



UPS5000H-400~1600KVA Solution (@100kVA/3U)



Contents

- Introduction of UPS5000H
- Value of UPS5000H with SmartLi
- Sale Scenario
- Q&A

Introduction of UPS5000H

- Product Basics
- Features introduction

SmartLi UPS Family Overview, 20~1600kVA

SmartLi

Patented Controller



Product Model	SmartLi-512V-80AH
Cell type	LFP
Nominal Voltage	512Vdc
Nominal Capacity	80Ah / 40.96kWh
Typical backup time	10 minutes

+

Large UPS: 400~1600KVA

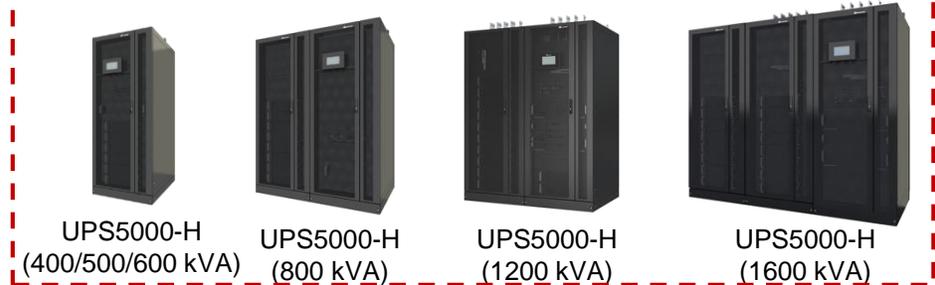
100KVA / 3U



50KVA / 3U



30KVA / 2U

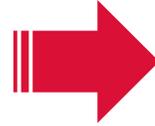


Medium UPS: 30~300KVA



Same Capacity: Width Reduces by 40%

Huawei UPS5000S-1200KVA (Last Generation)



New UPS5000H-1200kVA



UPS5000-H Basic Features and Specifications

Overview



UPS5000-H-400/500/600kVA

800*2000*1000



UPS5000-H-800kVA

1600*2000*1000



UPS5000-H-1200kVA

1600*2200*1000



UPS5000-H-1600kVA

2400*2200*1000

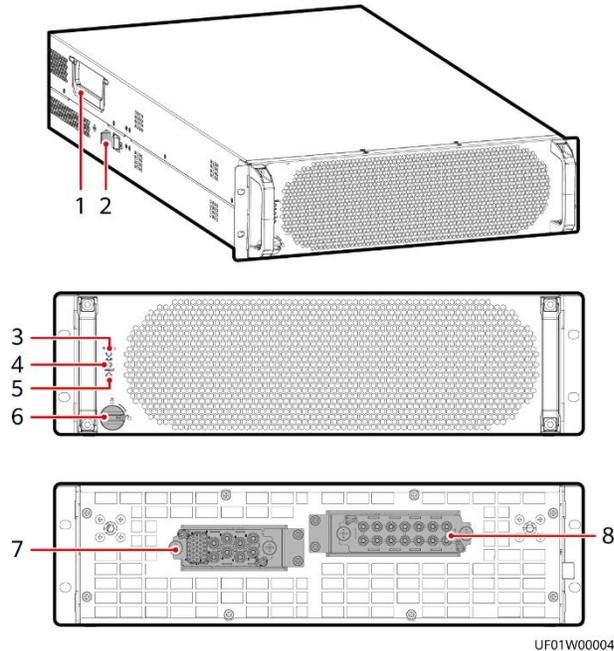
W x H x D (mm)

Technical Data

- Multi-frame choices: 400/500/600, 800, 1200, 1600 kVA
- Output power factor: 1
- Double conversion online UPS
- Transformer-less type
- Full redundancy design, hot swappable power modules, control modules, and bypass modules
- High system efficiency: up to 97%;
- Rated voltage: 380/400/415Vac, 3P/5W
- Rated frequency: 50/60Hz
- Battery voltage:
 - ✓ Lithium-ion battery
 - ✓ Lead acid battery
- Centralized static bypass
- Supports against wall installation (Optional)

UPS5000-H 100 kVA power module specifications

100 kVA power module



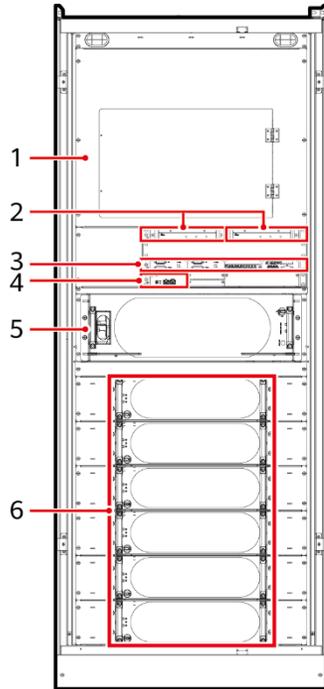
(1) Handler	(2) Limit lock	(3) Normal indicator	(4) Alarm indicator
(5) Fault indicator	(6) Ready switch	(7) Output port	(8) Input port

Power module parameters

- Functional circuit inside: rectifier, inverter, charger
- Rated output capability: 100 kVA/100 kW
- Rated voltage: 380/400/415Vac
- Charger capacity: 15% of module capacity
- Dimensions: 130 mm (H) x 442 mm (W) x 750 mm (D)
- Weight: < 55 kg

UPS5000-H-400/500/600 kVA Appearance

UPS5000-H-400/500/600 kVA view

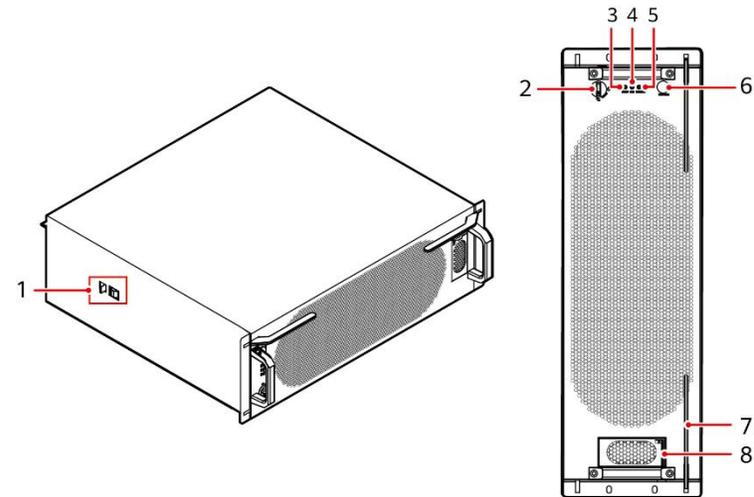


UF02W00002

(1) Cover plate	(2) Surge protection box	(3) Control module
(4) Intelligent detection card	(5) Bypass module	(6) Power module

