



Modular Uninterruptible Power System

UPS5000-H Series (50-200k)-NTJ (200V)



INTRODUCTION

UPS5000-H-200k-NTJ is Huawei 's medium and large-scale uninterruptible power supply system with advanced 50kVA/3U(200V) hot swappable power modules. The system achieves smaller footprint and less installation time. System efficiency is up to 95%. Intelligent iPower improves system reliability and simplifies operation and maintenance for customers.



50kVA/3U (200V) power module



UPS5000-H-200kVA-NTJ (200V)

APPLICATION SCENARIOS

- Data centers in headquarter or disaster recovery data centers
- Internet data centers
- Large cloud computing data centers
- Critical power supply



Front view: door closed



Front view: door open



Simple

- **Hot swappable** power module, bypass module and control module simplify maintenance and expansion in **5 minutes**
- Support against the wall installation



Green

- Higher power density, saving the footprint by **50%**
- **95%** system efficiency, high efficiency at light-load
- **Smart** module hibernation mode and fan speed regulation technology help get high efficiency at light-load



Smart

- **iPower** pre-warnings for key components lifetime by AI method
- Source share of main and battery achieves **intelligent current limiting** and **wider input voltage**



Reliable

- **Redundant** architecture eliminates single point of failure
- Built-in **back feed** protection, improve O&M safety
- Built-in bus bar **temperature detection**
- System leakage current < **100mA** (40-70Hz)
- Meet **NTT** anti-seismic requirement

5 minutes

Simplify maintenance and expansion in

Against the wall

Installation

50%

Saving the footprint by

95%

Online mode efficiency

Smart

Module hibernation and speed regulation

iPower

AI predictive maintenance

Source share mode

Intelligent current limiting and wider input voltage

Redundant

Architecture

Back feed

Protection

Temperature

Detection

< 100mA

Leakage

current

NTT

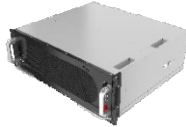
anti-seismic

SIMPLE

- **Hot swappable** power module, bypass module and control module simplify maintenance and expansion in **5 minutes**



Power module



Bypass module



System control module



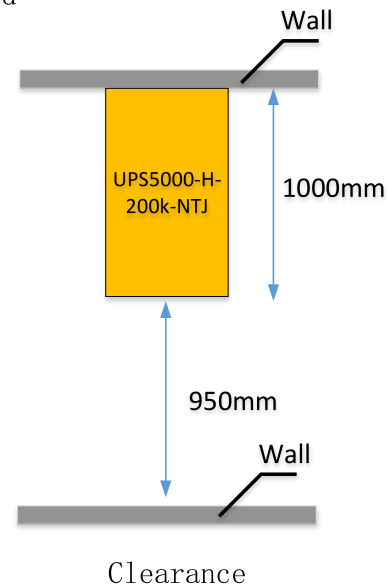
LCD module



- Support against the wall installation, smaller footprint

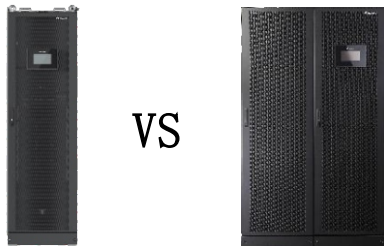


Inside fans with speed regulation.



