

SANTAK PRODUCTS DATASHEET

ALL-ROUND POWER PROTECTION





Power Management Expert

Santak Electronic (Shenzhen) Co. Ltd. is an international manufacturer specialized in uninterrupted power supply (UPS) development, production and operation. Established for more than 35 years, Santak has been unanimously acknowledged by users in various industries with the strong technology research and development strength, reliable product quality, as well as complete, quick and efficient after-sales service system. Santak products have been widely applied to the government, finance, telecommunications, power, transportation, scientific research institutions, manufacturing, and other industries, and tens of millions of users are relying on the safe and reliable power supply environment provided by Santak UPS for their equipment.

SANTAK WITH CONSISTENT AND RELENTLESS PURSUIT IN ITS SERVICE FOR UPS INDUSTRY.

Santak established two R & D bases at both Shanghai and Shenzhen working on UPS products and perspective technology. Our research bases acquired 400 high caliber research personnel of only PHD and graduate student, backed by rich funding, advanced technology equipment and IPD process management protection. We can assert our leading position in core technology control and new product development in the industry, thus ensuring our products' advancement, innovation, high reliability and high applicability.

Great power guarantees fruitful results. Santak is and will be at the forefront of the industry in core technology preservation and new product development capabilities. On the patent side, Santak is the owner of many important technologies. We own the technologies such as wireless parallel, AC-output parallel power systems and their current-sharing control methods, uninterruptible power supply module and system, in addition to its by-pass cut methods.

DSP uses the industry's most advanced wireless parallel technology, through efficient computing, we enhanced its ability to handle all kinds of emergencies, so that UPS's reliability, stability and input/output characteristics can be greatly improved. Wireless parallel technology reduces the probability of a single point failure, its reliability design is close to perfect. DSP works properly even when the parallel communication line malfunctions.



Santak's main factory is located at Baoan, Shenzhen with a registered capital of 141.1 million yuan and about 43,000 square meters in size. The factory has 7 SMT lines, 7 PCB assembly lines, and 30 assembly lines in total. The factory produces products ranging from offline 500VA to online 800KVA high-power parallel series, with an annual output of more than 700,000 units. The company introduced and implemented a series of advanced management concepts and tools, including IPD R&D process, CMMI process, SAP system, and CRM system, which enabled the company to operate in a disciplined manner, enhance organizational functions, and expand output efficiency.



SANTAK Milestone

- **2019**
OHSAS18001 certification
- **2018**
Qualified as "High-Tech Enterprises"; ISO14001-2015 certification
- **2017**
Qualified as "Famous Trademark of Guangdong Province"; ISO 9001-2015 certification
- **2011**
Qualified as "Famous Trademark of Guangdong Province"
- **2008**
Acquired by Eaton
- **2007**
Qualified as "Chinese Famous Brand in Guangdong Province"
- **2005**
ISO14001-2004 system certification
- **2002**
ISO9001:2000 international quality system certification
- **1996**
Established 7 branches in Beijing, Shanghai, Guangzhou, etc.
- **1994**
Santak factory established
- **1992**
Santak Electronic (Shenzhen) Co., Ltd Founded
- **1984**
Santak Corp Founded

SANTAK Market Share

Continue To Lead The Single Phase UPS Market
NO.1 In China.

More than **35** years' experience in UPS.



* Data sources are from ICT Annual Report.



SANTAK Factory

- Over 700,000 pieces UPS made per year
- Cover full power range from 500VA to 800KVA
- 18 State- of the- Art automatic PCBA Production Lines
- Various PCBA manufacturing capability



ISO Certificated Factory



First Class Lab - Lab Qualification

Our laboratory is accredited by the industry authority.



- TUV: IEC/EN62040-1
IEC/EN60950-1
IEC/EN 62477-1 62368-1
- CNAS: IEC/EN 62040-1/2/3
- UL CTD: UL 1778
- UL WTD: UL 1778
- UL/IEC witness test

First Class Lab - Lab Capability



- Lab area: >1800m
- Lab capabilities. > 300 engineers
- MDC testing Capability
- Lithium testing capability
- ATE & PCBA Platform
- EMC Testing
- Drop and Vibration Testing
- Burn in Room
- Constant humidity and temperature chamber

Excellent service

- China Training Center provide training & certification for all series of SANTAK products
- Eaton University Global Online Learning, Training and Assessment System
- Establish authorized service outlets in a wider area to provide first-line services
- Expert technical team always online to ensure strong support



SANTAK Product Family

- Off-Line UPS
- Line-interactive UPS
- Online UPS
- Module UPS
- Battery
- Connectivity & Software



Off-Line UPS

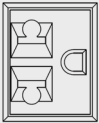


TG500/1000

KEY FEATURE

- High frequency PWM technology
- Wider input voltage & frequency
- Full protection of overload, deep discharge and overcharge
- Cold-start without utility
- Space-minimized, light and silent design
- Tower / flat installation

SPECIFICATION

Model	Capacity (VA/W)	Input	Output			Back-up Time*	Trans- fer Time	Operating Environment	Dimension WxDxH (mm)	Weight (kg)
		Voltage (Vac)	Voltage (Vac)	Frequency (Hz)	Outlet					
TG500	500VA/300W	165 - 265	220x(1±10%) Battery Mode	50 ± 1 Battery Mode		≥6mins (half load)	Typical 10ms	0-40 °C 20%-90% relative humidity	80 x 232 x 177	2.6
TG1000	1000VA/600W								91 x 283 x 240	5.1

* All internal batteries are default as STK brand, any other battery brand might be applied without prior notice.
* Backup times are approximate and may vary with equipment, configuration, battery age, temperature, etc.
* In the interests of continuous product improvement, all specifications are subject to change without notice.

