



**Renewable
Energy & Drives**

Low-Voltage UPS

A compact safeguard against power loss and voltage instability.



Low-Voltage Uninterruptible Power Supply

Our Low-Voltage UPS solution represents a new generation of high-end modular UPS systems with three inputs and three outputs. The modular UPS is a scalable three-phase system with DSP technology, providing true on-line double conversion power protection. The 50kW module's power and redundancy can expand vertically from 50 to 600kVA/600kW in a single cabinet, and up to four cabinets can operate in parallel, reaching 2.4MW. The 100kW module's power and redundancy can expand from 400 to 1200 kVA/kW in one cabinet, with four cabinets in parallel increasing capacity to 4.8MW. This series uses dual-DSP fully digital control and components from leading global brands, enhancing performance, reliability, power density, and miniaturization. The modular design allows hot-swappable operation of all modules (power, bypass, and control), delivering high reliability, efficiency, and ease of management and maintenance.

Key Highlights

High power factor 1.0

High efficiency 96%

High adaptability

Power flexibility

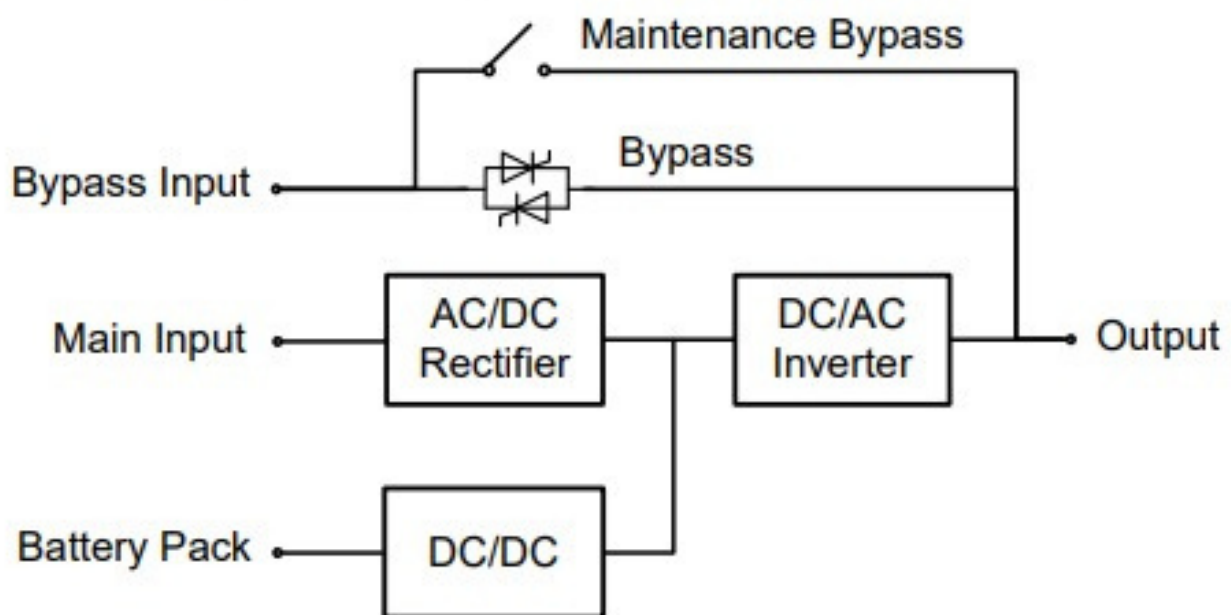
**Modular hot-swappable
& Scalability**

High MTBF and low MTTR



System Architecture Overview

The system employs an online double-conversion topology with full DSP digital control to ensure continuous, clean, and stable power for critical loads. As illustrated in the functional block diagram below, the UPS integrates an AC/DC rectifier, a DC/DC converter for the battery pack, and a DC/AC inverter for output power delivery. The bypass and maintenance bypass circuits provide alternative power paths during overload or maintenance conditions, ensuring uninterrupted operation and maximizing system availability.





The key advantages of our LV-UPS solution include...

01

High Reliability

- Advanced dual-DSP digital control ensures precise rectifier and inverter operation.
- Intelligent fan speed adjustment responds to temperature, reducing noise and extending service life.
- If one fan fails, the load remains at 50%; if two fail, 30% load is maintained — ensuring strong fault tolerance.
- A three-proof paint immersion process allows long-term operation in harsh environments.
- Comprehensive hardware/software protection, powerful self-diagnostics, and extensive history logging enhance system dependability.
- Advanced digital parallel technology provides higher reliability than stand-alone systems.