UPS5000-H-400/500/600 kVA bypass module

3 different bypass modules

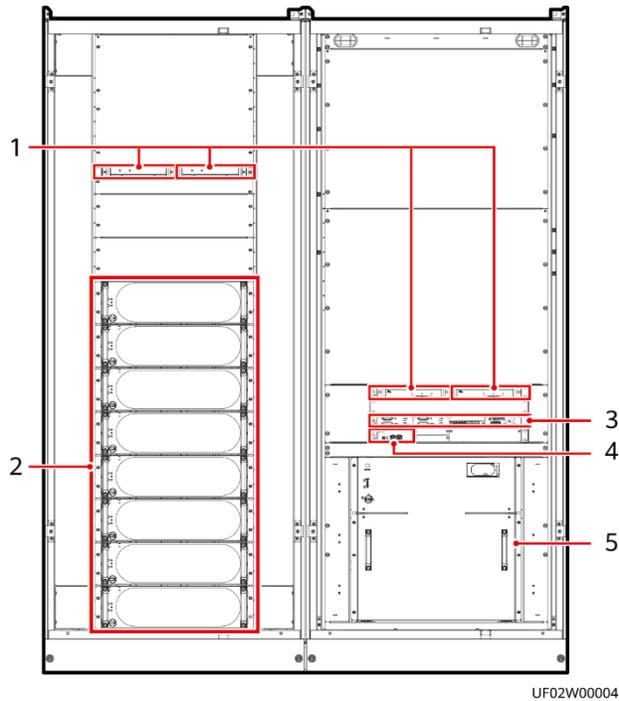


UA13000004

(1) Limit lock	(2) Ready switch	(3) Fault indicator	(4) Alarm indicator
(5) Normal indicator	(6) Battery cold start button	(7) Handler	(8) Auxiliary power supply

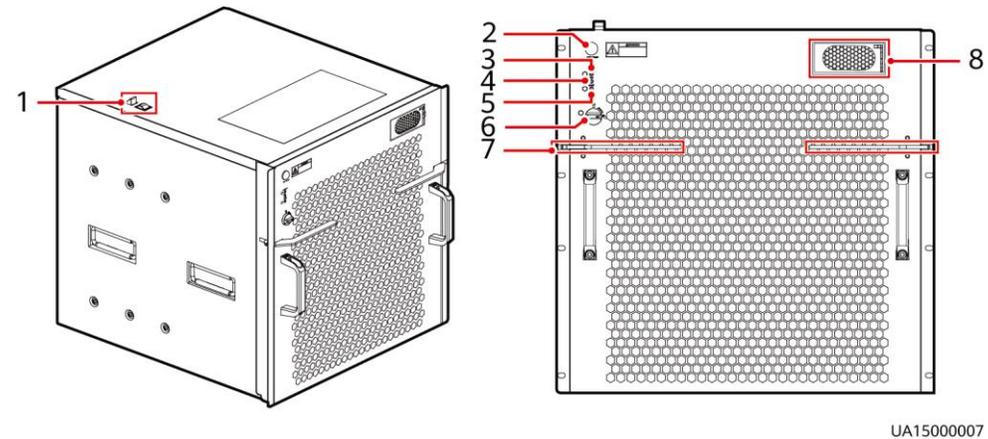
UPS5000-H-800 kVA Appearance

UPS5000-H-800 kVA view



(1) Cover plate	(2) Surge protection box	(3) Control module
(4) Intelligent detection card	(5) Bypass module	(6) Power module

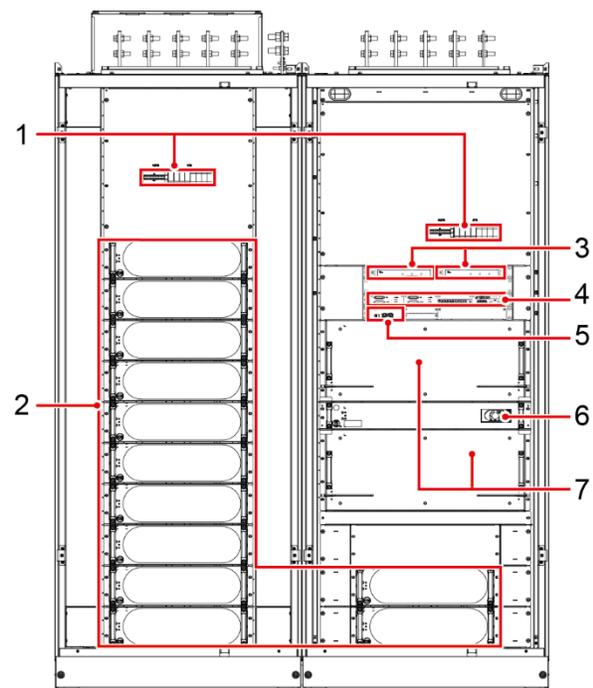
UPS5000-H-800 kVA bypass module



(1) Limit lock	(2) Battery cold start button	(3) Working indicator	(4) Alarm indicator
(5) Fault indicator	(6) Ready switch	(7) Boost wrench	(8) Auxiliary power supply