Line- interactive UPS



Robust 650-1200VA

KEY FEATURE

- Built-in AVR transformer to stabilize output voltage
- Two step boost and one step buck design
- Wide acceptable input range from 140~300V
- Auto charging when UPS in OFF mode
- Auto restart while utility recovery
- Cold-start without utility
- Full protection of overload, deep discharge and overcharge

SPECIFICATION

MODEL		R650	R1200
POWER RATING	VA/W	650VA/360W	1200VA/600W
PRODUCT TOPOLOGY	PRODUCT TOPOLOGY	Line Interactive	
INPUT	Voltage	230VAC	
	Voltage Range	140-300VAC	
	Frequency	>40Hz (comply with generator)	
OUTPUT	Voltage	230VAC	
	Voltage Regulation (Batt. Mode)	+/-10%	
	Frequency	50Hz	
	Waveform	AC mode: pure sine wave; battery mode: simulated sine wave	
	Frequency Regulation (Batt. Mode)	+/-1 Hz	
	Transfer time	Typical 4-8ms	
	Receptacles	Universal x 2	Universal x 4
BATTERY	Type	VRLA	
	Configuration	12V/7Ah*1	24V/7Ah*2
	Recharge time	2-4 hours to 90% capacity	
BACKUP TIME*	1PC load	15 minutes	30 minutes
PROTECTION	Full protection	Over discharge, Overcharge, Overload, Short circuit	
PHYSICAL	Dimension, WxDxH	100 x 278 x 143 mm	139 x 365 x 195 mm
	Net Weight	4.4kg	9.2kg
ENVIRONMENT	Operating Environment	Temperature: 0-40°C Relative Humidity: 0-90% (non-condensing)	
	Noise Level	Less than 40dB	

Line-interactive UPS



Blazer Pro 600-2000VA

KEY FEATURE

- Built-in boost and buck AVR to stabilize output voltage
- Fast charger shorten the charging time to 2-4 hours
- Wide input voltage & frequency range (comply with generator)
- Cold start without utility
- Auto restart while utility recovery
- RJ11/RJ45 port TVSS protection
- USB HID Smart Battery interface, built-in power management
- CE compliance

SPECIFICATION

INPUT	Nominal Voltage	220VAC, 50/60Hz
	Voltage Range	162 - 268 VAC
OUTPUT	Connection	IEC320-10A inlet
	Voltage Regulation	220VAC +/-10% (Battery mode)
	Frequency Regulation	50Hz or 60Hz +/-1Hz (Battery mode)
	Waveform	AC mode:pure sine wave; battery mode:simulated sine wave
	Receptacles	IEC320-10A outlet
	Transfer time	Typical 4-8ms
BATTERY	Type	VRLA
	Recharge time	2-4hours to 90% capacity
PRODUCT TOPOLOGY		Line Interactive
DATA LINE SURGE PROTECTION		RJ11(600/800VA) RJ45(1000/1500/2000VA)
COMMUNICATIONS		USB port, HID power device
OPERATING ENVIRONMENT		Temperature: 0-40°C Relative Humidity: 0-90% (non-condensing)
SAFETY		CE

Model	Power Rating	Back-up Time*	Battery configu-ration	Net Weight (kg)	Output Receptacles	Dimensions (W x D x H) mm
Blazer 600 Pro	600VA/360W	18 min (1PC load)	12V/7Ah*1	4.5	4	100 x 279 x 143
Blazer 800 Pro	800VA/480W	22 min (1PC load)	12V/9Ah*1	5.0		
Blazer 1000 Pro	1000VA/600W	18 min (2PCs load)	24V/7Ah*2	8.8	6	139 x 365 x 195
Blazer 1500 Pro	1500VA/900W	25 min (2PCs load)	24V/9Ah*2	10.3		
Blazer 2000 Pro	2000VA/1200W	25 min (2PCs load)	24V/9Ah*2	10.3		

Line-interactive UPS



K series 500-1000VA

KEY FEATURE

- Fashion ID
- Built-in boost and buck AVR to stabilize output voltage
- Equipped with surge protection for both UPS and equipment
- Wide acceptable range of input voltage & frequency (comply with generator)
- Auto restart while utility recovery
- Cold-start without utility
- Full protection of overload, deep discharge and overcharge
- CE compliance

