



RELIABILITY Power Systems

REL4000 50 ~ 600KVA

True Online Dual Conversion Modular UPS System

www.reliability-power.com

REL4000

50 kVA ~ 600 kVA

PF 1.0



Highlights

- High power factor 1.0
- High efficiency 96.5%
- High adaptability
- Power flexibility from 50 - 600 kW
- Modular hot-swappable & Scalability
- High MTBF and low MTTR

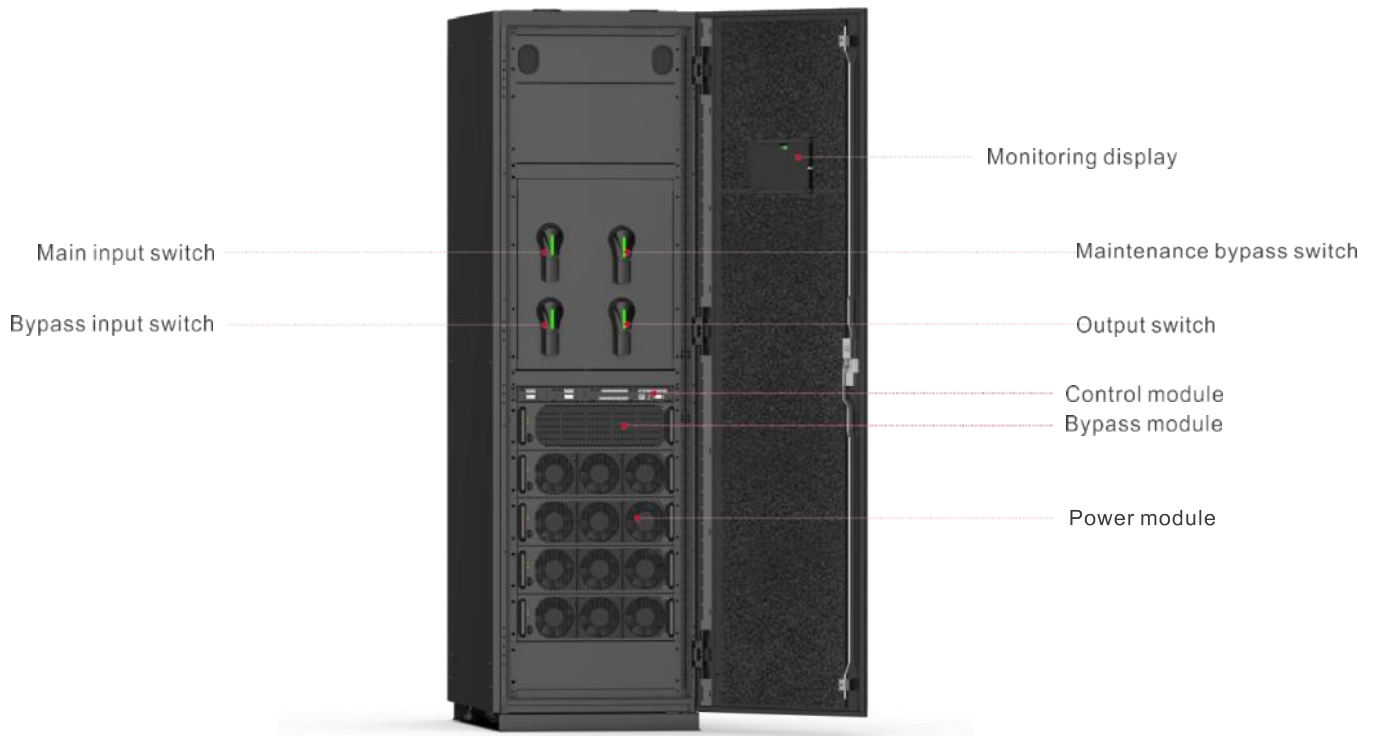
RELIABILITY REL4400 modular UPS is ideal for reliable, saving, intelligent and easy solutions. It ensures that a scalable, secure, high quality power supply is available for any critical high-density computer and IT environment applications, such as data centers and other critical loads.

REL4400 modular UPS is a scalable three-phase / three-phase uninterruptible power supply system with DSP technology and provides true on-line double conversion power protection. The available UPS power and redundancy level can expand vertically from 50 to 600 kVA / 600 kW in one single power cabinet, and four power cabinets can be connected in parallel, increasing the capacity up to 2.4 M kW. It features modular hot-swappable design, all modules support "plug & play", including power modules, bypass module, and control module, simplifies UPS servicing and maintenance