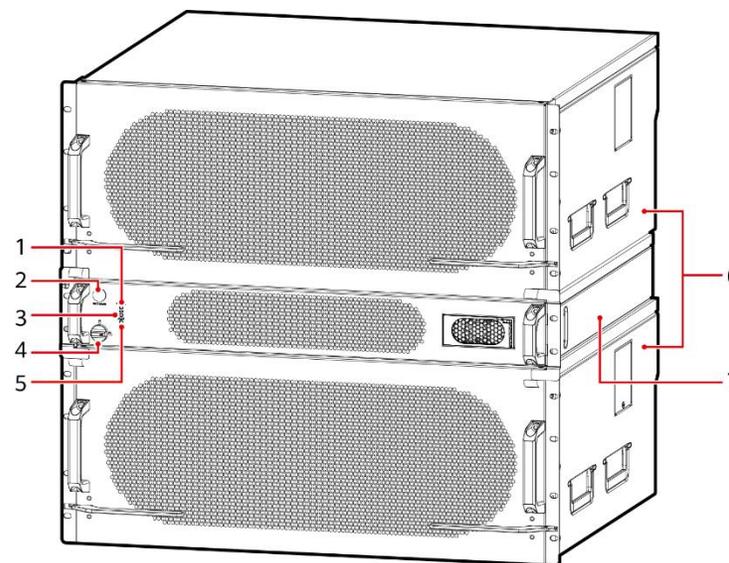
UPS5000-H-1200 kVA Appearance

UPS5000-H-1200 kVA view



UF01W00003

UPS5000-H-1200 kVA bypass module



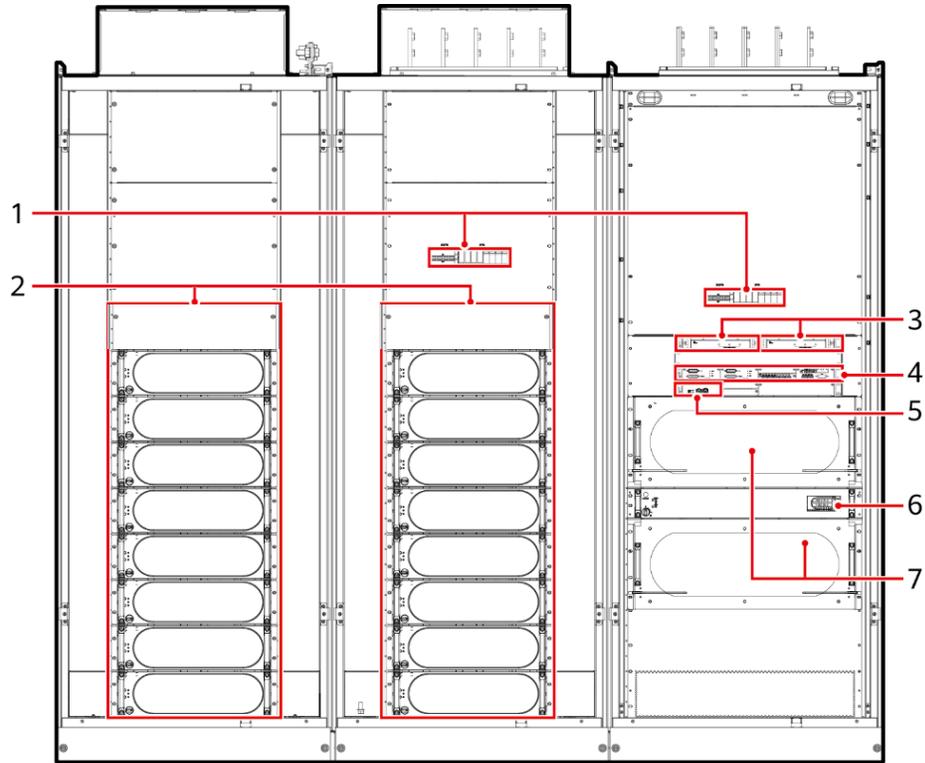
UF01W00001

(1) Surge protector	(2) Power module	(3) Surge protection box	(4) Control module
(5) Intelligent detection card	(6) Bypass control module	(7) Bypass module	

(1) Normal indicator	(2) Battery cold start button	(3) Alarm indicator	(4) Ready switch
(5) Fault indicator	(6) Bypass module	(7) Bypass control module	

UPS5000-H-1600 kVA Appearance

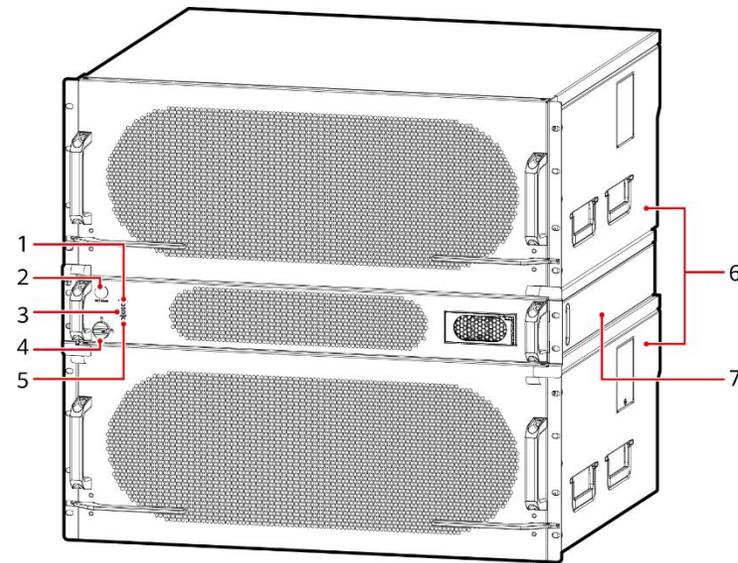
UPS5000-H-1600 kVA view



UF03W00002

(1) Surge protector	(2) Power module	(3) Surge protection box	(4) Control module
(5) Intelligent detection card	(6) Bypass control module	(7) Bypass module	

UPS5000-H-1600 kVA bypass module



UF01W00001

(1) Normal indicator	(2) Battery cold start button	(3) Alarm indicator	(4) Ready switch
(5) Fault indicator	(6) Bypass module	(7) Bypass control module	

Optional Accessories



Functional

Dry contact expansion card

Back feed protection card

Structure

Wall installation

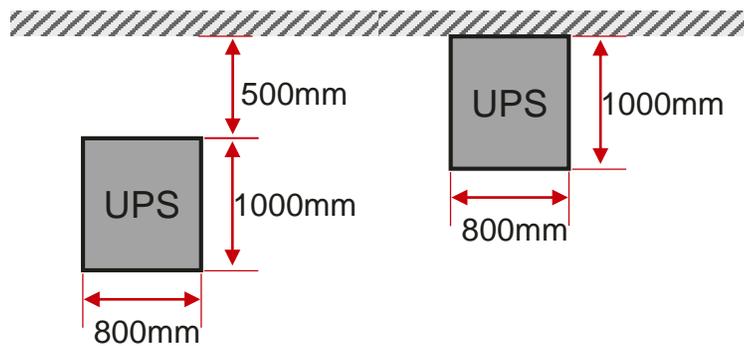
Environment

Ambient temperature and humidity sensor

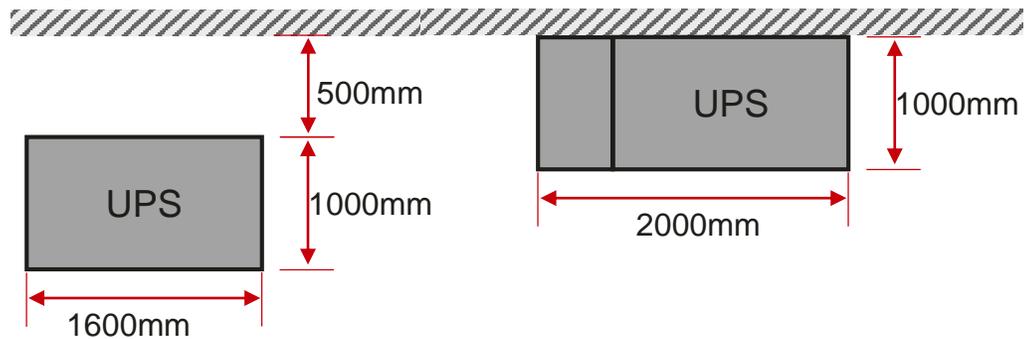
Battery temperature sensor

Compact size and Flexible Layout

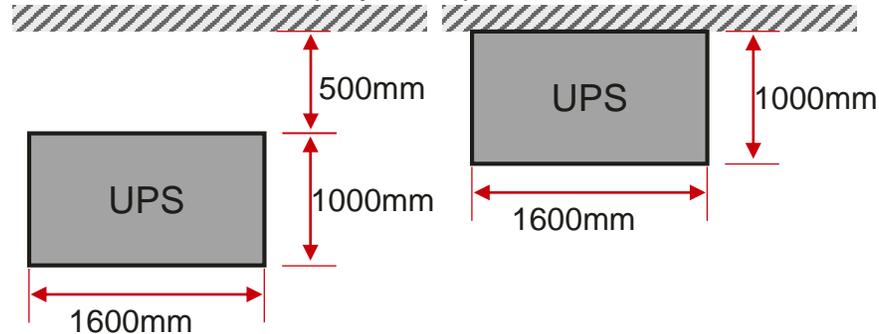
400/500/600kVA (Top view)