SPECIFICATION

Model	Capacity (VA/W)	AVR	Input Voltage Range	Input Current protection	Input Surge Protection	Outlet	Back-up Time*	Operating Temperature	Noise Level	Dimension WxHxD (mm)	Weight (kg)
K500	500VA/300W	YES	162V - 268V	6.3A	YES(190J)	IEC or SCHUKO or UNIVER-SAL	18min	0-40℃	<40dB	98x105x280	4.4
K1000	1000VA/600W			8A			45min			133x190x320	9.0

Online UPS - single phase



Castle 1-10KVA

KEY FEATURE

- Double conversion with Oms transfer time
- Green power design, input PF up to 0.99 and output PF up to 0.9
- Over Voltage Cut-off Device function to provide best input protection
- ECO mode available, efficiency up to 97%
- Parallel function for N+X redundancy for 6K~10KVA
- LCD display
- RS232 or USB standard offer, SNMP/Dry contact/Modbus communication slot card optional
- Standard model (with batteries)/ Long backup model (without battery) offer
- 6A charger for long backup model to fasten the recharge time
- CE compliance

Castle 1~3kVA UPS Product Specification

Model			Castle 1K	Castle 1KS	Castle 2K	Castle 2KS	Castle 3K	Castle 3KS
Rating	VA/W		1000VA/900W		2000VA/1800W		3000VA/2700W	
Input	Input Voltage Range		100 ~ 300 VAC					
	Frequency Range		40 Hz - 70 Hz					
	Input Wiring		Single phase with ground					
	input power factor		0.99					
	Output Power Factor		0.9					
Output	Nominal Output Voltage		220/230/240VAC					
	Voltage Regulation		1%					
	Frequency Range (Battery Mode)		50 / 60 ±0.05Hz					
	Outlet	IEC model	IEC C13 *4	IEC C13 *3	IEC C13 *4	IEC C13 *6	IEC C13*4+C19*1	IEC C13 *3+ terminal blocker
		Schuko model	Schuko*3	NA	Schuko*4	NA	Schuko*4	NA
		NEMA model	NEMA*4	NA	NEMA*4	NA	NEMA*4	NA
		Universal model	Universal*3	Universal*1	Universal*4	Universal*2+IEC C13*1	Universal*4	Universal*2+IEC C19*1
	Current Crest Ratio		3:1					
	Voltage Distortion (THDv)		< 1% @ linear load, < 5%@ non-linear load					
Output Waveform		Pure sine wave						
Efficiency	Inverter Mode		>89%		>91%		>91%	
	ECO Mode		>97%					
Battery	Battery Type		12V / 9Ah	External batteries required	12V / 9Ah	External batteries required	12V / 9Ah	External batteries required
	Number of Internal Battery		2		4		6	
	Rated Battery Voltage		24V		48V		72V	
	Backup Time (@ FullLoad)		> 3.5 mins	depends on customer configuration	> 3.5 mins	depends on customer configuration	>3.5min	depends on customer configuration
	Recharge Time (to 90%)		4 hours		4 hours		4 hours	
	Charging Current		1.5A	6A	1.5A	6A	1.5A	6A
Transfer Time	Battery Mode <-->InverterMode		0ms					
	Inverter Mode <-->BypassMode		4ms (typical)					
Display	LCD		load rating / battery capacity / input / output / operating mode					
Dimension	WxHxD (mm)		144x228x356	102x228x346	190x327x399	102x327x390	190x327x399	102x327x390
Net Weight			9.2 kg	3.9 kg	17.4 kg	6.4 kg	22.7 kg	6.4 kg
Environment	Operating Temperature		0~40℃					
	Noise Level ①		<40dB@1 meter					
Interface	RS232		IEC model and UNIVERSAL model: RS232; SCHUKO model and NEMA model: USB+EPO, no RS232					
	Communication Slot		Yes, comply optional cards NMC, CMC, AS400 card					

Castle 6~10kVA UPS Product Specification

Model		Castle 6K	Castle 6KS	Castle 10K	Castle 10KS
Power rating	VA/W	6000VA/5400W10000VA/9000W			
Input	Input voltage range	120~275VAC			
	Input frequency range	40Hz-70Hz			
	Input wiring	Single phase with ground			
	Input power factor	≥0.99			
Output	Output voltage	220VAC			
	Output voltage regulation	±1%			
	Output wiring	Single phase with ground			
	Output frequency range	50/60Hz±0.2Hz (battery mode)			
	Output THDV	<2% (linear load) <4% (non-linear load)			
	Output waveform	Pure sinewave			
	Overload capability	1min @ 105%~125% load 30S @ 125%~150% load 0.5S @ >150% load			
Efficinecy	Line mode	Up to 94%		Up to 94%	
	ECO model	Up to 98%		Up to 98%	
Battery and charger	Battery quantity	15PCS (Internal)	16PCS (External)	16PCS (Internal)	16PCS (External)
	Battery capacity	12V/7AH	depends on customer configuration	12V/9AH	depends on customer configuration
	Backup time	>4min		>4min	
	Recharge current	Standard model 1.2A; Long backup time model 4A;			
Display	LCD+LED	load rating/battery capacity/input/output/operating mode			
Communication and monitoring	Communication port	RS232			
	Extendable communication card	Dry Contact Card, USB card, MODBUS card and NMC card are optional			
	Software	Winpower			
Physical param-eters	Product dimension (WxDxH) mm	248*500*565	212*500*420	248*500*565	212*500*420
	Product weight (Kg)	59	14	62	16
Environment	Operating temperature	0-40℃			
	Audible noise	<50dB @ 1 meters ¹			
Certifications and standard		IEC61000, IEC62040,CE			



