

FR-UK33-GEL Series

| 10~200kVA |



Specialized in industry, reliable UPS solution

10-200 kVA

FR-UK GEL Series

Key features

- IGBT Rectifier technology, Input PF > 0.99
- Three-Level inverter, efficiency > 94%
- Output isolation transformer
- Battery feed discharge test function
- Capacitor health status detection function
- Fan health status detection function
- Unique building block sharing shared battery pack function
- Maximum number of batteries ranges from 16-40pcs
- Compatible with lithium batteries, flywheels, and super capacitors;
- 100% unbalanced loads, 100% nonlinear loads
- PCB board waterproof, dustproof and slat-spray proof
- Independent ventilation good heat dissipation
- Low smoke halogen-free cooking cable

Application



Industry



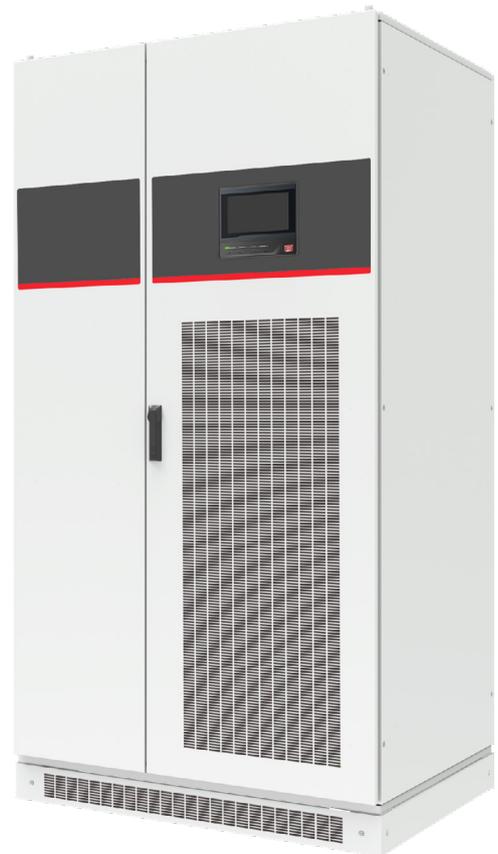
Precision
instrument



Rail traffic



Medical



Reliable design

Full isolation

The output side of the system is equipped with an isolation transformer to achieve full output isolation effect, which can realize the secondary zero-ground short-circuiting, rebuild the zero-ground equipotential pure power supply system, and ensure the load from the interference of the grid clutter with high reliability

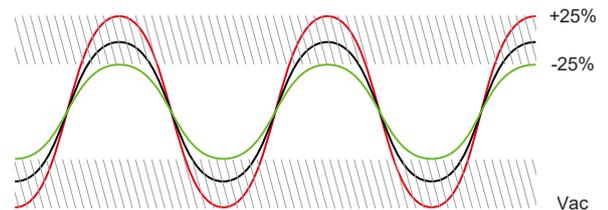


Isolation transformer

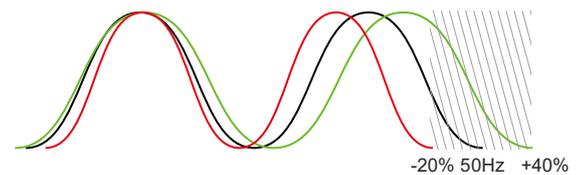
Super power grid adaptability

The rectifier adopts the mature three-phase six-switch IGBT rectifier technology, has experienced a long time market test, has strong power grid adaptability, and is safe and reliable in industrial applications

The output voltage is accurate and stable, and the dynamic characteristics are good to avoid frequent mains/battery switching, even when using unstable AC power supply (such as industrial temporary electricity, diesel engine), it can avoid unnecessary mains/battery switching and extend the working life of the battery.



Wide Input Voltage



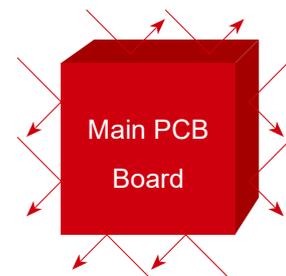
Wide Input Frequency

Electromagnetic shielding design

Through the professional electromagnetic compatibility test of authoritative institutions and companies, including conduction, immunity and other special content, electromagnetic compatibility characteristics are excellent, can be suitable for high-frequency communication, radio and television audio and video system applications.