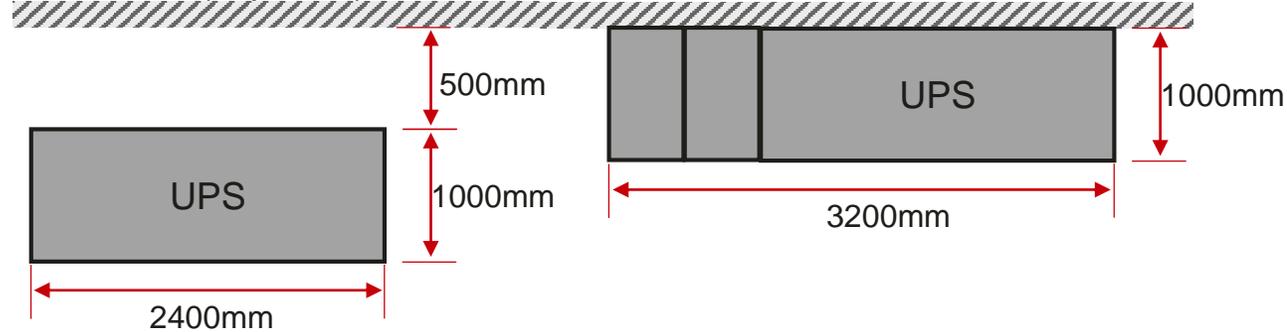
1200kVA (Top view)



800kVA (Top view)



1600kVA (Top view)

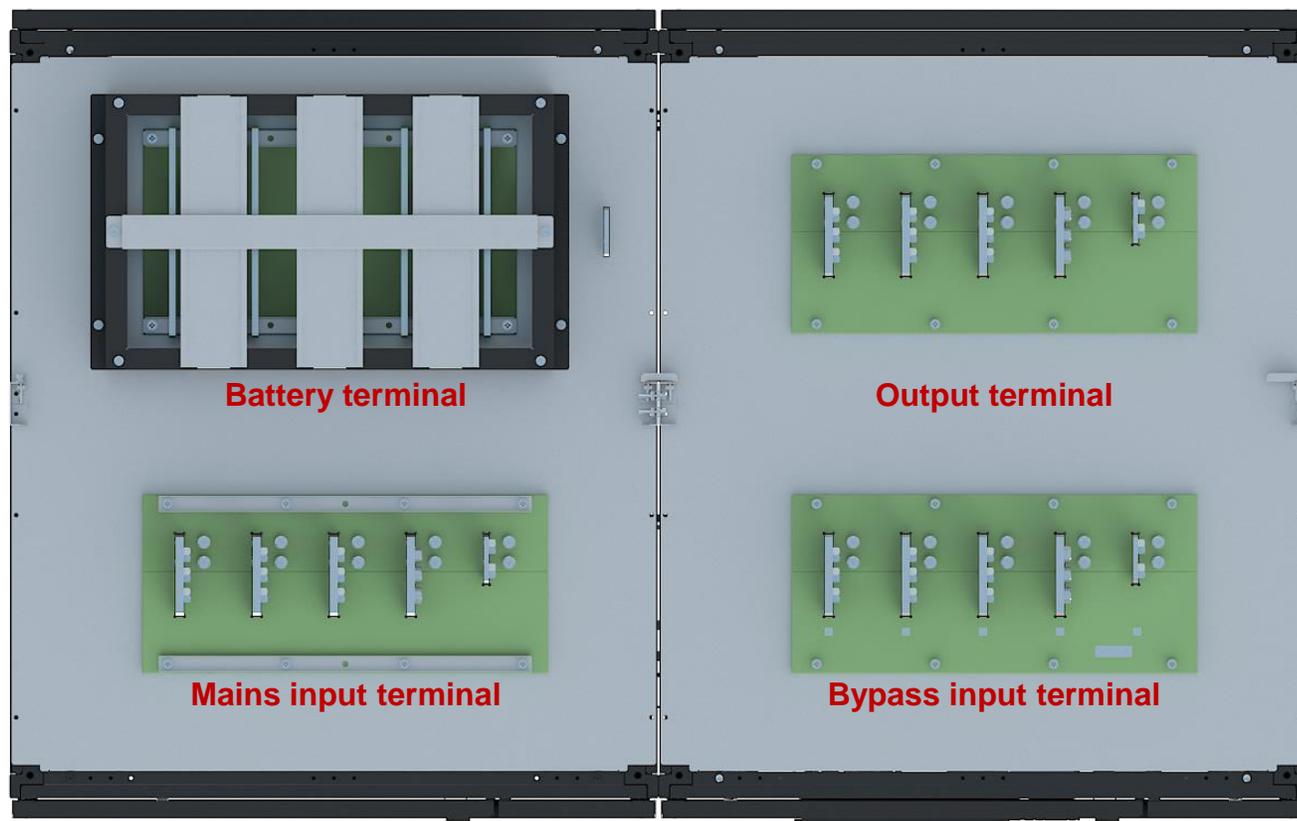


When installed against wall, need to install additional Fan module inside UPS, overall UPS dimension is the same

When installed against wall, need to install additional Fan cabinet next to UPS, overall UPS dimension is increased

Busway or Cable Connections

(Top view)



Input and output connection:

- 400~800KVA: Cable connection
- 1200~1600KVA: Busway connection

Battery connection:

- Cable connection

Mains and bypass input **share source** in standard configuration.
By separating the bus-bar can get **separated source**

Introduction of UPS5000H

- Product Basics
- Features introduction

Key features: Simple, Green, Reliable

Simple

- Hot-swappable modules, online maintenance in 5 minutes
- 1 Rack 1 MW, saving 50% of the footprint

Traditional UPS



Engineer **8h+**

Huawei modular UPS



Worker **5min**

VS

Green

- The system efficiency reaches 97%, high efficiency at low load.

97%

VS

96%

Reliable

- iPower full-link monitoring, transforming passive monitoring to AI prediction and maintenance