Castle 10~20KVA 3:1

KEY FEATURE

- Double conversion with 0ms transfer time
- Single phase/ three phase input configurable
- Green power design, output PF up to 0.9
- 192V1 216V/ 240V battery voltage configurable for 15KVA~20KVA
- ECO mode available, efficiency up to 98%
- Parallel function for N+X redundancy (Up to 3UPS)
- LCD display
- RS232 or USB standard offer, SNMP/Dry contact/Modbus communication slot card optional
- Internal maintain bypass switch optional
- Low noise design, <50dB @30°C full load
- CE compliance

3C10~20KS Product Specification

Model		3C 10KS	3C 15KS	3C 20KS
Power rating	VA/W	10KVA/9KW	15KVA/13.5KW	20KVA/18KW
Input	Input wiring	Three phase or Single phase with ground (3:1 or 1:1)		
	Input voltage range	208VAC-476VAC (three phase) /120VAC-275VAC (signal phase)		
	Input frequency range	40-70Hz		
	Input power factor	≥0.99		
Output	Output voltage	220/230/240VAC		
	Output voltage regulation	±1%		
	Output wiring	Single phase with ground		
	Output frequency range	50/60Hz+/-0.2Hz(battery mode)		
	Output THDV	<2%(linear load)		
		<4%(non-linear load)		
	Output waveform	Pure sinewave		
	Crest factor	3:1		
Overload capability	10min@105%~125% load;30s@125%~150% load;500ms@>150% load			
Efficiency	Line mode	>93.5%		
	ECO mode	>98%		
Battery and charger	Battery voltage	192VDC	192VDC/216VDC/240VDC optional	
	Battery quantity	16PCS(External)	default 16PCS(External),16/18/20PCS adjustment	
	Battery capacity and Backup time	Depends on customer configuration		
	Recharge current	4A		
Parallel	Parallel function	Up to 3		
Display	LCD+LED	load rating/battery capacity/input/output/operating mode/Fault code		
Communication and monitoring	Communication port	RS232		
	Extendable communication card	Dry contact card, USB card, MODBUS card, NMC card are optional		
	Software	Winpower		
Physical parameters	Product dimension (W*H*D) mm	212*500*420	248*500*565	
	Product weight (Kg)	16.9	31	
Environment	Operation temperature	0~40℃		
	Humidity	0~95%(non-condensing)		
	Audible noise	<50dB@1 meter ¹		
Certification and Standard		IEC61000,IEC62040,CE		



Castle Rack 1 ~3KVA

KEY FEATURE

- Double conversion with 0ms transfer time
- Input PF up to 0.98 and output PF up to 0.9
- ECO mode available, efficiency up to 98%
- USB standard offer, SNMP/Dry contact/Modbus slot card optional
- Plug-and-Play extend battery module (EBM) to extend backup time
- 19inch standard cabinet compliant, 2U height
- Standard model (with batteries)/ Long backup model (without battery) offer
- 6A fast charger for long backup model
- CE compliance

RACK 1-3kVA UPS Product Specification

Model		Rack 1K	Rack 1KS	Rack 2K	Rack 2KS	Rack 3K	Rack 3KS
Power rating		1kVA		2kVA		3kVA	
Input	Input Voltage Range	(110-300)VAC					
	Frequency Range	40-70Hz					
	Input Power Factor	≥0.98					
Battery and charger	Rated Battery Voltage	24V	36V	48V	72V	72V	96V
	Type	Maintenance-free Sealed Lead-acid UPS Batteries					
	Number of Internal Battery	2PCS	-	4PCS	-	6PCS	-
	Recharge Current	1A	6A	1A	6A	1A	6A
Output	Nominal Output Voltage	220*(1±2%)VAC					
	Frequency Range	sync with line of +/-4Hz(Line mode) 50±0.05Hz (Battery mode)					
	Output Power Factor	0.9@30°C and 0.8@40°C;					
	Overload capacity	105%-150%, 47s-25s; 150%-200%, 25s-300ms; >200%, 200ms (0.8PF)					
	Outlet	IEC C13*6 pcs			IEC C13*3 pcs + C19*1 pc		
Transfer Time	Battery Mode<-->InverterMode	0ms					
	Inverter Mode<-->BypassMode	4ms (typical)					
Backup time (80% load, 0.8PF)		>4.5 min	depends on customer configura-tion	>4.5 min	depends on customer configura-tion	>4.5 min	depends on customer configura-tion
Indicator	LED	Load, battery capacity, UPS working mode					
Alarm	Battery Discharge	Battery full: 1buzzing/4s; Battery empty: 1buzzing/1s					
	UPS Alarm	Buzzing continue					
Auto restart		Auto restart while mains recover					
Interface	USB	Monitoring					
	Optional Parts	NMC Card, Modbus Card, Relay Card					
Environment	Temperature	0°C-40°C					
	Humidity	0-95%, non-condensing					
Net Weight	UPS	11	7.2	17.5	8.9	21.6	9.0
	EBM	-	20.0	-	20.0	-	24.8
Dimension (W*D*H)	UPS	438*420*87	438*420*87	438*570*87	438*420*87	438*570*87	438*420*87
	EBM	-	438*420*87	-	438*420*87	-	438*420*87

