SANTAK

Santak Castle Series UPS

CASTLE 3C3 HD

20-80kVA

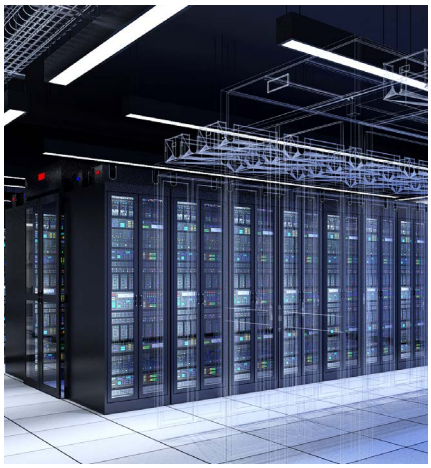
CASTLE 3C3 HD 20-80K

3C3 HD UPS is the new generation three phase tower UPS, which adopts the most advanced power electronics and digital signal control and protection technology. It performs higher efficiency, higher performance, and more convenient operation, and can provide users with high quality power supply guarantee in various industries.

Typical application environment

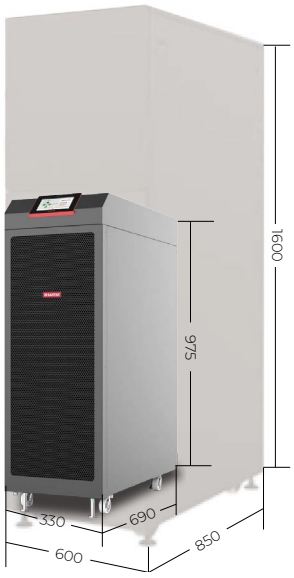
- Small and medium-sized data centers
- Computer data room
- Automation control system
- Transportation
- Banking, Finance
- Communication industry, 5G
- Production and manufacturing

Power range: 20/30/40/60/80kVA
Topology: Advanced three-level inverter, high-frequency IGBT conversion/ inversion technology
Input and output: 220V/380V three-phase four-wire
Frequency: 50/60 Hz



Product features

- 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.



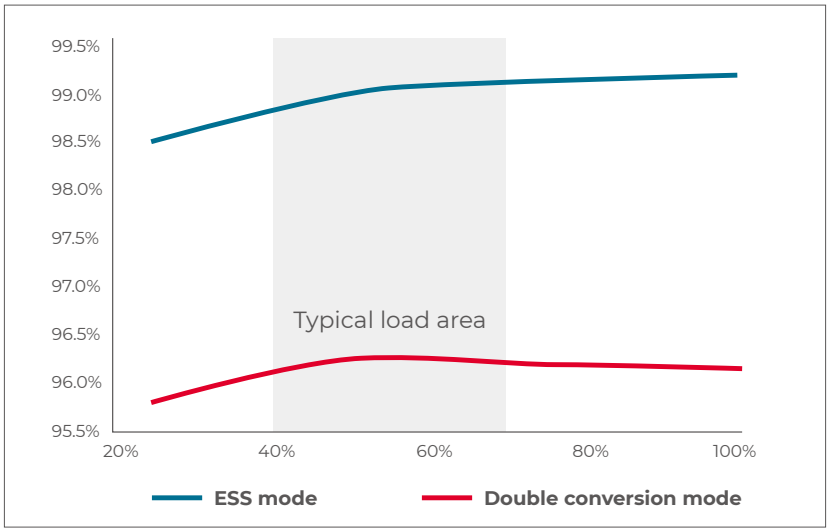
Smaller size, saving space in computer room

The 3C3 HD adopts innovative modular design, optimizes the design and layout of rectifiers, inverters and other components. On the premise of ensuring reliability, the volume and weight of the product are greatly reduced, which greatly saves the computer room space and improves the utilization rate of the computer room. Compared to current mainstream products in the market, the 3C3 HD saves 50% in footprint space and 90% in volume.

Model		Width (mm)	Depth (mm)	Height (mm)	Footprint (m^2)	Volumn (m^3)
40kVA	3C3 HD	330	668	521	0.21	0.05
	Product A	440	750	1600	0.33	0.53
	Product B	320	840	867	0.27	0.23
80kVA	3C3 HD	330	690	975	0.23	0.22
	Product A	600	850	1600	0.51	0.82
	Product B	450	840	1400	0.38	0.53

Extra Low TCO (Total Cost of Ownership)

3C3 HD 20-80K UPS efficiency is up to 96% at online double conversion mode and 99% at ESS mode.