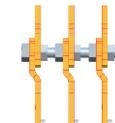
Battery



Capacitor



Fan



Bus bar

- Redundancy design for key components, eliminating single points of failure



Component:
1+1 redundant

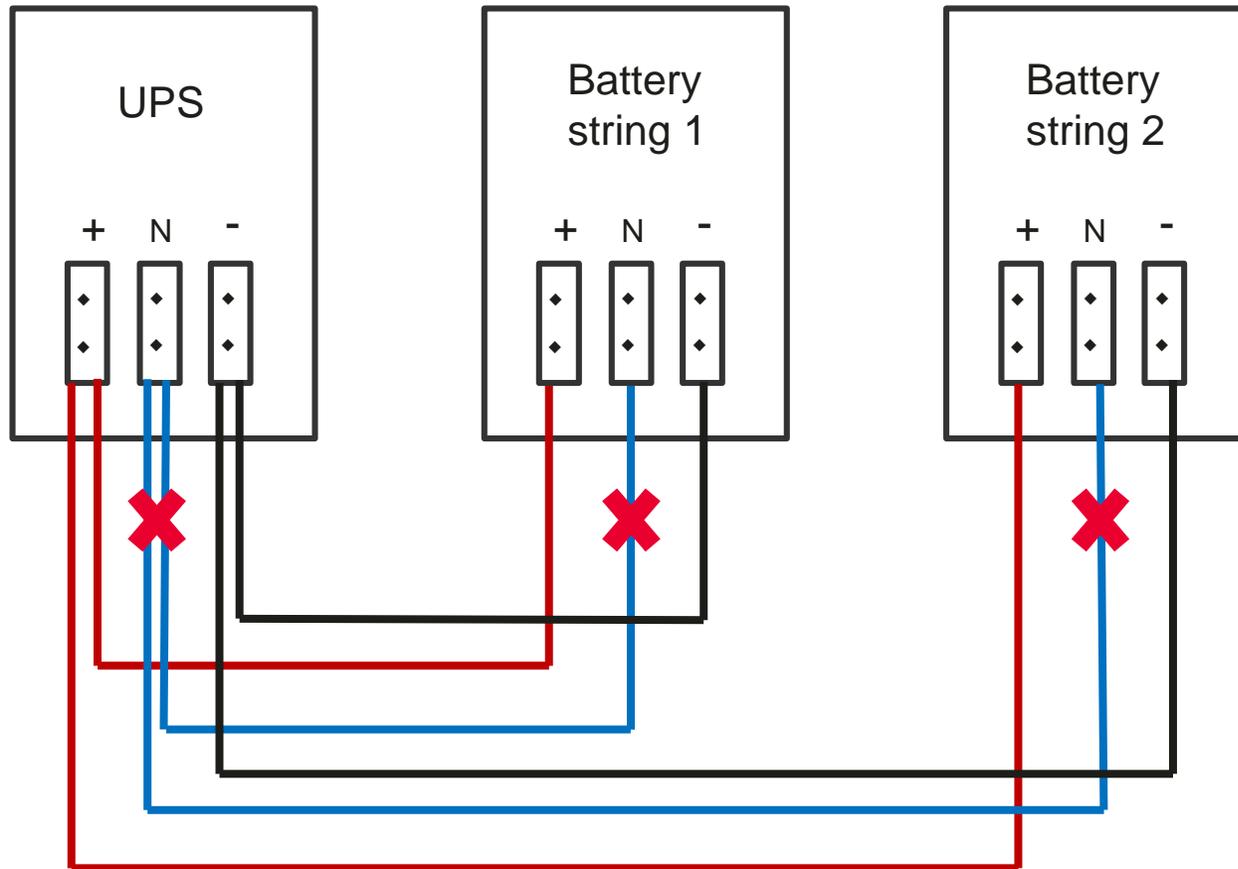


Module: N+X
redundant



System: 2 bus
redundant

No battery neutral cable design reduces each battery's cost by 1400\$



Battery No Neutral Design

- Simple installation, saving installation time
- The number of battery cables is reduced. The cost of battery cable materials is reduced by 1400\$ for each UPS.

1400\$



240mm² cable 2000\$ /100 meters, used in 1200k system, calculated according to battery voltage rating 480V, EOD voltage 400.8V, if N line and positive and negative cable are consistent, it must be 90 °C 7 square wires of 240 square wires are connected in parallel. Assuming the battery is 10m away from the UPS, it costs 1400\$.

Modular hot swap design, online maintenance in 5 minutes

	Tower-mounted UPS maintenance 传统塔式UPS维修	VS	Huawei modular UPS maintenance 华为模块化UPS维修	
Traditional UPS: Engineer 8 hours Maintenance completed				Huawei UPS: Ordinary worker 5 minutes Maintenance completed

Lifter is Available for Easier Module Operation

Robust lifter



High-strength materials

Hydraulic pedal, adjustable at any height

Manual height adjustment, high precise

Overload Protection

Variety

Unit

Variety	Unit	
Rated bearing	Kg	300
Max height	mm	1600
Size	mm	900*700*60

Kg

300

Max height

mm

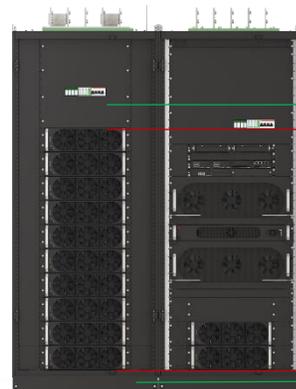
1600

Size

mm

900*700*60

Power module 55kg, easy to move module up & down



Lifter height 1.6m

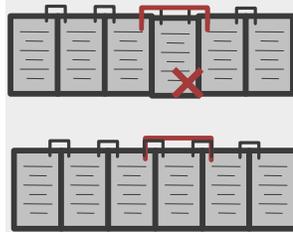
Module Height
1.53m

Safe
Operation

Easy
Maintenance

Flexible Maintenance and Management

Flexible battery configuration



- ✓ **SmartLi:** SmartLi cabinet can continue operation with one module less
- ✓ **Lead acid:** 30~50 blocks adjustable per string

Various communication interface



Built-in cards:

- ✓ SNMP card
- ✓ Modbus card
- ✓ Dry contact card

Color LCD touch screen



7 inch touch screen,
supporting 12 languages

Real time monitoring



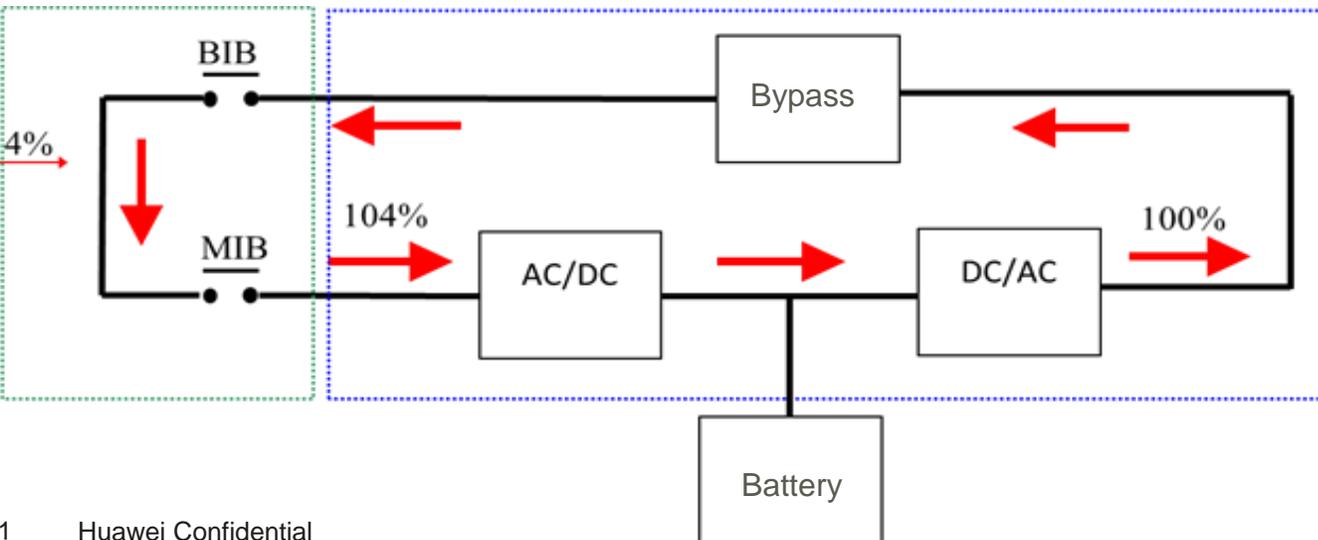
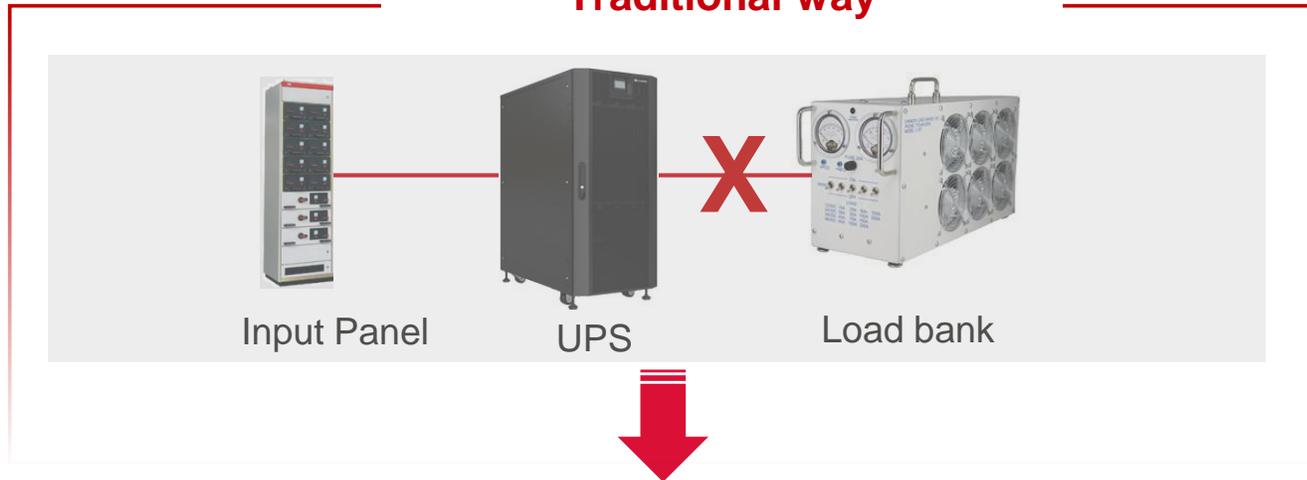
Built in Web monitoring interface