Note:
* All internal batteries are default as STK brand, any other battery brand might be applied without prior notice;



Castle Rack 6~10KVA

KEY FEATURE

- Double conversion with 0ms transfer time
- Input PF up to 0.99 and output PF up to 1
- High efficiency, up to 95% for online mode, 98% for ECO mode
- LCD with full information and easy configuration
- Flexible battery configuration, 16/17/18/19/20 pcs configurable
- Parallel function for N+X redundancy (Up to 3 UPS)
- USB/RS232/EPO standard offer, SNMP/Dry contact/Modbus slot card optional
- 19inch standard cabinet compliant, 2U height .
- Plug-and-Play extend battery module (EBM) to extend backup time, 3U height
- 0~12A fast charger adjustable for long backup model
- CE compliance

Rack 6-10kVA UPS Product Specification

Model		Rack 6K	Rack 6KS	Rack 10K	Rack 10KS
Power rating	VA/W	6000VA/6000W		10000VA/10000W	
Input	Input voltage range	110~275VAC			
	Input frequency range	40Hz-70Hz			
	Input wiring	Single phase with ground			
	Input power factor	≥0.995			
Output	Output voltage	208/220/230/240 VAC			
	Output voltage tolerance	±1%			
	Output wiring	Single phase with ground			
	Output connection	2*IEC, 1*Terminal Block			
	Output frequency range	50/60Hz±0.1Hz (battery mode)			
	Output THDV	<1% (linear load) <5% (non-linear load)			
	Output waveform	Pure sinewave			
	Overload capability	10min @ 105~125% load; 30S @ 125~150% load; 0.5S @ >150% load			
Efficiency	Line mode	Up to 95%		Up to 95%	
	ECO mode	Up to 98%		Up to 98%	
Battery and charger	Battery quantity	16PCS default, 16/17/18/19/20 adjustable			
	Recharge time to 90% battery capacity	3 hours	depends on customer configuration	3 hours	depends on customer configuration
	Backup time	>4min @ 100% load >11min @ 50% load		>2.1min @ 100% load >8min @ 50% load	
	Recharge current	1.4A default, 0-4A adjustable	4A default, 0-12A adjustable	2A default, 0-4A adjustable	4A default, 0-12A adjustable
	Display	LCD+LED	load rating/battery capacity/input/output/operating mode		
Communication and monitoring	Communication port	RS232, USB+EPO, Dry in/Dry out configurable.			
	Extendable communication card	Dry Contact Card, MODBUS Card, NMC Card are optional			
	Software	Winpower			
Physical parameters	Product dimension (W*H*D) mm	438* 86.3* 573mm (UPS) 438*129* 593mm (EBM)	438* 86.3* 573mm	438* 86.3* 573mm (UPS) 438*129* 593mm (EBM)	438* 86.3* 573mm
	Product weight (Kg)	14 (UPS) 46 (EBM)	14	16 (UPS) 52 (EBM)	16
Environment	Operating temperature	0-40℃			
	Operating humidity	0-95% (non-condensing)			
Standard		IEC62040, IEC60950			

Online UPS - three phase



3C3-PRO 20K-200KVA

KEY FEATURE

- Input PF up to 0.99 and outputPF up to 0.9
- High efficiency, up to 94% for online mode, 98% for ECO mode
- Flexible battery configuration, 28~36 pcs configurable for 20K ~80KVA model, 36~40 pcs configurable for 100K ~200KVA model
- Functional modular design for easy maintain.
- Parallel function for N+X redundancy (Up to 4 UPS)
- Wireless parallel technology to increase the reliability
- PCBA coating for dusty and salty application
- Dual input redundancy design
- CE compliance

