kVA	10 kVA	15 kVA	20 kVA	30 kVA
INPUT							
Rated voltage	220 / 230 / 240 Vac (1Φ+ N + PE)			380 / 400 / 415 Vac (3Φ+ 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 (1Φ+ N + PE)						
Overload	<150% - 10 Min. Load current < 150% rated current: long time running, 150-200% - 1 Min. 150% ≤ load current < 200% for 1 min, 200% rated current ≤ load current for >200% 200 ms						
BATTERIES							
Battery voltage	192 Vdc						
Battery type	VRLA AGM						
Number of battery	12 V x 16 pcs						
Charging voltage	216 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 (1Φ+ N + PE)						
Power factor	0.8						
Waveform	Sine Wave						
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	Load ≤ 105%: long time running, 105% < load ≤ 125% for 10 min, 125% < load ≤ 150% for 1 min, 150% < load ≤ 200% for 200 ms, 200% < load for 100 ms						
OTHERS							
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	IP 20						
Dimensions (W × D × H) (mm)	210 x 585 x 590		310 x 600 x 880		400 x 815 x 1100		
Packaged dimensions (W × D × H) (mm)	328 x 716 x 805		430 x 710 x 1080		525 x 925 x 1305		
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
- Custom-made specifications are acceptable

ST890

10 kVA ~ 120 kVA (3:3)

PF 0.8



PM 890 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 0.8
- 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 simplified (60 ~ 120 kVA)
- Intelligent self-diagnosing function, all kinds of failure protection, large capability of history records storage
- High MTBF (> 200,000 h)
- Low MTTR (< 0.5 h)
- 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

SPECIFICATIONS

ST890

MODEL	HT10K	HT15K	HT20K	HT30K	HT40K	HT60K	HT80K	HT100K	HT120K
Capacity	10 kVA /	15 kVA /	20 kVA	30 kVA	40 kVA /	60 kVA	80 kVA	100 kVA	120 kVA
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	Synchronized with utility in mains mode; 50 / 60 Hz ± 0.1% in battery mode								
Waveform	Sine Wave								
Power factor	0.8								
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								
Overload	105%:long time running, 105%~110% for 1h, 110%~125% for 10 min, 125%~150% for 1 min, 150% ~ 200% for 200 ms, > 200% for 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 default / 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. 94%; ECO mode: ≥98%								
Max. number of parallel connections	6								
Protections	Short-circuit – overload – overvoltage – undervoltage – low battery – overtemperature– fan fault								
Communications	RS232 / RS485 / dry contacts (standard), SNMP (optional)								
IP rating	IP20								
EMI	EN62040-2								
EMS	IEC61000-4-2(ESD), IEC61000-4-3(RS), IEC61000-4-4(EFT), IEC61000-4-5(surge)								
OTHERS									
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 × 920 × 1170					700 × 800 × 1650	800 × 900 × 1850		
Net / Gross weight(kg)	158/200	165/207	175/217	210/252	260/302	460/480	590/620	630/660	690/720

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- Custom-made specifications are acceptable.

ST890 IR Series

80 kVA ~ 500 kVA (3:3)

PF 0.8



EA890 series UPS 80 ~ 500 kVA provide maximum protection and power quality for mission critical loads, including data centers, industrial processes, telecommunications, security and electro-medical systems. It is an on-line double conversion UPS with IGBT-based 3-level PWM rectifier technology, featured with high input power factor (> 0.99), low THDi, high efficiency (max. $\geq 94\%$) and built-in output isolation transformer.

FEATURES

- On-line double-conversion with DSP control
- Latest IGBT rectifier technology, high input power factor (> 0.99) and low THDi ($\leq 3\%$)
- Strong mixed load capacity and high overload capacity
- Batteries are connected directly to the bus, improving the impact resistance of UPS output
- Output isolation transformer using DZn0 winding makes strong capability with unbalanced loads
- Input and output are completely isolated for great security
- Simulated modular design makes maintenance easy and quick
- Front accessible maintenance and installation against wall allowed
- High efficiency even at light loads
- Compact and small footprint
- Unique ventilation design
- High MTBF ($> 200,000$ h)
- Low MTTR (< 0.5 h)
- Bottom and sides cable entry compatible
- Generator compatible
- Intelligent self-diagnosing function, superior failure protection, large capability of history records storage
- Optional N+X redundancy parallel up to 6 units

MODEL	GT80	GT100	GT120	GT160	GT200	GT250	GT300	GT400	GT500
Capacity	80 kVA /	100 kVA /	120 kVA /	160 kVA /	200 kVA /	250 kVA /	300 kVA /	400 kVA /	500 kVA /
INPUT									
Input wiring	Three-phase five-wire (3Φ + N + PE)								
Rated voltage	380 V / 400 V / 415 Vac								
Voltage range	346 V ~ 456 V (full load), 304 V ~ 346 V (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									
Output wiring	Three-phase five-wire (3Φ + N + PE)								
Rated voltage	380 V / 400 V / 415 Vac								
Voltage regulation accuracy	± 1%								
Voltage regulation	0 V (± 1 ~ ± 5 V settable)								
Frequency	Synchronized with utility in mains mode; 50 / 60 Hz ± 0.1% in battery mode								
Power factor	0.8								
Total harmonic distortion (THDV)	≤ 2% (linear load); ≤ 5% (non-linear load)								
Crest factor	3:1								
Overload capability	105% ~ 110% for 60 min, 110% ~ 125% for 10 min								
BATTERIES									
DC voltage	600 Vdc (support 576 Vdc / 588 Vdc / 612 Vdc / 624 Vdc)								
Number of batteries	50 pcs 12 V (support 48 / 49 / 51 / 52 pcs)								
Charging current	Charging rate (settable) × battery capacity (settable) × number of battery groups (settable)								
SYSTEM									
Efficiency	Line mode ≥ 92%, ECO mode ≥ 98%					Line mode ≥ 94%, ECO mode ≥ 98%			
Max. number of parallel connections	6								
Protections	Short-circuit, overload, overtemperature, overvoltage, undervoltage, battery low voltage and fan failure								
Communications	Standard configuration: RS232, RS485, dry contacts Optional configuration: SNMP card, temperature compensation, SMS alarms								
Display	5.7 inches LCD touch screen								
OTHERS									
Operating temperature	0 ~ 40°C								
Storage temperature	- 25°C ~ 55°C (without battery)								
Humidity	0% ~ 95% (non-condensing)								
Altitude	≤1000m. Above 1000m, derating 1% for each additional 100 m								
IP rating	IP 20								
Noise level at 1 m	< 65 dB							< 70 dB	
Dimensions (W × D × H) (mm)	800 × 800 × 1800			800 × 860 × 1700	1210 × 860 × 1950			2380 × 860 ×1950	
Packaged dimensions (W × D × H) (mm)	900 × 900 × 2050			900 × 1000 × 1950	1300 × 1000 × 2200			1300 ×1000 × 2200 (× 2)	
Net / Gross weight (kg)	580 / 630	630 / 680	680 /730	790 / 810	1135 / 1200	1275 / 1340	1355 / 1420	2090 / 2200	2300 / 2410

- All specifications are subject to change without notice.
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