Optional NetEco6000

'Self-load test' Function Enables Money and Time Saving from Maintenance

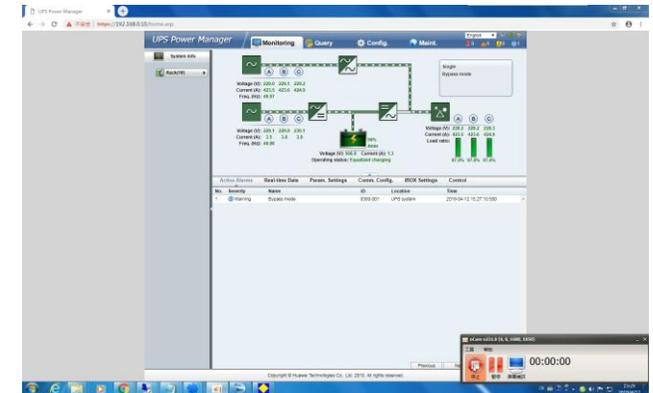
Traditional way



Self-loop setting ratio



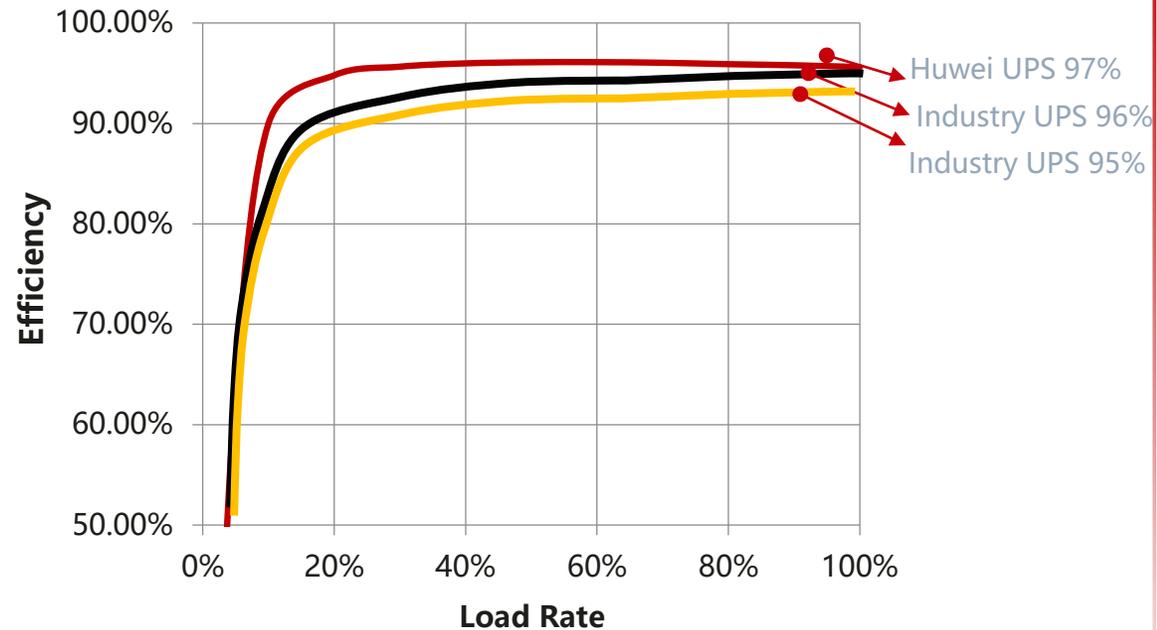
Power consumption decrease



Web monitor display

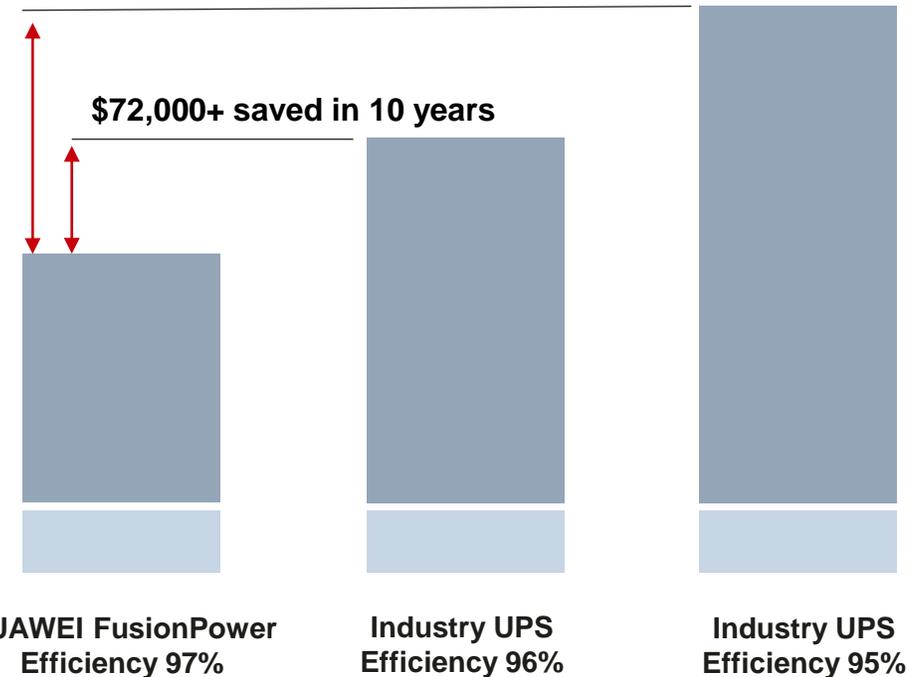
System efficiency up to 97%, Help to Cuts Down Electricity Cost