3C3 PRO 20-200kVA Product Specification

Model		3C3 Pro-20KS	3C3 Pro-30KS	3C3 Pro-40KS	3C3 Pro-60KS	3C3 Pro-80KS	3C3 Pro-100KS	3C3 Pro-120KS	3C3 Pro-160KS	3C3 Pro-200KS
Power rating	kVA	20	30	40	60	80	100	120	160	200
	kW	18	27	36	54	72	90	108	144	180
Topology		Double conversion, IGBT based								
UPS rectifier/input										
Topology		PWM, IGBT based								
Rated voltage		380Vac/220Vac								
Voltage range		-50%-20%, depends on load percentage								
Input power factor		0.99								
THD (I)		<5%								
Rated frequency		50/60Hz auto sensing								
Frequency range		42-72 Hz								
UPS Output										
Power factor		0.9								
Efficiency		Up to 94% in online mode; >98% in ECO mode								
Output voltage		380Vac/220Vac +/-1%								
Overload capacity		<105% continuous run; 105%-125% 10min								
THDV		<2% for Linear load								
Output frequency		50/60Hz								
Unbalanced load		1								
Crest factor		3:1								
Bypass										
Maintenance bypass		Standard					Optional		NA	
Bypass voltage		380Vac (+/-15%)								
Internal static switch		Standard								
Battery										
Battery type		VRLA								
Backup time		Varies from battery capacity and load situation								
Battery PCS		28-36 PCS adjustable, 32PCS default					36-40 PCS adjustable, 40PCS default			
Recharge time		8 hour to 90%								
Communication										
Interface		RS232, Mini slot								
Accessories (optional)		SNMP/WEB, Modbus/Ethernet, AS400, NMC								
Opertion environment										
Running temperature		0~40°C								
Storage		-25~55°C								
Humidity		5%~95%								
Elevation		No derating < 1000m								
Certifications										
EMC		IEC61000-4								
EMI		EN5550022/EN55024								
Quality		ISO90001 : 2000, ISO14001 : 1996								
Certi+A2:A43fication		CE								

CASTLE 3C3 HD 20-80K



KEY FEATURE

- Adopt the new generation of IGBT and optimized three-level inverter topology, with online efficiency up to 96% and ESS mode efficiency up to 99%.
- Output power factor 1.0.
- Internal modular design, MTTR<30 minutes.
- High power density, save more than 50% footprint.
- Intelligent battery management function to extend battery life cycle.
- 5” color touch screen for easy operation.
- Support lead-acid batteries and lithium batteries.
- Parallel UPS units up to 4, support common battery @2 UPS parallel.
- Support battery cold start.

CASTLE 3C3 HD 20-80K Product Specification

Model		3C3 HD-20K	3C3 HD-30K	3C3 HD-40K	3C3 HD-60K	3C3 HD-80K
Power rating		20KVA/20KW	30KVA/30KW	40KVA/40KW	60KVA/60KW	80KVA/80KW
Input	Wiring	Wiring Three phase+Neutral+Ground				
	Mains voltage range	201 ~ 478Vac (L-L); 116 ~ 276Vac (L-N)				
	Bypass voltage range	338 ~ 458Vac (L-L); 195 ~ 264Vac (L-N)				
	Frequency	50/60Hz				
	Frequency range	42 - 70Hz				
	Power factor	≥ 0.99				
	THDi	<2% linear load; <5% non-linear load				
Output	Voltage	230/400Vac default (220/380V,240/415V optional)				
	Votlage regulation	<1% @ steady state				
	Power factor	1				
	Overload	102 ~ 110%, 60mins				
		111 ~ 125%, 10mins				
Efficiency	ECO mode	126 ~ 150%, 1min				
		Up to 4 units				
		Up to 96%				
	Online mode	Up to 99%				
Battery	Battery Voltage	320V~607V (432V default)				
	Max charge current	25A	38A	50A	76A	100A
Environment	Ambient temperature	0~40°C				
	Storage temperature	-15 ~ +55°C				
	Ambient humidity	5 - 95 %				
	Altitude No derating	< 1000m				
Physical	Diamension (W*D*H)	330*668*521mm			330*690*975mm	
	Net Weight	41kg	45kg	45kg	90kg	90kg
	Gross weight	50kg	55kg	55kg	131kg	131kg
Standard	Safty	IEC 62040				

CASTLE 3C3 HD 400-600K



KEY FEATURE

- Adopt the new generation of IGBT and optimized three-level inverter topology, with online efficiency up to 97% and ESS mode up to 99%
- Output power factor 1.0
- Internal modular design, MTTR<30 minutes
- Intelligent battery management function to extend battery life cycle
- 7 "color touch screen for easy operation
- Support lead-acid batteries, lithium batteries, super capacitors and other DC energy storage systems
- Maximum charging current up to 400A, faster recovery of battery capacity
- Support 4 UPS parallel and share common battery
- Support battery cold start
- Intelligent dummy load test function
- With internal module redundancy function, higher reliability
- Adopt oil-filled capacitor, maintenance-free and long service life

CASTLE 3C3 HD 400-600K Product Specification

Model		3C3 HD-400K	3C3 HD-500K	3C3 HD-600K
Power rating		400KVA/400KW	500KVA/500KW	600KVA/600KW
Input	Wiring	Three phase+Neutral+Ground		
	Frequency	50/60Hz		
	Frequency range	40-72Hz		
	Power factor	≥ 0.99		
	Input voltage range	240 ~ 478Vac / 138 ~ 276Vac		
	Bypass voltage range	340 ~ 438Vac / 196 ~ 253Vac		
	THDI	<3% @ full linear load		
Output	Voltage	230/400Vac (220/380, 240/415 optional)		
	Power factor	1		
	Frequency	50Hz / 60Hz		
	THDV	<1% @ full linear load		
	Over load	10mins@111~125% , 1min@126~150%		
Efficiency	Double conversion mode	Up to 97%		
	ESS mode	Up to 99%		
Battery	Battery type	VRLA, NiCad, Lithium battery		
	Battery voltage	480V (40 pcs) ~690V (50 pcs) , default 480V		
	Charge current (max)	280A	320A	400A
Environment	Ambient temperature	0-40°C		
	Storage temperature	-15 ~ +55°C		
	Ambient humidity	5 - 95 %		
	Altitude	No derating < 1000m		
Dimension	W*D*H (mm)	1100*1000*2000		
Weight	Net weight	650kg	700kg	820kg
	Gross weight	770kg	820kg	940kg
Standard	Safty	IEC/62040		

