Armor

10KVA ~ 120KVA
PF 0.9 (3 : 3)

Applications

IDC – Internet Data Center
ISP – Internet Service Provider
Industrial / Military energy system
Financial transaction / Clearing center
Medical system , Precision instruments

Highlights

- ☑ **DDC & DSP technology**
- ☑ **High MTBF (> 200,000h)**
- ☑ **Low MTTR (< 0.5h)**
- ☑ **Permissible 100% load unbalance**
- ☑ **High overload capacity**
- ☑ **Superior protection**
- ☑ **N+X redundancy parallel**
- ☑ **Powerful monitoring platform**
- ☑ **Advanced battery management (ABM)**
- ☑ **Built-in output isolation transformer**

Armor series UPS 10 ~ 120KVA is intelligent three-phase online double conversion low frequency UPS with HPWM and full DSP technology, friendly man-machine interface and intelligent monitoring managment, integrating high reliability, security and maintainability to offer strong power guard for all kinds of loads, such as the IT systems, strongly inductive or capacitive loads, induction motors ect.

Features

High reliability

- Intelligent digital control
  - ➢ Use high-speed MCU to achieve real-time control, parameter settings, running program management, self-test and self-detect functions; be able to detect all independent circuit on circuit boards and provides failsafe
  - ➢ Use advanced DDC (Direct Digital Control), DSP (Digital Signal Processor) technology and specific IC to make the product have excellent performance
  - ➢ Use advanced IGBT modules featured with high-speed switch, high voltage and high current, its high efficiency and miniaturized drive circuit improve the overall efficiency and reliability of the product effectively
- Permissible 100% load unbalance
  - ➢ Use three-phase independent modulation and full-bridge inverter technology, provide normal power supply at 100% unbalanced three-phase load
- Built-in output isolation transformer
  - ➢ Standard configuration with output isolation transformer prevents the harm to equipment caused by DC component of UPS output voltage, effectively reduces neutral to earth voltage of output and effectively decreases the direct interference from the harmonic currents of loads to improve the UPS reliability
- Full isolation of input and output avoid risk of DC sneaking into loads
- High overload capability
  - ➢ Load < 105% for long running, 105% ≤ load < 110% for 60 minutes, 110% ≤ load < 125% for 10 minutes
- Extra long MTBF (> 200,000h) and short MTTR (< 0.5h)
- Batteries are directly connected to BUS line, and output has strong impact resistance capacity
- Intelligent self-diagnosing function and superior protections (short-circuit, overload, over-temperature, overvoltage, under-voltage, over-current, battery low voltage and fan failure protections)
- Advanced parallel redundant configuration (up to 6 units) for power system not only greatly improve system reliability, reduce MTTR, but also allows users to multiply capacity and uptime for future expansion by adding additional UPS systems
- ECO mode and EPO (Emergency Power Off) mode

High usability and availability

- Three / three-phase models for 380 / 400 / 415 V, 50 / 60 Hz grid system
- Unique ventilation design, compact whole structure for small footprint
- Similar modular design makes field maintenance quick and easy
- Front access makes maintenance and replacement easy (50 ~ 120KVA)
- Abundant historical log (10000 records) available for future check
- Flexible and optimized battery number design (28 ~ 32pcs optional)
- Strong compatibility, suitable for all kinds of loads (resistive, inductive, capacitive and non-linear loads)
- 5.7 inches LCD touch screen with friendly human-machine interface, supports touch screen and multi-functional button operation
- Battery cold start and mains power start are available. In the absence of mains power, battery cold start function allows users to start the UPS with the batteries to meet the emergency, and in the absence of batteries, users can start the UPS with the utility power and use it as high-precision regulated power supply

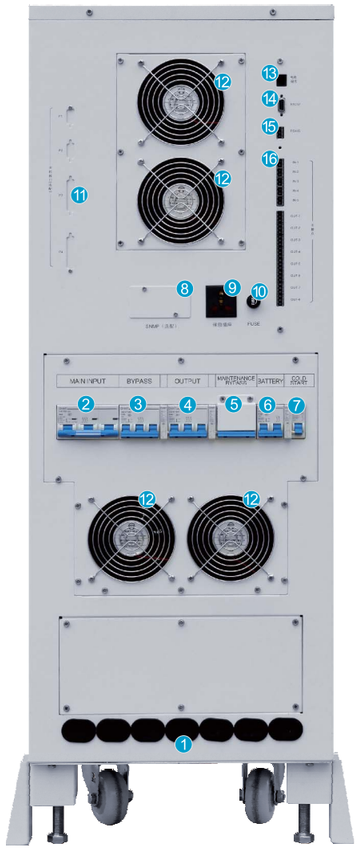
High intelligence

- Powerful network monitoring management with multi-platform communications: standard RS232 / RS485 / dry contacts, optional SNMP communication interfaces are used for monitoring UPS running status
- Advanced intelligent battery management (ABM)
- Use integrated design of rectifier / charger, set up parameters on interface according to the configured battery capacity and automatically adjust the charging current by software, meanwhile enable to set the time of battery self-test and charge / discharge interval according to the grid security situation to extend the lifetime of the battery