- ESS mode can provide up to 99% system efficiency, significantly reducing UPS power consumption and cooling power consumption.
- In ESS mode, UPS built-in filter protection devices can still provide surge protection to ensure high-quality power output.
- 3C3 HD can intelligently switch between ESS mode and double conversion mode automatically according to the quality of the power grid. The typical switching time is only 2-4ms.
- In ESS mode, the reliability of key components is further improved and the service life is longer.

Safe and reliable. Suitable for various application environments

DUSTPROOF DESIGN

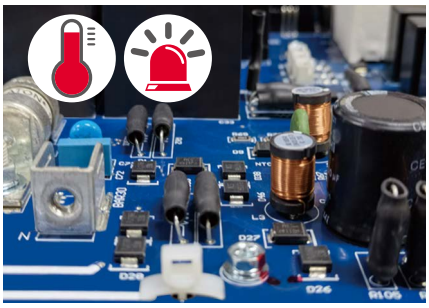
Santak 3C3 HD has a dust filter to isolate dust from the outside of UPS, improving the adaptability to the harsh environments. At the same time, the internal layout and airflow distribution are optimized, which greatly reduces the dust accumulation.

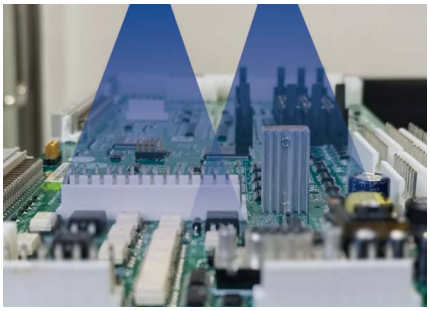
- Dust filter complying with American fire protection standard UL94 and dust filter standard UL900.
- Easy to disassemble and clean. Low maintenance cost.

CAPACITORS HEALTH MONITORING

Santak 3C3 HD innovatively adopts a filter capacitor health monitoring function, through real-time temperature detection of the internal capacitor, monitors the health status of the capacitor, provides early warning information before the capacitor is damaged, avoids the occurrence of failure, and greatly guarantees the stability and reliability of power for critical loads.

- Use temperature sensors to detect real-time temperature of all input and output filtering capacitors.
- Fully automatic intelligent judgment of capacitor life, providing warning information before the expiration of capacitor life to avoid faults.
- The protection measures will be activated as soon as possible in case of abnormal capacitor faults , avoiding further expansion of faults.

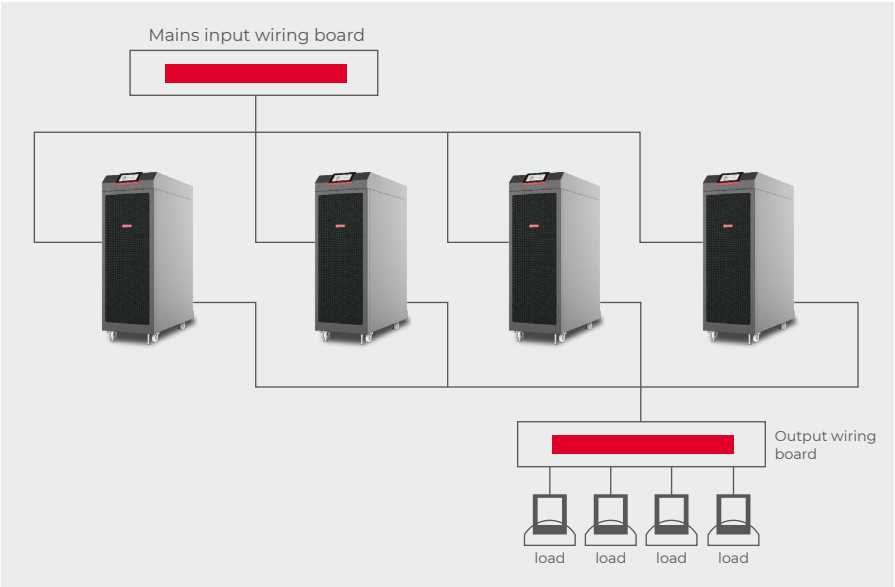




PCBA COATING

Short circuit caused by corrosion of PCBA is one of the important reasons for failure of UPS, especially in coastal cities. Santak 3C3 HD uses advanced intelligent PCBA coating technology to further improve the salt spray and corrosion resistance of the product.

- Full-automatic coating process to avoid manual operation error and ensure coating precision and consistency.
- Blue-ray detection technology is used to ensure the coating quality.