Features

- DSP digital control technology
- Flexible modularity and easy scalability with all hot-swappable module design
- High efficiency at low load rate: 96% at 40% rated load and 95% at 20% rated load
- High power density of 50 kVA / 3U power module
- High grid adaptability, strong load adaptability and strong overload capability
- Small footprint (500 kVA system only 1.02 m footprint)
- Inbuilt integrated PDU system, easy installation and saving investment
- Input power factor > 0.99, THDi < 3%, environment friendly and high-efficiency and energy-saving
- Soft-start technology improves generator matching up to 1:1.1
- Support two modes of frequency conversion: 50 Hz input / 60 Hz output and 60 Hz input / 50 Hz output
- Intelligent hibernation design enables UPS to operate efficiently at low load rate
- Advanced parallel expansion technology, support 4 units in parallel
- Share battery pack in parallel operation, saving user's battery cost
- Flexible charger parameter and battery configuration setting, numbers of battery 30 ~ 46 pcsselectable
- Intelligent battery management (Intelligent charge/discharge management and float charging voltage temperature compensation), extending battery lifespan
- Support battery cold start and utility self boot
- Self-aging function, easy debugging and test on site
- Fault-tolerant design for fan system: 30% load can be driven when 2 fans fail and 50% load when 1 fanfails
- Front accessible maintenance, top/bottom cable entry compatible
- Complete hardware and software protection function, robust self-diagnostic function, and abundantevent log for check
- 7 inches LCD touch screen, friendly human-machine interface
- Monitoring unit with built-in SNMP, supports RS485 and dry contacts





Power Module



Bypass Module



Control Module



- | | | | | | |
|-----------------------|-----------------|--|-----------------|----------------------------------|---|
| ① Parallel port | ② LED indicator | ③ DRY_IN | ④ DRY_OUT | ⑤ BTG port | ⑥ BCB port |
| ⑦ BCB tripping signal | ⑧ EPO port | ⑨ Switch state port of power distribut cabinet | ⑩ SPD port | ⑪ Environmental temperature port | ⑫ Battery temperature compensation port |
| ⑬ CAN port | ⑭ RS485 port 1 | ⑮ RS485 port 2 | ⑯ Ethernet port | ⑰ USB port | ⑱ LCD screen port |

Specifications

MODEL		REL4400			
Rated capacity	200 kVA/200 kW	300 kVA/300 kW	400 kVA/400 kW	500 kVA/500 kW	600 kVA/600 kW
Numbers of power modules	4	6	8	10	12
Rated capacity of power module	50 kVA				
INPUT					
Input wiring	3 Ph + N + PE				
Rated voltage	380 / 400 / 415 Vac				
Voltage range	138 ~ 485 Vac (305 ~ 485 Vac without power downgrading; 138 ~ 305 Vac with linear downgrading 40%)				
Input frequency	40 ~ 70 Hz				
Power factor	≥ 0.99				
Current distortion	< 3%				
BATTERIES					
Battery voltage	± 240 Vdc (±180, ± 192, ± 204, ± 216, ± 228, ± 252, ± 264, ± 276 selectable)				
Number of battery	40 pcs 12 V batteries (30 / 32 / 34 / 36 / 38 / 42 / 44 / 46 pcs selectable)				
OUTPUT					
Output wiring	3 Ph + N + PE				
Rated voltage	380 / 400 / 415 Vac ±1%				
Frequency	Synchronized with utility in mains power mode: 50 Hz / 60 Hz ± 0.25% in battery mode				
Power factor	1				
Voltage distortion	≤ 1% with linear load / ≤ 3 % with non-linear load				
Crest factor	3:1				
Inverter overload capacity	105% < load ≤ 110%: transfer to bypass in 60 min 110% < load ≤ 125%: transfer to bypass in 10 min 125% < load ≤ 150%: transfer to bypass in 1 min Load > 150%: transfer to bypass in 200 ms				
Bypass overload capacity	Load ≤135% for long term; < 1000% load for 100 ms				
SYSTEM					
Efficiency	96.5 %				
Max. number of parallel connections	4 units				
Transfer time	0 ms				
Protections	Short circuit protection, overload protection, over-temperature protection, battery low voltage protection, output over/low voltage protection, fans failure protection etc.				
Communications	RS485, dry contacts, SNMP				
Display	7 inches LCD touch screen				
OTHERS					
Operating temperature	0 ~ 40°C				
Storage temperature	-40°C ~ +70°C				
Humidity	0 ~ 95% (non-condensing)				
Altitude	≤ 1000 m. Above 1000 m, derating 1% for each additional 100 m				
Protection level	IP 20				
Noise level at 1 m	< 65 dB		< 68 dB		
Cabinet dimensions (W × D × H) (mm)	600 × 850 × 2000		1200 × 850 × 2000		1400 × 850 × 2000
UPS module dimensions (W × D × H) (mm)	440 × 620 × 130				
Cabinet weight (kg)	233	242	415	465	617
Power module weight (kg)	32				

● All specifications subject to change without notice.

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