

# UPS5000-H

(300~1600 kVA) 3P4W

## INTRODUCTION

UPS5000-H is Huawei's medium and large-scale uninterruptible power supply system with advanced 100kVA/3U hot swappable power modules. The system achieves 1 MW, 1 rack, effectively saves footprint and installation time. System efficiency is up to 97%. Intelligent iPower improves system reliability and simplifies operation and maintenance for customers. The S-ECO(Super ECO) mode achieves not only 99.1% efficiency and optimal power quality but also 0ms mode transferring.



Power Module: 100kVA/3U

## APPLICATION SCENARIOS

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

## FEATURES & VALUE

### Simple

- Hot swappable power module, bypass module and control module simplify maintenance and expansion in 5 minutes
- Top bus way prefabricated design, reducing on-site installation time by 60%
- Support global voltage formats

### Green

- 1 MW, 1 rack, saving the footprint by 50%
- Online mode: 97% system efficiency, high efficiency at light-load
- S-ECO mode: 99.1% system efficiency, saving 140,000\$ in lifetime
- S-ECO mode active filtering, optimal power quality

### Smart

- iPower pre-warnings for key components by AI method
- Source share of main and battery achieves intelligent peak shaving, eliminating the reconstruction of grid.

### Reliable

- Redundant architecture eliminates single point of failure
- S-ECO mode: non-interruptible mode transferring.



UPS5000-H-400/500/600kVA



UPS5000-H-800kVA



UPS5000-H-1200kVA



UPS5000-H-1600kVA

## SPECIFICATIONS (200/208/210Vac)

| Model        |                                     | UPS5000-H-300k  |
|--------------|-------------------------------------|---|
| Capacity     | Rack capacity                       | 300kVA  |
|              | Module number                       | 2-6 (100k power module derating to 50kVA)   |
| Mains input  | Input wiring                        | 3PH+N+PE  |
|              | Rated voltage                       | 200/208/210Vac  |
|              | Voltage range                       | 138-260Vac (100% load: 170-260V)  |
|              | Frequency range                     | 40-70Hz   |
|              | Total harmonic distortion           | THDi<3% for 100% linear load  |
| Bypass input | Input wiring                        | 3PH+N+PE  |
|              | Rated voltage                       | 200/208/210Vac  |
|              | Input frequency                     | 50/60±6Hz   |
| Battery      | Rated voltage                       | 180-600Vdc (the number of VRLA can be selected from 15 to 50; 20 batteries rated, no battery neutral, support odd battery number); 512Vdc(Huawei SmartLi)                                     |
|              | Maximum charge capacity and current | Single power module: 15%, 30A   |
|              | Battery category                    | Huawei SmartLi, VRLA  |
|              | Battery sharing                     | Support (VRLA)  |
| Output       | Output wiring                       | 3PH+N+PE  |
|              | Voltage                             | 200/208/210Vac±1%   |
|              | Frequency                           | Tracking the bypass input (normal mode); 50/60hz±0.05% (battery mode)   |
|              | THDv                                | THDv<2% for linear load   |
| System       | Overload capacity                   | 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 |
|              | Output power factor                 | 1   |
|              | Efficiency                          | Up to 94.5%   |
| Environment  | Source share mode                   | Support main input and battery joint operating  |
|              | Parallel                            | 2   |
|              | Operating temperature               | 0-40°C  |
|              | Storage temperature                 | -40-70°C  |
| Others       | Relative humidity                   | 0%-95% (no condensing)  |
|              | Operating altitude                  | 0-2000m. Above 2000m, derating based on EN/IEC 62040-3  |
|              | Weight                              | 800kg   |
| Others       | H*W*D(mm)                           | 2000*800*1000   |
|              | Standards and certifications        | Standards: EN/IEC 62040-1, EN/IEC 62040-2, EN/IEC 62040-3<br>Certifications: CE; CB; RoHS, REACH, WEEE, etc.  |
|              | Communications ports and protocol   | Communications ports: dry contacts, RS485, FE<br>Communications protocol: web, Modbus and SNMP  |

Note: Tier4 or Tier3 levels specified in T1942 are required, that two UPSs form a dual bus or a UPS and utility form dual bus for important systems related to major economy or public safety, such as civil aviation management centers, financial liquidation centers and trading centers, etc.

