



SANTAK® CASTLE SERIES ON-LINE UPS

CASTLE UPS

Rack 1-3kVA



Castle Rack 1-3kVA UPS Introduction

Castle Rack 1-3kVA UPS is on-line double conversion topology uninterruptible power supply with outstanding performance and provide reliable power to the critical equipment of customer. It can work perfectly in harsh utility environment, eliminate all kinds of disturbances in utility power and provide high quality and precise pure sinewave output to protect the precious equipment of customer. It is ideal solution for small power protection needs.

HIGH RELIABILITY DESIGN IMPROVE THE PRODUCT COMPATIBILITY WITH DIFFERENT KIND UTILITY ENVIRONMENT, AND REDUCE THE FAILURE MAY OCCUR TO MINIMUM

- Wide input voltage and frequency range design is compatible with harsh power environment and reduce the use of battery and extend battery lifetime
- Enhance UPS reliability with high quality components and excellent control design in firmware



Wide
Input voltage range
115-300VAC

Adaptable to
Harsh environment

Compatible with
Generator

Ultra-low noise
<40 dB

Configurable
Backup time

TYPICAL APPLICATION

- Network closet
- Telecom Rack
- Precise equipment
- Process control
- Security and monitoring
- IT equipment in medical and industry

USER FRIENDLY & INTELLIGENT MANAGEMENT

- Provide various intelligent monitoring solution for IT and industrial environment to help user to realize the remote control and central monitoring easily
- Short depth save installation space
- Auto-restart when utility power is recovery, and support start-on-battery function
- WINPOWER software is compatible with virtualization platform



Product Performance

HIGH POWER DENSITY AND GREEN DESIGN

- 2U x 570mm depth delivery up to 3kVA backup power
- Green design with high output power factor, high efficiency and low input harmonic

EASY USE, EASY EXTENSION

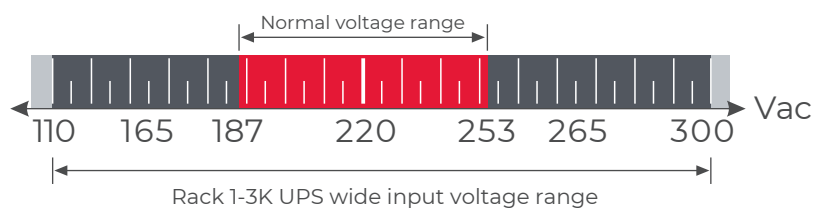
- 19inch standard cabinet or non-standard cabinet compliant
- Extendable backup time with EBM to meet long backup time needs from customer
- Resettable input circuit breaker
- Can start without mains
- Standard RS232 communication, NMC card, MODBUS card, Relay card optional

HIGH ADAPTABILITY AND RELIABILITY

- Wide input voltage and frequency range, to minimize battery use and extend battery lifetime
- Online double conversion technology assure reliable high quality backup power to customer equipment
- Adapted to remote area with poor grid power
- Adapted to middle and big cities under power supply shortage pressure

Up to **0.9** output power factor

Providing more power supply



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 configuration | >4.5 min | depends on customer configuration | >4.5 min | depends on customer configuration |
| 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;



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CASTLE UPS

Rack 6-10kVA



Crucial moment, Powering your business

SANTAK UPS PROVIDE RELIABLE PROTECTION FOR CRITICAL EQUIPMENT AND DATA

- Higher power density, more power output
- Wider input range, higher efficiency
- Ultra low noise, multiple configurable options
- High quality LCD with wide view

PRODUCT INTRODUCTION

Castle Rack 6-10K (S) UPS is a new generation smart UPS that can perfectly fit with the advanced modern IT equipment, specifically designed to efficiently address the high quality power needs for IT equipment, network communication and other applications.

Castle Rack 6-10K (S) product provides high adaptability and flexible configuration, and it is applied with leading DSP control technology and offer multiple and extendable options to meet the increasing customized application demand.