Online UPS - three phase - modular



3A3 PT 25K-200KVA

KEY FEATURE

- Hot swappable power modular design (25KVA each module)
- Advanced three step control technology. efficiency up to 96% for online mode, 99% for ECO mode
- Flexible battery configuration, 36-42 pcs configurable
- Battery voltage configurable from 432V~504V by 2V step.
- Parallel function for N+X redundancy (Up to 4 UPS) with Wireless parallel technology
- Adjustable charger current, 25A max for each module
- Dual input redundancy design
- 7 inches touch screen, easy to operate
- PCBA coating for dusty and salty application
- Internal Maintenance Bypass Switch standard offer
- CE compliance

ARRAY 3A3 PT UPS Technical Specifications

Gernal	
UPS output power rating	25-200kVA, 0.9pf
Efficiency in double conversion mode	>96%
Efficiency in Energy Saver System	>99%
Topology	Double conversion on-line technology, three-level bridge IGBT PWM control
External paralleling	up to 4 units with Hot paralleling technology
Noise @1m, 25°C	< 65 dBA in double conversion
UPS topology	Double conversion
Dimensions (WxDxH) mm	600mm x 1100mm x 2020mm (75kVA Frame) 608mm x 1010mm x 2050mm (200kVA Frame)
Degree of protection	IP20
Altitude (max)	1000m above sea level at 40°C
Input	
Input wiring	3ph + N + PE
Rated input voltage	220/380, 230/400, 240/415 V
Rated input frequency	50 or 60 Hz, user configurable
Frequency tolerance	40 to 72 Hz
Input power factor at 100% load	0.99
Input THD	<3%
Soft start capability	Yes
Battery	
Battery type	VRLA, AGM, GEL
Charging method	Intelligent Battery Management or Continuous Float
Temperature compensation	Optional
Battery quantity	36 to 42 blocks. Default is 40 blocks
Battery start capability	Yes

* Display panel supports English, French, Portuguese, Spanish and Russian



3A3 PT 60~600kVA

KEY FEATURE

- Up to 50% footprint saving
- Flexible ventilation options
- On-line replaceable UPM & STSW & Communication module, MTTR as low as 5 mins
- Robust components using oil-filled capacitors & IGBT modules.
- Perfect integration with Lithium battery, compatible with multiple Lithiumion BMS
- High efficiency UPM module, efficiency up to 97%
- Complete power isolation options (Input/ Output/ Bypass/ MBS)

ARRAY 3A3 PT UPS Technical Specifications

Power modules	
Power offering (kW)	60kW (62.5kW optional)
Frame options	
600kW	Standard offer input /output / MBS /bypass swithes
General characteristics	
Efficiency in Energy Saver System (ESS)	Up to 99%
Efficiency in double-conversion mode	Up to 97%
Parallel capability	Standard 4 units external parallel (Max 8 units with factory customization)
Cold start	Supported
Softstart	Rectifier ramp up, compatible with generator, ramp up rate configurable
Input characteristics	
Voltage	380/400/415V
Voltage range	301~478V L-L 175~276V L-N
Frequency range	50/60 Hz
Power factor	> 0.99
Input current distortion	< 3% @ 100% load capacity
Battery	
Battery Type	Lithium, VRLA
Charging method	ABM
Battery Voltage	432-528Vdc (Selectable)
Battery Connection	Two wire (no neutral)
Output	
Voltage	380/400/415V 4 wire
Frequency range	50/60 Hz
Regulation	±1% steady state
Voltage THD	< 1% (100% linear load) < 5% (non-linear load)
Overload	125% 10 mins
Compliance with standards	
Safety	IEC 62040-1
EMC	IEC 62040-2
Performance	IEC 62040-3
RoHS	EU directive 2011/65/EU

* Due to continuous product improvement programs, specifications are subject to change without notice.