System efficiency Up to 97%



1.2MW UPS, Opex Comparison

\$144,000+ saved in 10 years



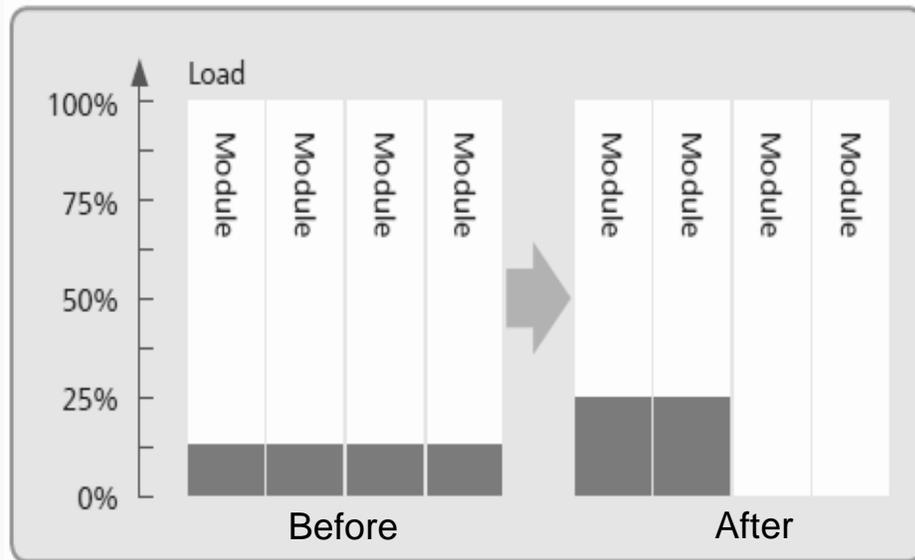
Opex Capex

(load rate 40%, 0.12 USD/kW*h, COP:3, 10 years)

Intelligent Hibernation Improves Efficiency at Low Load

Hibernation function raises load rate

Through hibernation technology, UPS can make some modules into hibernation mode, and still ensure redundancy.



Hibernation mechanism

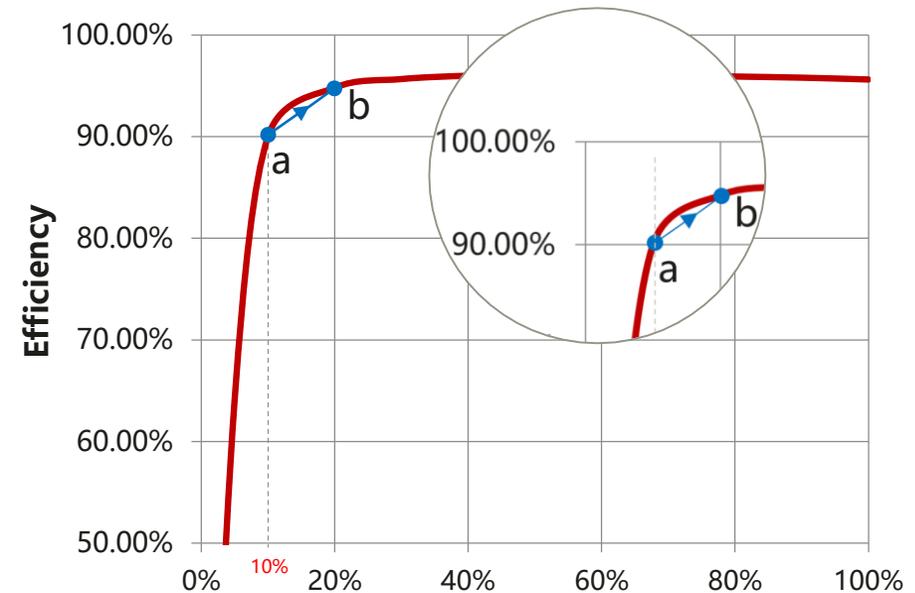
The inverter is partially hibernated, and the **rectifier is continuously online** to implement quick wakeup.

Rotational sabbatical logic

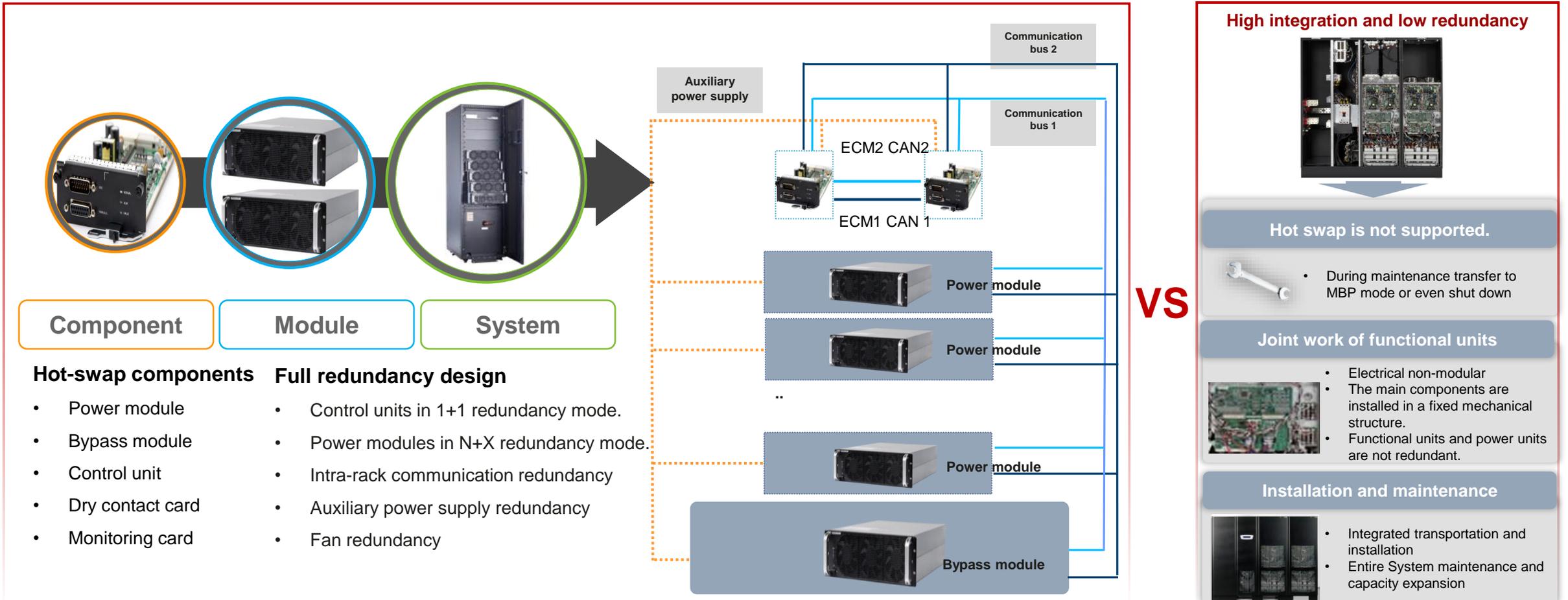
- Unification of Guaranteed Lifespan in Rotational Rest Mode
- The hibernating module is automatically replaced by day.