TYPICAL APPLICATION

- Critical server and network device
- IT enclosure
- Equipment related to telecommunications and VoIP etc
- Banking and security system
- Healthcare system
- Manufacturing / control system
- Laboratory equipment, precision instruments etc

PROVIDE SECURE AND RELIABLE POWER PROTECTION

- Output power factor of up to 1, meeting the protection requirements of the new generation IT equipment
- 95% online mode and 98% ECO mode. The green and environment-friendly design complies with new power source and reduces the operating costs for customers as well
- On-line double conversion technology, zero transfer time offering reliable power protection
- Built-in paralleling function to provide the highest level of power protection for the most critical system, thus ensuring the reliability >99.99%
- Compact size fits for rack, the height of 10KW UPS is only 2U with 600mm depth



EBM (EXTENDED BATTERY MODULE)

| UPS | Voltage | Battery Configuration |
|--------------|---------|-----------------------|
| Rack 6K (S) | 192VDC | 16 x 12V, 7Ah |
| | 240VDC | 20 x 12V, 7Ah |
| Rack 10K (S) | 192VDC | 16 x 12V, 9Ah |
| | 240VDC | 20 x 12V, 9Ah |

* EBM default configuration is 192VDC

* 240VDC EBM need confirmation before ordering

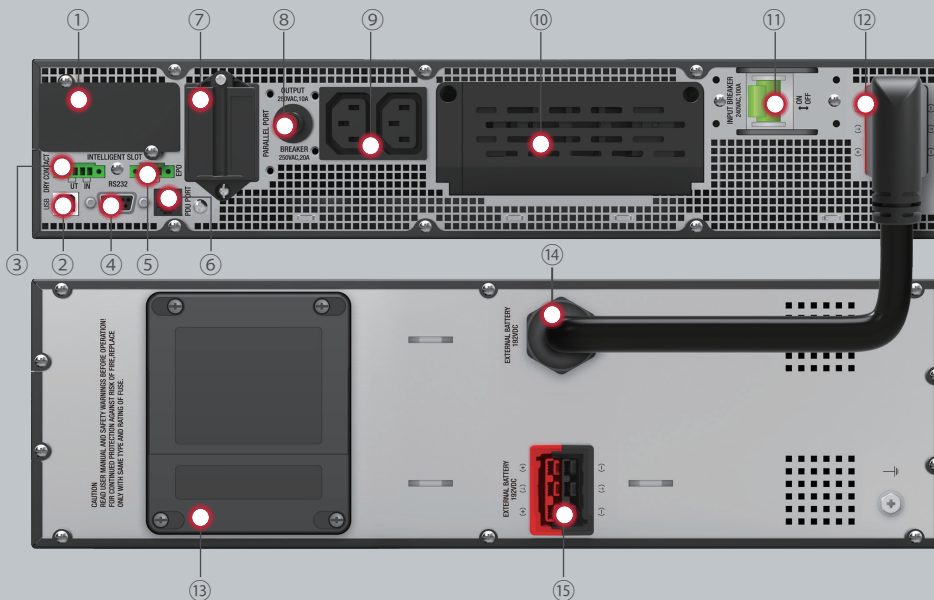
FLEXIBLE CONFIGURATION, OFFERING CUSTOMIZED SOLUTION

- Adjustable recharge current, helpful to improve battery life based on different customer requirements
- Flexible battery configuration, 16/17/18/19/20 consequently adjustable
- Connect to 3U Battery PACK or extend to external battery group, easy configuration backup time
- RACK design and fits for standard RACK installation, meanwhile support tower installation

EASY MANAGEMENT

- LCD Display
- Standard RS232,USB, EPO, configurable dry contacts communication port Provide intelligent slot card for NMC card, MODBUS card, Relay card optional

REAR PANEL LAYOUT



- ① Intelligent slot
- ② USB
- ③ Dry IN/OUT
- ④ RS232
- ⑤ EPO
- ⑥ RJ11 (connect to PDU)
- ⑦ Parallel card (optional)
- ⑧ Output breaker
- ⑨ Output socket
- ⑩ Input/Output terminal
(4pole IPL, IPN. OPL, OPN. PE is screw)
- ⑪ Input breaker (optional)
- ⑬ Fuse board cover (replace EBM fuse)
- ⑭ EBM plug
- ⑮ EBM connector

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 | | | |
| Efficiency | Overload capability | 10min @ 105~125% load 30S @ 125~150% load 0.5S @ >150% load | | | |
| | 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 | | 3 hours | |
| | Backup time | >4min @ 100% load >11min @ 50% load | | depends on customer configuration | |
| | 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 (UPS) 438*129* 593mm (EBM) | |
| | Product weight (Kg) | 14 (UPS) 46 (EBM) | | 16 (UPS) 52 (EBM) | |
| Environment | Operating temperature | 0-40°C | | | |
| | Operating humidity | 0-95% (non-condensing) | | | |
| Standard | | IEC62040, IEC60950 | | | |

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