## SPECIFICATIONS (380/400/415Vac)

| Model        |                                     | UPS5000-H-400/500/600k  | UPS5000-H-800k | UPS5000-H-1200k | UPS5000-H-1600k |
|--------------|-------------------------------------|---|----------------|-----------------|-----------------|
| Capacity     | Rack capacity                       | 400/500/600kVA  | 800kVA         | 1200kVA         | 1600kVA         |
|              | Module number                       | 2-4/2-5/2-6   | 2-8            | 2-12            | 2-16            |
| Mains input  | Input wiring                        | 3PH+N+PE  |                |                 |                 |
|              | Rated voltage                       | 380/400/415Vac  |                |                 |                 |
|              | Voltage range                       | 138-485Vac (100% load: 323-485V)  |                |                 |                 |
|              | Frequency range                     | 40-70Hz   |                |                 |                 |
|              | Total harmonic distortion           | Normal mode: THDi<3% for 100% linear load<br>S-ECO mode: THDi<3% for 100% linear load   |                |                 |                 |
|              | Input power factor                  | Normal mode: 0.99; S-ECO mode: 0.99   |                |                 |                 |
| Bypass input | Input wiring                        | 3PH+N+PE  |                |                 |                 |
|              | Rated voltage                       | 380/400/415Vac  |                |                 |                 |
|              | Input frequency                     | 50/60±6Hz   |                |                 |                 |
| Battery      | Rated voltage                       | 360-600Vdc (the number of VRLA can be selected from 30 to 50; 40 batteries rated, no battery neutral, support odd battery number); 512Vdc(huawei SmartLi)                                     |                |                 |                 |
|              | Maximum charge capacity and current | Single power module: 15%, 30A   |                |                 |                 |
|              | Battery category                    | Huawei SmartLi, VRLA  |                |                 |                 |
|              | Battery sharing                     | Support (VRLA)  |                |                 |                 |
| Output       | Output wiring                       | 3PH+N+PE  |                |                 |                 |
|              | Voltage                             | 380/400/415Vac±1%   |                |                 |                 |
|              | Frequency                           | Tracking the bypass input (normal mode); 50/60hz±0.05% (battery mode)   |                |                 |                 |
|              | THDv                                | THDv<1% for linear load   |                |                 |                 |
|              | Overload capacity                   | 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                          | Normal mode: up to 97%<br>S-ECO mode: up to 99%   |                |                 |                 |
|              | Source share mode                   | Support main input and battery joint operating  |                |                 |                 |
|              | Parallel                            | 6   | 4              | 4               | 2               |
| Environment  | Operating temperature               | 0-40°C  |                |                 |                 |
|              | Storage temperature                 | -40-70°C  |                |                 |                 |
|              | Relative humidity                   | 0%-95% (no condensing)  |                |                 |                 |
|              | Operating altitude                  | 0-2000m. Above 2000m, derating based on EN/IEC 62040-3  |                |                 |                 |
| Others       | Weight                              | 580kg/690kg/800kg   | 1300kg         | 1600kg          | 2300kg          |
|              | H*W*D(mm)                           | 2000*800*1000   | 2000*1600*1000 | 2200*1600*1000  | 2200*2400*1000  |
|              | Standards and certifications        | Standards: EN/IEC 62040-1, EN/IEC 62040-2, EN/IEC 62040-3<br>Certifications: CE; CB; rohs, REACH, WEEE, etc.  |                |                 |                 |
|              | Communications ports and protocol   | Communications ports: dry contacts, RS485, FE<br>Communications protocol: web, Modbus and SNMP  |                |                 |                 |
|              | Mobile surveillance                 | Supports intelligent mobility management  |                |                 |                 |

**Note:** Tier4 or Tier3 levels specified in T1942 are required, that two UPSs form a dual bus or a UPS and utility form dual bus for important systems related to major economy or public safety, such as civil aviation management centers, financial liquidation centers and trading centers, etc.

## SPECIFICATIONS (480Vac)

| Model        |                                     | UPS5000-H-800k  |
|--------------|-------------------------------------|---|
| Capacity     | Rack capacity                       | 800kVA  |
|              | Module number                       | 2-8   |
| Mains input  | Input wiring                        | 3PH+N+PE  |
|              | Rated voltage                       | 480Vac  |
|              | Voltage range                       | 192-528Vac (100% load: 384-528V)  |
|              | Frequency range                     | 40-70Hz   |
|              | Total harmonic distortion           | THDi<3% for 100% linear load  |
|              | Input power factor                  | 0.99  |
| Bypass input | Input wiring                        | 3PH+N+PE  |
|              | Rated voltage                       | 480Vac  |
|              | Input frequency                     | 50/60±6Hz   |
| Battery      | Rated voltage                       | 360-600Vdc (the number of VRLA can be selected from 30 to 50; 40 batteries rated, no battery neutral, support odd battery number); 512Vdc(huawei SmartLi)                                     |
|              | Maximum charge capacity and current | Single power module: 15%, 30A   |
|              | Battery category                    | Huawei SmartLi, VRLA  |
|              | Battery sharing                     | Support (VRLA)  |
| Output       | Output wiring                       | 3PH+N+PE  |
|              | Voltage                             | 480Vac±1%   |
|              | Frequency                           | Tracking the bypass input (normal mode); 50/60hz±0.05% (battery mode)   |
|              | THDv                                | THDv<1% for linear load   |
|              | Overload capacity                   | 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 97%   |
|              | Source share mode                   | Support main input and battery source share   |
|              | Parallel                            | 1   |
| Environment  | Operating temperature               | 0-40°C  |
|              | Storage temperature                 | -40-70°C  |
|              | Relative humidity                   | 0%-95% (no condensing)  |
|              | Operating altitude                  | 0-2000m. Above 2000m, derating based on EN/IEC 62040-3  |
| Others       | Weight                              | 1300kg  |
|              | H*W*D(mm)                           | 2000*1600*1000  |
|              | Standards and certifications        | Standards: EN/IEC 62040-1, EN/IEC 62040-2, EN/IEC 62040-3<br>Certifications: CE; CB; rohs, REACH, WEEE, etc.  |
|              | Communications ports and protocol   | Communications ports: dry contacts, RS485, FE<br>Communications protocol: web, Modbus and SNMP  |

**Note:** Tier4 or Tier3 levels specified in T1942 are required, that two UPSs form a dual bus or a UPS and utility form dual bus for important systems related to major economy or public safety, such as civil aviation management centers, financial liquidation centers and trading centers, etc.