02

High Availability

- Wide input voltage range and self-adaptive 50/60 Hz grid compatibility ensure reliable operation across diverse power environments.
- Linear derating at low input voltage minimizes battery discharge frequency, extending battery service life.
- Supports 30-46 battery cells, allowing flexible configuration and optimized investment.
- Compatible with both lead-acid and lithium iron phosphate batteries to meet varied system requirements.
- Can start directly from the battery when mains power is unavailable, ensuring emergency readiness.
- Configurable reset delay minimizes impact on the power grid or generator during restart.
- Supports frequency conversion between 50 Hz and 60 Hz for versatile applications.
- Includes a standard maintenance bypass switch for safe and convenient servicing.



03

High Usability

- 7-inch large touch color screen display, friendly human-machine interface
 - Powerful background software for various parameter settings, online upgrade program and other operations
 - Compact internal layout reduces footprint, with a 300kVA system occupying only 0.5m²
 - All modules support hot-swap operation
 - The power distribution unit is integrated inside the cabinet, easy to install and saves the user's investment
 - Self-aging function, convenient for on-site debugging and testing
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04

High Intelligence

- Support RS485, RS485/CAN (BMS), NET (with SNMP function), dry contact, WIFI card and 4G card and other communication interfaces to monitor the operation status of the UPS, configure WIFI card or 4G card to monitor the UPS in real time
- Intelligent battery management, float charge voltage temperature compensation technology, automatic equal or float charge control, charger sleep control, can improve the reliability of the charger and extend battery life
- Intelligent dormancy design ensures efficient operation of the UPS system at low load rates



05

High Efficiency

- With active power factor correction (PFC) technology, the input power factor is up to 0.99
 - On-line efficiency is increased to 96%, saving energy and reducing operating costs
 - Under good grid conditions, its working efficiency is up to 99% with ECO mode on
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06

Options

- Standard RS485, RS485/CAN (BMS), NET (with SNMP function), input and output dry contacts and EPO
- Optional parallel unit component, LBS component, WIFI card, 4G card, battery temperature sensor, EMD environment detector.
- Outdoor rated containerized solution.



Specifications

MODEL	EA66200	EA66300	EA66400	EA66500	EA66600
Rated capacity	200kVA/200kW	300kVA/300kW	400kVA/400kW	500kVA/500kW	600kVA/600kW
Numbers of power modules	4	6	8	10	12
Rated capacity of power module	50kVA/50kW				
INPUT					
Input wiring	3 Ph + N + PE				
Rated voltage	480/ 440Vac				
Voltage range	384~528Vac (no derating); 288~384Vac (linear derating between 60%~100% load)				
Input frequency range	40~70Hz				
Power factor	≥0.99				
Current distortion	≤3%				
Bypass input voltage range	-60%~+10%(settable)				
Battery voltage	±240Vdc (±180~±276Vdc settable), 40 pcs 12V batteries (even number 30~46 pcs settable)				
OUTPUT					
Output wiring	3 Ph + N + PE				
Rated voltage	480/ 440Vac				
Output voltage stabilized voltage precision	±1%				
Frequency accuracy	Mains mode: tracking bypass input in synchronous state Battery mode: 50Hz/60Hz±0.1%				
Power factor	1				
Voltage distortion	≤1% (resistive load); ≤3% (non-resistive load)				
Crest factor	3:1				
Inverter overload capacity	105%<load≤110%, transfer to bypass in 60 mins 110%<load≤125%, transfer to bypass in 10 mins 125%<load≤150%, transfer to bypass in 1 min Load>150%, transfer to bypass in 200 ms				
Bypass overload capacity	Load ≤125% for long term; >200% load for 100 ms				
SYSTEM					
Efficiency	Online mode: 96%, ECO mode: 99%				
Max. number of parallel connections	4 units				
Switching time	0 ms				
Protections	Output short-circuit protection, output overload protection, over-temperature protection, battery low voltage protection, output over/under voltage protection, fan failure protection etc.				
Communication interface	Standard: RS485, RS485/CAN(BMS), NET(with SNMP function), input/output dry contacts, EPO; Optional: parallel kits, LBS components, Wifi card, 4G card, battery temprature sensor, EMD environment detector				
Display	7 inches LCD touch screen				
ENVIRONMENT					
Operating temperature	0~40℃				
Storage temperature	-25℃ ~55℃(without battery)				
Relative humidity	0 ~ 95%(non-condensing)				
Altitude	≤1000 m, above 1000 m, derating 1% for each additional 100 m				
Protection level	IP20				
Noise at 1m	≤65dB		≤68dB		
OTHERS					
Cabinet dimensions (WxDxH)(mm)	600×850×2000		1200×850×2000		1400×850×2000
Module dimensions (WxDxH)(mm)	440×620×130				
Cabinet net weight (kg)	230	240	410	450	600
Module net weight (kg)	32				
Color	Black				





Power Module



Bypass Module



Control Module



Contact Us

Powering your mission with confidence

Thank you for taking the time to explore our Low-Voltage UPS solution. If you'd like specifications, quotations, or technical support tailored to your project, we're here to help.

Get In Touch



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Let's Work Together

Whether you're planning a new installation or upgrading an existing system, one message is all it takes to get started.



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