GREEN

- Higher power density, saving the footprint by **50%**

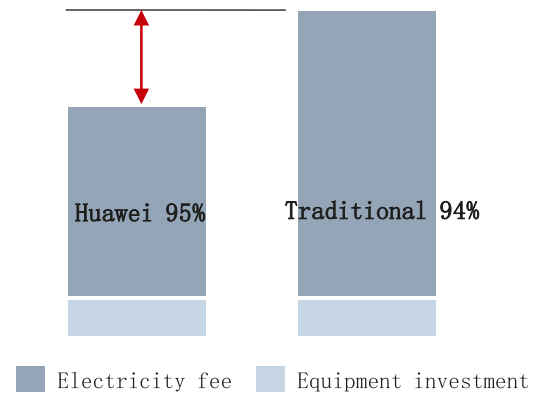


↓ 50%

Capacity	D*W*H (mm)
200kVA/200V	1000*600*2000

- 95%** system efficiency, high efficiency at light-load

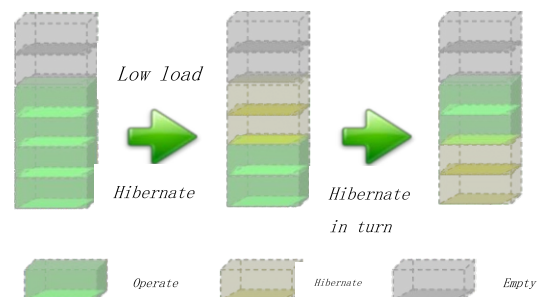
93-94% **→** 95%



Electricity fee save by **16,000\$** in lifecycle

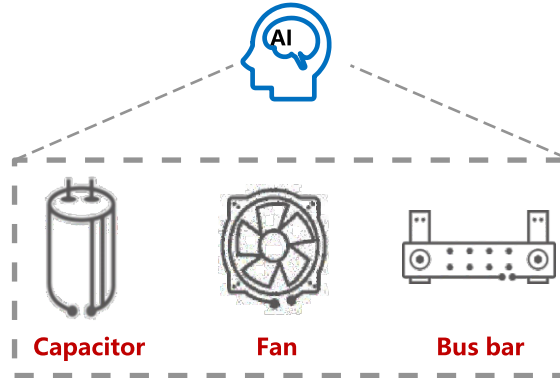
- Smart** module hibernation mode and fan speed regulation technology help get high efficiency at light-load

10% load rate
 < 90% **→** 93%

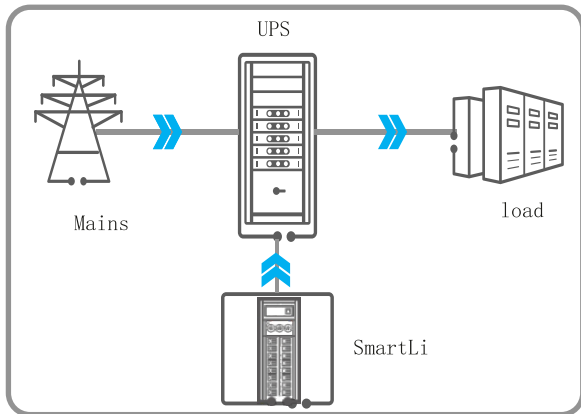


SMART

- iPower pre-warnings for key components by AI method



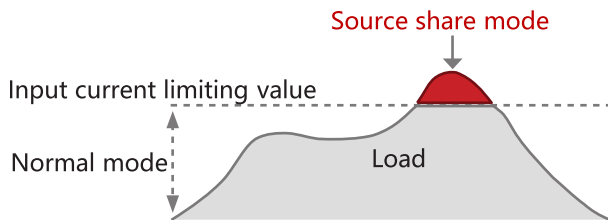
- Innovative source share achieves intelligent current limiting and wider input voltage range.



Source share mode: Mains and battery support the load in the same time

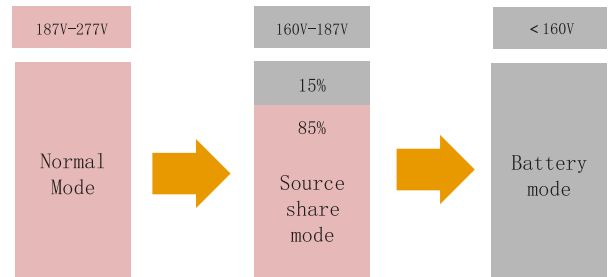
- Mains provide 85%-100% rated power.
- Batteries provide 0-15% rated power.

Scenario 1: Intelligent input current limiting



The UPS transfer to the source share mode instead of the battery mode after the input current limitation.

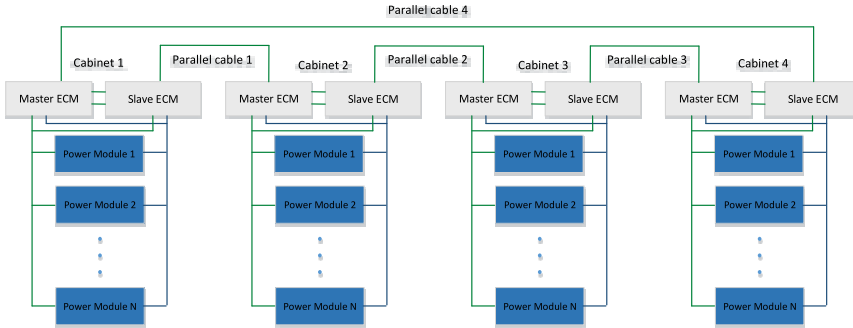
Scenario 2: wider the input



- 160V-277V input voltage range at full load (-25%)
- 80V-277V input voltage range at half load (-65%)

