

Transformer based UPS

Power range: 10-60kVA
(Low frequency UPS - PF: 0.9)

3 phases input and 3 phases output



Features

Online double conversion

- Online Double Conversion design helps to output a pure sine wave, which is immune from the UPS input, so that the load can run steadily.
- UPS transfers among different working mode without output interruption, thereby powering the load uninterruptedly.

Full DSP control

- Full DSP Control avoids the risks caused by analog devices failure and makes the control system more stable and reliable.

Optimized battery management

- Intelligent battery management system and advanced battery auto float/boost charge technology, reduces the frequency of battery maintenance, greatly improves the battery efficiency and extends battery life.
- Battery discharge time prediction: the system will display the backup time of battery calculated by discharge current and voltage.
- Battery self-test: battery is automatically tested at regular intervals

High power factor

- The output power factor up to 0.9 better matches the load.
- The input power factor 0.98 with filter helps to improve the efficiency, reduce the harmonic pollution to the Grid and lower the UPS running cost.

N+X parallel redundancy

- N+X parallel redundant design, up to 6 units available, makes the configuration more flexible.
- Any unit in parallel system fails, the faulty one will automatically cut off the output, and the load will be powered by the remained units.
- It is easy to configure the parallel system just by connecting the parallel cables and doing proper settings.
- Non-fixed Master-Slave relationship: Among several UPS in parallel, the unit startup first is Master UPS, the others are Slave. The master and slave may be exchanged.

Wide input adaptability

- The range of AC input voltage is (380Va/400Vac/415Vac) (-25%/+20%), minimizing transfer to battery mode, thereby greatly prolonging the battery life.
- Wide input frequency ranging from 45Hz to 65Hz, ensures stability of UPS while generator connected.

Strong overload capability

- 110% / 125% / 150% overload for 60min / 10min / 1min.

Power walk in

- Specially designed power walk in function, in which rectifier of each unit in parallel system will be turned on in sequence at intervals to avoid the sudden load on the generator, thereby reducing the cost of the generator required.

Generator mode

- Set the maximum output power of the generator when a smaller one than needed is employed to extend the battery duration time. In this case, the load is supplied by both the generator and battery.

- Flexible battery configuration ranging from 360-408Vdc/480/600Vdc.

LBS synchronization

- Synchronize the output of the two independent UPS systems (single unit or paraUel) even when the two systems are operating on different modes (bypass/inverter) or on battery.

Multi-protection

- Self-diagnosis function will take place before start-up for safety.
- Multi-protection: AC input under/over voltage, overload, short-circuit, over-current, over bus voltage, over-temperature, fan failure, auxiliary power failure, battery under voltage, battery over-charge and so on.

EPO function

- A concave red EPO button with transparent cover is embodied in the LCD control panel for emergency power off.

User-friendly network management

- English LCD and LED mimic diagram: real time operation parameters and status
- RS232 & RS485 communication ports: for local monitor with corresponding software, and MODBUS protocol is optional.
- SNMP adapter (optional): for remote monitor through network
- Dry contacts for additional monitoring:

- UPS on Inverter
- Mains input failure
- remote EPO
- Battery low voltage alarm
- UPS fault
- UPS alarm1
- UPS on battery
- UPS on bypass

Note: d)--h) optional

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Technical Specifications

Power range: 10-60kVA

MODEL	HD-10K3	HD-20K3	HD-30K3	HD-40K3	HD-60K3
Capacity	10KVA/9KW	20KVA/18KW	30KVA/27KW	40KVA/36KW	60KVA/54KW
Type	Low frequency UPS with isolation transformer				
INPUT					
Operating voltage range	380/400/415Vac (-25% / +20%), (3Ph+N+PE)				
Operating frequency range	50/60Hz (± 5Hz)				
Power factor	>0.97 (with filter)				
OUTPUT					
Rated voltage	380/400/415Vac (± 1%)				
Output frequency	50/60Hz (± 0.05%)				
Power factor	0.9				
Crest factor	3:1				
Harmonic distortion (THDv)	<3% (linear load)				
Efficiency	≥88%	≥89%		≥90%	
BYPASS					
Rated voltage	380/400/415Vac				
Rated frequency	50/60Hz				
Voltage protection range	Upper limit: +20% (+10%,+15%,+20% adjustable) Lower limit: -40% (-10%, -20%, -30%, -40% adjustable)				
Frequency protection range	±10% (±2.5%, ±5%,±10%, ±20% adjustable)				
BATTERY					
Battery voltage	384Vdc (360-384Vdc)				
SYSTEM FEATURES					
Transfer time	0ms (Line mode -Battery mode)				
Overload	Load ≤ 110%: 60min; ≤ 125%: 10mins; ≤ 150%: 1 min to Bypass				
LED display	Input, Inverter, Bypass, Battery, Output, Status				
LCD display	I/O voltage, frequency, power, power factor, battery voltage, current, battery status, load percentage, UPS status, history record				
Communication interface	Dry contact, RS232, RS485, SNMP card (Optional)				
Optional	Harmonic filter, SNMP adapter, LBS cables, battery temperature sensor, Bypass current-sharing inductor				
Parallel connection	Max 6 units (optional)				
ENVIRONMENTAL					
Operating temperature	0°C – 40°C				
Storage temperature	-25°C – 55°C				
Humidity range	0 - 95% (non condensing)				
Altitude	<1500m, derating required when >1500m				
Noise level	<60dB		<65dB		
PHYSICAL					
Dimension W*D*H (mm)	350x550x1050		430x830x1100		720x690x 1600
Net weight (kg)	148	163	230	255	386
STANDARDS					
Safety	IEC/EN62040-1 ;IEC/EN60950-1				
EMC	IEC/EN 62040-2;1EC 61000-2-2;1EC 61000-4-2;1EC 61000-4-3;IEC 61000-4-4; IEC 61000-4-5;1EC 61000-4-6;1EC 61000-4-8;IEC 61000-4-11;				
Performance	IEC 62040-3				

*Specifications subject to change without prior notice.

2022@version