# UPS5000-H

(800~1600 kVA) 3P3W

## INTRODUCTION

UPS5000-H is Huawei's medium and large-scale uninterruptible power supply system with advanced 100kVA/3U hot swappable power modules. The system achieves 1 MW, 1 rack, effectively saves footprint and installation time. System efficiency is up to 96.8%. Intelligent iPower improves system reliability and simplifies operation and maintenance for customers.



Power Module: 100kVA/3U

## APPLICATION SCENARIOS

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

## FEATURES & VALUE

### Simple

- Hot swappable power module, bypass module and control module simplify maintenance and expansion in 5 minutes
- Top bus way prefabricated design, reducing on-site installation time by 60%

### Green

- 1 MW, 1 rack, saving the footprint by 50%
- 96.8% system efficiency, high efficiency at light-load

### Smart

- iPower pre-warnings for key components by AI method
- Source share of main and battery achieves intelligent peak shaving, eliminating the reconstruction of grid.

### Reliable

- Redundant architecture eliminates single point of failure
- 0-40°C wider temperature range.



UPS5000-H-800kVA



UPS5000-H-1200kVA



UPS5000-H-1600kVA

## SPECIFICATIONS

| Model        |                                     | UPS5000-H-800k  | UPS5000-H-1200k | UPS5000-H-1600k |
|--------------|-------------------------------------|---|-----------------|-----------------|
| Capacity     | Rack capacity                       | 800kVA  | 1200kVA         | 1600kVA         |
|              | Module number                       | 2-8   | 2-12            | 2-16            |
| Mains input  | Input wiring                        | 3PH+PE  |                 |                 |
|              | Rated voltage                       | 380/400/415Vac  |                 |                 |
|              | Voltage range                       | 138-485Vac (100% load: 324-485V)  |                 |                 |
|              | Frequency range                     | 40-70Hz   |                 |                 |
|              | Total harmonic distortion           | THDi<3% for 100% linear load  |                 |                 |
| Bypass input | Input wiring                        | 3PH+PE  |                 |                 |
|              | Rated voltage                       | 380/400/415Vac  |                 |                 |
|              | Input frequency                     | 50/60±6Hz   |                 |                 |
| Battery      | Rated voltage                       | 360-600Vdc (the number of VRLA can be selected from 30 to 50; 40 batteries rated, no battery neutral, support odd battery number); 512Vdc(huawei SmartLi)                                     |                 |                 |
|              | Maximum charge capacity and current | Single power module: 15%, 30A   |                 |                 |
|              | Battery category                    | Huawei SmartLi, VRLA  |                 |                 |
|              | Battery sharing                     | Support   |                 |                 |
| Output       | Output wiring                       | 3PH+PE  |                 |                 |
|              | Voltage                             | 380/400/415Vac±1%   |                 |                 |
|              | Frequency                           | Tracking the bypass input (normal mode); 50/60hz±0.05% (battery mode)   |                 |                 |
|              | THDv                                | THDv<1% for linear load   |                 |                 |
| System       | Overload capacity                   | 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 |                 |                 |
|              | Output power factor                 | 1   |                 |                 |
| System       | Efficiency                          | Up to 96.8%   |                 |                 |
|              | Source share mode                   | Support main input and battery source share   |                 |                 |
|              | Parallel                            | 4   | 2               |                 |
| Environment  | Operating temperature               | 0-40°C  |                 |                 |
|              | Storage temperature                 | -40-70°C  |                 |                 |
|              | Relative humidity                   | 0%-95% (no condensing)  |                 |                 |
|              | Operating altitude                  | 0-2000m. Above 2000m, derating based on EN/IEC 62040-3  |                 |                 |
| Others       | Weight(kg)                          | 1850  | 2700            | 3400            |
|              | H*W*D(mm)                           | 2000*2000*1000  | 2200*2200*1000  | 2200*3000*1000  |
|              | Standards and certifications        | Standards: EN/IEC 62040-1, EN/IEC 62040-2, EN/IEC 62040-3<br>Certifications: CE; CB; rohs, REACH, WEEE, etc.  |                 |                 |
|              | Communications ports and protocol   | Communications ports: dry contacts, RS485, FE<br>Communications protocol: web, Modbus and SNMP  |                 |                 |
|              | Mobile surveillance                 | Supports intelligent mobility management  |                 |                 |

**Note:** Tier4 or Tier3 levels specified in T1942 are required, that two UPSs form a dual bus or a UPS and utility form dual bus for important systems related to major economy or public safety, such as civil aviation management centers, financial liquidation centers and trading centers, etc.