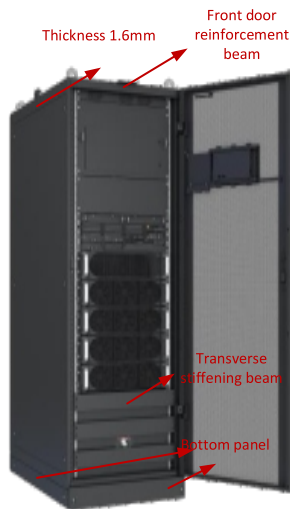
RELIABLE

- Redundant architecture eliminates single point of failure



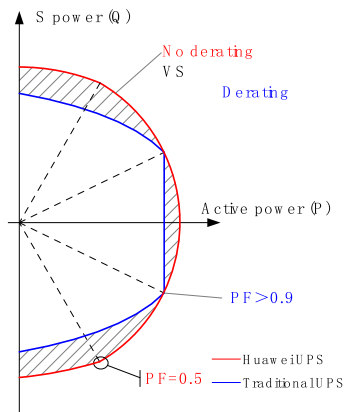
- System control module (ECM) 1+1 redundancy
- Power module N+X redundancy
- Intra-rack communication redundancy
- Auxiliary power supply redundancy

- Meet NTT anti seismic standard



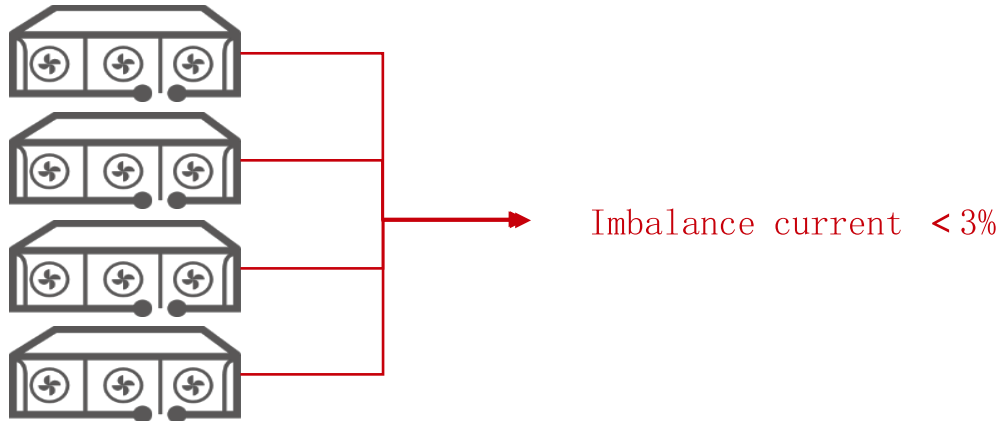
Meet the horizontal and vertical seismic test requirements of 1.5g and 0.75g

- Wider output power factor, supporting multiple types of loads

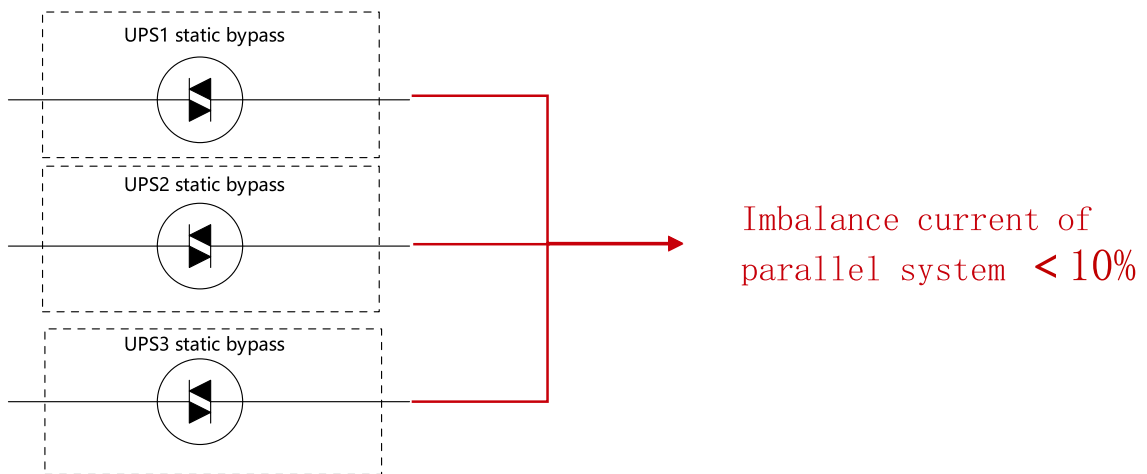


- Output power factor kW = kVA
- Capacitive inductive load, ±0.5 - 1 without derating