Efficiency is improved significantly

When load rate increase from 10% to 20%, efficiency is increased by 5%



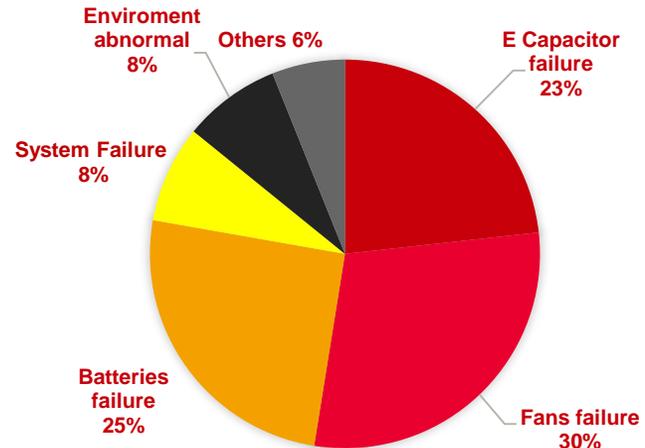
Modular & hot-swappable & redundancy design eliminate single points of failure



Modular design: When any point of failure occurs, the failure module can quickly quit without affecting normal system running.

iPower full-link monitoring, from passive alarms to proactive prediction

Batteries, fans and capacitors are the TOP3 key maintenance objects of power supply system



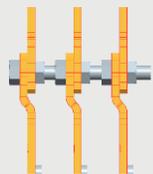
Bus capacitor life prediction

Capacitor capacity is monitored in real time, and the service life is predicted in advance.



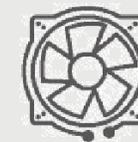
Battery monitoring

SmartLi battery can send real-time battery information to UPS, voltage/current/SOC/SOH



Key node temperature detection

Over temperature alarm and prevent loose connections and high temperature fire.



Fan service life prediction

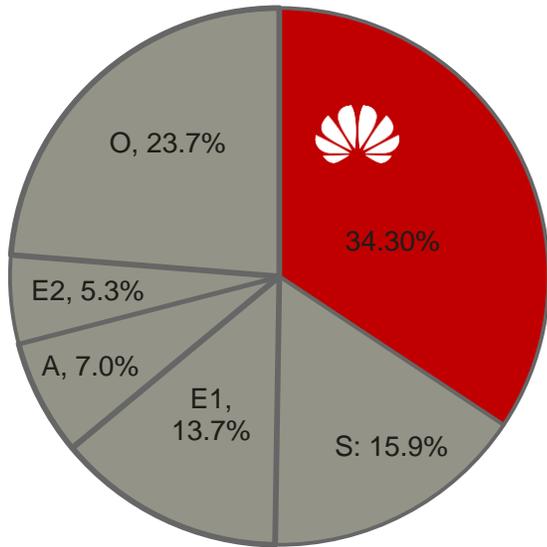
Intelligent detection of fan speed and early warning of faults

1400+ tests, ensuring product reliability from design to production



Modular UPS Market Share Ranks No. 1 Globally

Modular UPS market share (global)
No. 1



■ HUAWEI ■ S ■ E1 ■ A ■ E2 ■ Others

Data source: Frost & Sullivan 2019

DCS 2019: Annual Best Power Supply and
Distribution Innovation Award



DCS 2019: Annual New Design / Build Data
Center Project Award

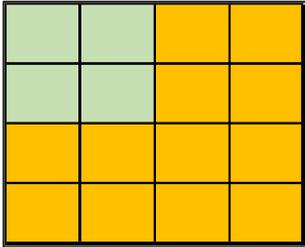


Value of UPS5000H with SmartLi

50%+ Space & Weight Saving, Adapt to Limited Space, Save Floor Reinforcement Cost

Footprint: 1/3

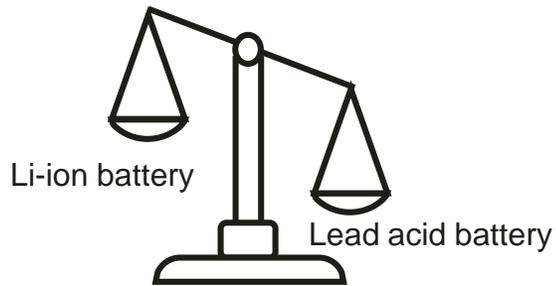
Li-ion battery



Lead acid battery



Weight: 1/3



Typical configurations	UPS with lead acid battery	UPS with SmartLi	Footprint	Weight
200KW, 10 min	<p>Area: 8.64 m² Weight: 3.07 ton</p>	<p>Area : 3.96 m² Weight: 1.15 ton</p>	↓54%	↓62%
600KW, 10 min	<p>18.33 m² 8.82 ton</p>	<p>7.98 m² 3.47 ton</p>	↓56%	↓61%
1200KW, 10 min	<p>27.72 m² 17.87 ton</p>	<p>11.76 m² 7.16 ton</p>	↓58%	↓60%

On-demand Deployment & Expansion of Both UPS & SmartLi

Phased Deployment Solution

Phase 1: 600kW, 10min

Phase 1 UPS: 1.2MW rack + 6 modules

Phase 1 SmartLi: 3 cabinets (including battery modules) + 3 empty cabinets (without battery modules)



Phase 2: 1200kW, 10min.

Add 8 power modules.

Add 48 battery modules

Phased Deployment Demonstration

Phase1 (Blue)

Phase2 (Yellow)

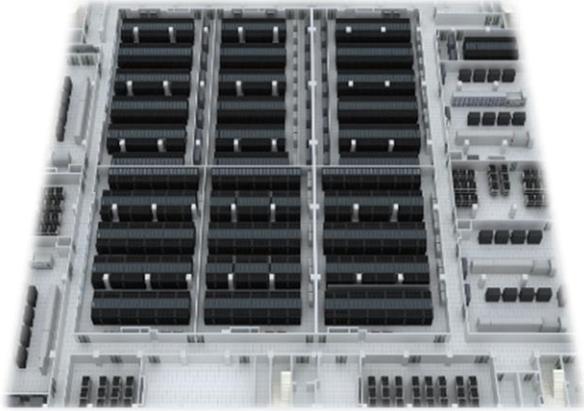


Reduce initial cost and over-investment risk

Sales Scenario

Sales and Launch Strategy: Focus on Large DCs, High-Density, With SmartLi

Colocation DC power supply



Build large scale DC and lease it to other customers to get rental

- New build DC
- Existing DC expansion
- Old UPS system upgrade

Recommended solution:

- ✓ 300~1200KVA UPS + SmartLi

Solution highlights:

- ✓ **Lower TCO**
 - 50% footprint saving, more rack space
 - 10~15 years without battery replacement
 - 97% leading efficiency

Large DC power supply: Government, Enterprise



Headquarter DC or regional DC

- New build DC
- Expansion
- Old UPS system upgrading

Recommended solution:

- ✓ 300~1200KVA UPS + SmartLi

Solution highlights:

- ✓ **High reliability**
 - Modular design, no single point of failure
 - 10~15 years without battery replacement
- ✓ **Flexible expansion**
 - Support old & new modules in parallel, with on-demand deployment & expansion

Q&A

→ To download meeting materials:

<https://partner.huawei.com/university/weben/activities/showPlan.html?actId=e8881eaf077f466a958daa100f9b7bce>

Activity Introduction

Activity Comment

Activity Introduction:

Number of Participants: 300

Activity Organized By: Huawei Technologies Co., Ltd.



LIVE | UPS5000H-400~1600KVA with 100KVA/3U module inside
Presales | (SmartLi supported)

HUAWEI

Leading Energy Digitalization for a Smart and Sustainable World



Green



Reliable



Smart