UPS dimensions (mm)	
3A3 PT 300kVA Frame with MBS (Height* Depth* Width)	2000*1100*600
3A3 PT 600kVA Frame with MBS (Height* Depth* Width)	2069*1100*1200
UPM dimensions (mm)	
Height	173.4 (4U)
Depth	700
Width	439
Weight (kg)	
300kVA UPS (w/o UPM)	375
600kVA UPS (w/o UPM)	726
UPM	39
Power Rating (W)	Module * Qty
3A3 PT-120	60kW*2
3A3 PT-125	62.5kW*2
3A3 PT-180	60kW*3
3A3 PT-187	62.5kW*3
3A3 PT-240	60kW*4
3A3 PT-250	62.5kW*4
3A3 PT-300	60kW*5
3A3 PT-312	62.5kW*5
3A3 PT-360	60kW*6
3A3 PT-375	62.5kW*6
3A3 PT-420	60kW*7
3A3 PT-437	62.5kW*7
3A3 PT-480	60kW*8
3A3 PT-500	62.5kW*8
3A3 PT-540	60kW*9
3A3 PT-600	60kW*10

VRLA Battery



Castle Battery C12v Series

KEY FEATURE

- 10 years life design at floating charging condition
- Excellent high rate discharge performance for UPS application
- Low self discharge rate, less than 2% at 20°C after 28 days
- Embedded terminal design makes the installation and maintenance work easy and convenient
- UL 94-V0 frame retardant level

Specifications

Item No.	Voltage (V)	Capacity /Ah (C20@25℃)	W/cell 1.67V@15min	Internal Resistance (m Ω)	Dimensions (mm)				Weight (Kg)	Terminal
					L	W	H	TH		
C12-18	12	18	61.7	16.2	181.5	77	167.5	167.5	5.4	M5
C12-26	12	26	89.1	14	166	175	133	133	7.8	M5
C12-38	12	38	123	9.0	197	165	170	170	11.4	M6
C12-65	12	65	210	6.5	325	167	174	174	19.2	M6
C12-100	12	100	324	4.0	330	173	213	219	28	M8
C12-120	12	120	336	4.0	408	177	225	225	32.3	M8
C12-150	12	150	420	3.5	483	170	238.5	238.5	41.5	M8
C12-200	12	200	647	2.7	522	240	218	224	57.1	M8
C12-225	12	246	700.4	2.5	522	240	218	224	63.5	M8

Battery Characteristics

Design life	10 years
Operating Temperature Range	Charge: 0℃ ~40℃ Discharging: -20℃ ~55℃ Storage: -15℃ ~50℃
Capacity Affected by Temperature	103%C ₂₀ @40℃ 100% C ₂₀ @25℃ 86% C ₂₀ @0 ℃
Float Charging Voltage	13.5V - 13.8V; Recom. 13.65V
Equalizing Charging Voltage	14.1V-14.4V; Recom. 14.1V
Float Charging Temp. Coefficient	-18mV/ ℃
Recycling Usage Temp. Coefficient	-30mV/ ℃
Max. Charging Current	0.3CA
Max AC ripple (charger)	Less than 2%
Monthly Self Discharge Rate	less than 3% per month (25℃)

SANTAK Portable Power Station

OUTLOOK

- ① AC ON/OFF Switch
- ② DC ON/OFF Switch
- ③ USB-C Fast Charger X2
- ④ USB-A DC output X4
- ⑤ Cigarette Lighter Socket X1
- ⑥ 220V AC output X2
- ⑦ DC input (for solar / car charger)
- ⑧ Light
- ⑨ AC input
- ⑩ 5525 DC Output 12V



C1400



C700

TECHNICAL DATA

	C700	C1400
Input		
AC input range	90~285Vac	90~285Vac
Solar charger input	10-30Vdc, 10A max, 200W max	10-60Vdc, 10A max, 400W max
Car charger input	13.6Vdc, 10A max	13.6Vdc, 10A max
Output		
Total power rating (AC+DC)	700VA/700W	1400VA/1400W
AC output	2 sockets, 220V/50Hz, 700VA/700W max	2 sockets, 220V/50Hz, 1400VA/1400W max
USB type A	3 ports, 5V/9V/12Vdc 2.4A max per port	4 ports, 5V/9V/12Vdc 2.4A max per port
USB type C	1 port, 5V/9V/12V/15Vdc 3A max, 20Vdc 3.25A max	2 ports, 5V/9V/12V/15Vdc 3A max, 20Vdc 5A max per port
Cigarette lighter	1 port, 13.6Vdc 10A max	1 port, 13.6Vdc 10A max
DC5525	2 ports, 12Vdc 3A max per port	N/A
Battery		
Type	Lithum battery (NCM)	Lithum battery (NCM)
Capacity	524Wh	1010Wh
Physical		
Dimentions(L*W*H)	269*190*190 mm	345*235*228mm
Net weight	7.5kg	12.1kg
Environment		
Discharge temperature	-20~60℃	
Charge temperature	0~50℃	
Humidity	0~95%	
Altitude	4000m	
Protection Class	IP20	
Compliance Standard		
Safety	EN/IEC 62040-1, UN38.8	
EMC	EN/IEC 62040-2, EN55032, EN55035	

SANTAK ELECTRONIC (SHENZHEN) CO., LTD.

Shenzhen, P.R. China

Address: No. 8 Baoshi Road, Baoan
District, Shenzhen, 518101

Tel: 0086 755 27572666

Fax: 0086 755 27572730 (27572480)

Email: santakexport@santak.com

Website: www.santak.com

June. 2024 EN-00004-02