INTELLIGENT PARALLEL REDUNDANCY

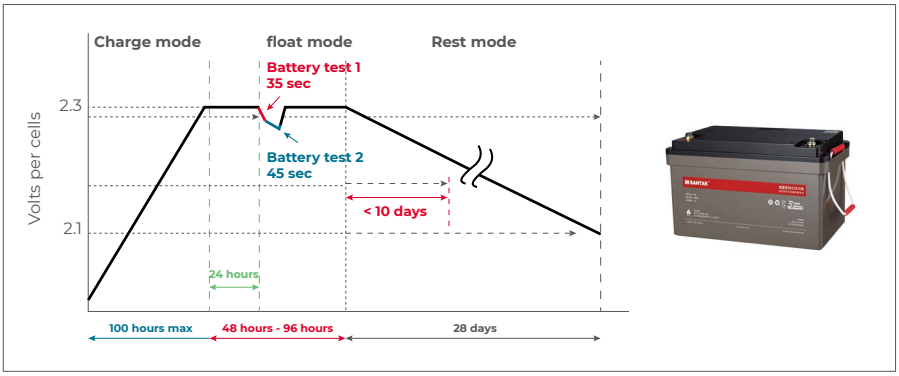
The Santak 3C3 HD has built-in synchronous CAN communication, and no need to install a parallel card during parallel operation. It ensures output synchronous and load balance of each UPS in the parallel system, and ensures the reliability and redundancy of the parallel system.

- Point-to-point control, no "master-slave" dependency parallel control.
- No traditional load sharing lines.
- Eliminate single point of failure in the system.
- Fast fault detection and breakaway technology.
- Reliability is further enhanced.

SANTAK INTELLIGENT BATTERY MANAGEMENT

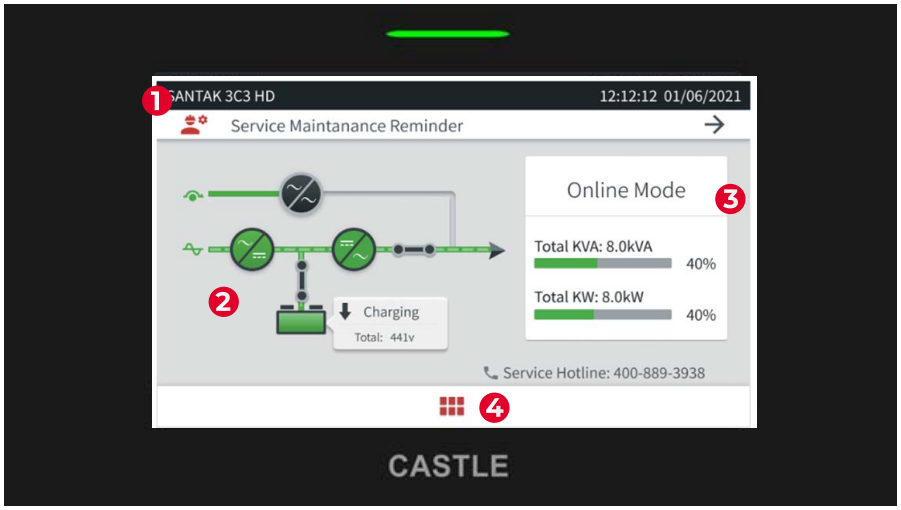
3C3 HD adopts Santak intelligent battery management technology. In addition to the traditional two-stage charging, it also has an intelligent rest mode to avoid the aging effect of the battery due to long-term floating charge. This technology can also accurately predict the working state of the battery, detect potential discharge faults in advance and give a warning.

- The first two-stage charging mode ensures that the battery is fully charged.
- The third stage rest mode make the battery in the state of natural discharge. UPS detects the battery voltage in real time, and automatically starts the charger to enter a new charging cycle again when the battery voltage drops to the setting value.
- Intelligent rest mode can extend battery life by up to 50%.



Convenient operation and maintenance

Santak 3C3 HD adopts a 5" colorful touch screen with 3 color LED indicators, which is convenient for users to check UPS running status and operate the UPS.



1. UPS status area
2. Energy flow diagram
3. Meters data area
4. More Menu

MENU ITEMS

Meters: Display the measurements of the system or critical load.
Control: Access various system control screens.
Statistics: Access and view the specific operating values of the system. Such operations shall be performed by Eaton service engineers only.
Log: Access the system logs, including alerts, notices and commands.
Info: Display the UPS and HMI information.
Settings: Access various screen control variables for system operation.

3C3 HD 20-80K Technical Data

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				
		126 ~ 150%, 1min				
	parallel	Up to 4 units				
Efficiency	Online mode	Up to 96%				
	ECO 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				

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

May. 2023