Available Options

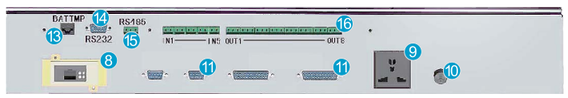
Communication Ports
SNMP card
Software
UPSmart / iStars
Others
Parallel kits
Input isolation transformer
Bypass isolation transformer
Harmonic suppressor

Details



10 – 40KVA Rear panel

1. Terminal
2. Main Input Breaker
3. Bypass Input Breaker
4. Output Breaker
5. Maintenance Bypass Breaker
6. Battery Breaker
7. Cold Start Breaker
8. SNMP (Optional)
9. Maintenance Socket
10. FUSE
11. Parallel Port
12. Fan
13. Battery Temperature Compensation
14. RS232
15. RS485
16. Dry Contact



60 – 120KVA Communication interface

Technical specifications

MODEL	ARM 10	ARM 15	ARM 20	ARM 30	ARM 40	ARM 60	ARM 80	ARM 100	ARM 120
Capacity	10 KVA 9 KW	15 KVA 13.5 KW	20 KVA 18 KW	30 KVA 27 KW	40 KVA 36 KW	60 KVA 54 KW	80 KVA 72 KW	100 KVA 90 KW	120 KVA 108 KW
INPUT									
Rated voltage	380 V / 400 V / 415 Vac								
Voltage range	± 25%								
Rated frequency	50 / 60 Hz								
Frequency range	50 / 60 Hz ± 5 Hz								
Power factor	⩾ 0.95 (with filter)								
Bypass voltage range	± 20% (settable)								
Delayed start of rectifier	1 ~ 300 s (settable via display panel)								
ECO voltage range	± 10% (settable)								
OUTPUT									
Voltage	380 V / 400 V / 415 Vac								
Voltage regulation	± 1%								
Frequency	Battery mode: 50 / 60 Hz ± 0.1%; Mains mode: synchronized with utility; Frequency conversion mode: 50 Hz input and 60 Hz output or 60 Hz input and 50 Hz output								
Waveform	Sinusoidal								
Power factor	0.9								
Crest factor	3:1								
Total harmonic distortion(THDV)	⩽ 2% (linear load); ⩽ 5% (non-linear load)								
Transfer time	AC mode to battery mode: 0 ms Inverter mode to bypass mode: 0 ms Inverter mode to ECO mode: 5 ~ 10 ms								
Inverter overload capability	105%: long time running; 105% ~ 110%: transfer to bypass in 1 h 110% ~ 125%: transfer to bypass in 10 mins 125% ~ 150%: transfer to bypass in 1 min 150% ~ 200%: transfer to bypass in 200 ms > 200%: transfer to bypass in 100 ms								
Slight adjustment of inverter output voltage	± 5 V								
BATTERIES									
DC Voltage	12 V × configured battery number (settable via display panel)								
Number of battery	28 ~ 32 pcs (settable)								
Charging current	10 A default / Settable								
Charging	Three-stage charging, auto switch floating / equalizing charge								
Battery state display	Display battery backup time, battery remaining capacity								
Battery self-test	Settable periodic self-test; manually configurable test time and voltage								
SYSTEM									
Efficiency	In line mode: Max. 93%; ECO mode: ⩾ 98%								
Max. Parallel numbers	6								
Protections	Overload, short circuit, over/under-voltage, battery overcharge/over-discharge, over-temperature, fan failure								
IP rating	IP 20								
EMI	EN62040-2								
EMS	IEC61000-4-2 (ESD) / IEC61000-4-3 (RS) / IEC61000-4-4 (EFT) / IEC61000-4-5 (surge)								
COMMUNICATIONS									
RS232 / RS485 / dry contacts (standard)	Supports Windows® 98 / 2000 / 2003 / XP / Vista / 2008 / 7 / 8 / 10								
SNMP (optional)	Power management from SNMP manager and web browser								
OTHERS									
Humidity	0 ~ 95% RH @ 0 ~ 40℃ (non-condensing)								
Noise level	55 dB					60 dB	65 dB		
Dimensions (W × D × H) (mm)	400 × 800 × 1100					600 × 700 × 1500	700 × 800 × 1700		
Packaged dimensions (W × D × H) (mm)	490 × 890 × 1170					690 × 790 × 1570	790 × 890 × 1770		
Net / Gross weight (kg)	158 / 200	165 / 207	175 / 217	210 / 252	260 / 302	460 / 480	590 / 620	630 / 660	690 / 720

* All specifications subject to change without notice.