- Imbalance current of power module $< 3\%$ to get high reliability



- Imbalance current of parallel system bypass mode $< 10\%$ (patented technology)



- Keep operating in high ambient temperature



Traditional UPS transfer to bypass when ambient temperature $> 40^{\circ}\text{C}$



Huawei UPS automatically derating when temperature is $40^{\circ}\text{C}-55^{\circ}\text{C}$

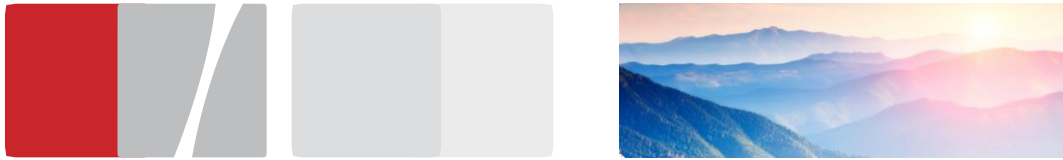


SPECIFICATIONS

Model		UPS5000-H-200k-NTJ
Capacity	Rack Capacity	200kVA
	Module number	1-4
Mains Input	Input Wiring	3P+PE
	Rated Voltage	200/210/220V
	Voltage Range	139-260Vac (0-30°C, 100% load: 170-260V)
	Frequency Range	40-70Hz
	Total Harmonic Distortion	THDi<3% for 100% linear load
	Input Power Factor	0.99
Bypass Input	Input Wiring	3Ph+PE
	Rated Voltage	200/210/220Vac
	Input Frequency	50/60±6Hz
Battery	Rated Voltage	VRLA: 240Vdc, The number is from 15 to 50, 20 batteries rated, no battery neutral, support odd battery number); Huawei SmartLi: 512Vdc
	Maximum charge capacity and current	Single power module: 15% rated capacity, 30A
	Battery Category	Huawei SmartLi, VRLA
	Battery sharing	Support (VRLA)
Output	Output Wiring	3Ph+PE
	Voltage	200/210/220Vac±1%
	Frequency	Tracking the bypass input (Normal mode); 50/60Hz±0.05% (Battery mode)
	THDv	THDv<1% for linear load
	Overload Capacity	0-30°C: Inverter: 100% < load ≤ 110% for 60 minutes, then transfer to bypass mode; 110% < load ≤ 125% for 10 minutes, then transfer to bypass mode; 125% < load ≤ 150% for 1 minute, then transfer to bypass mode
System	Output Power Factor	1
	Efficiency	Up to 95% *
	Source share mode	Support main input and battery source sharing
	Parallel	2
Environment	Operating Temperature	0-40°C
	Storage Temperature	-40-70°C
	Relative Humidity	0%-95% (No condensing)
	Operating Altitude	0-1000m. Above 1000m, derating based on EN/IEC 62040-3
Others	Weight	850kg
	H*W*D (mm)	2000*600*1000
	Standards and certifications	Standards: EN/IEC 62040-1, EN/IEC 62040-2, EN/IEC 62040-3, NTT anti seismic, JEM Certifications: CE; CB, etc.
	Communications ports and protocol	Communications ports: Dry contacts, RS485, FE Communications protocol: Web, Modbus and SNMP

Note: * The efficiency of the UPS system is the test result under typical working conditions, and it varies under different working conditions, and is subject to the actual use

The UPS5000 does not support energy feedback loads, such as elevators, medical CT machines, semiconductor cutting machines, and other motor loads that use energy feedback inverters.



Huawei Digital Power

Copyright © Huawei Technologies Co., Ltd. 2024. All rights reserved.

No part of this document may be reproduced or transmitted in any form or by any means without prior written consent of Huawei Technologies Co., Ltd.

General Disclaimer

The information in this document may contain predictive statements including, without limitation, statements regarding the future financial and operating results, future product portfolio, new technology, etc. There are a number of factors that could cause actual results and developments to differ materially from those expressed or implied in the predictive statements. Therefore, such information is provided for reference purpose only and constitutes neither an offer nor an acceptance. Huawei may change the information at any time without notice.

HUAWEI TECHNOLOGIES CO., LTD.

Huawei Industrial Base
Bantian Longgang
Shenzhen 518129, P. R. China
Tel: +86-755-28780808

www.huawei.com