Reduce and avoid all kinds of interference to ensure the purity of the power grid.

The professional protection technology design makes the important control circuit of the equipment always in the "electromagnetic shielding room", professional rest assured.



Reliable design

Independent ventilation

● Ventilation design

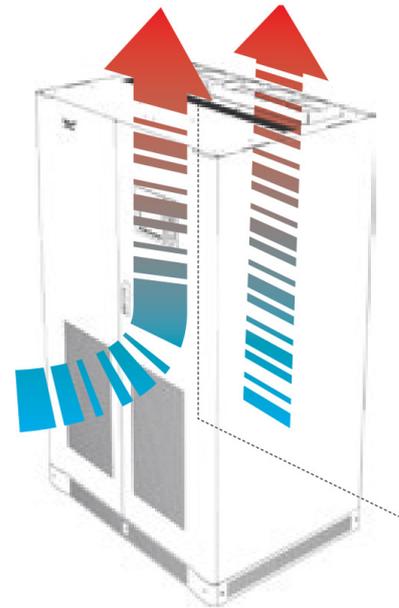
The front air flow and up flow, cooling effect is better to minimize the uneven heat dissipation, eliminate local hot spots and overheating damage, protect key components, extend the service life of UPS, while protecting the safety of the user's main equipment.

● Energy efficient design

The heat radiation, heat conduction, heat convection, fluid temperature, fluid pressure, fluid velocity and motion vector of the electronic system are simulated in the three-dimensional structure model, which provides the optimal energy saving scheme.

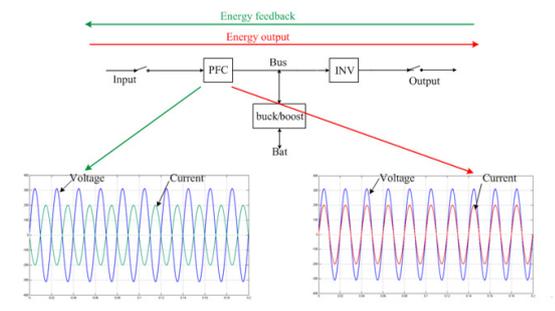
● Maintenance friendly design

The up flow design conforms to the hot air circulation principle, minimizes the mixing of cold and hot air, improves the heat dissipation effect, and avoids the hot air blowing directly on the human body to improve the comfort of maintenance personnel.

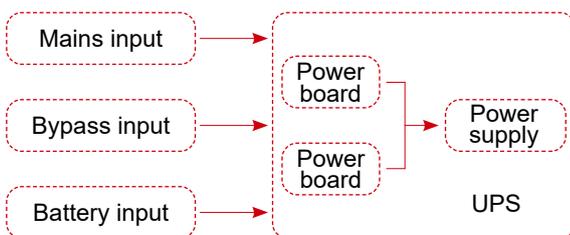


Energy back-feed protection

Back-feed energy occurs when take a shock load, but we enable the rectifier to allow the feeding energy to the grid for absorption without causing shock damage to the UPS.



Redundant design



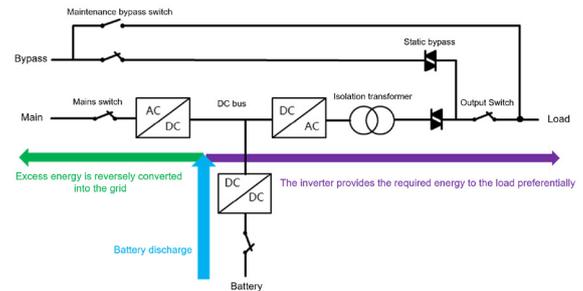
3 Power supplies back up each other. If any two power supplies are interrupted, the UPS can provide uninterrupted power

2 Power modules are redundant. If either power module is faulty, the UPS still works properly

Technological innovation

Battery feed discharge test function

FR-UK33GEL series UPS battery feed network discharge test function, through the advanced software algorithm, can realize the battery inverter guarantee load uninterrupted power supply at the same time, the excess battery discharge current through the four-quadrant rectifier back to the 400v power supply bus, for the 400v bus air conditioning, lighting and other loads to use, to achieve the battery large current discharge Electric test core capacity, while saving power. This function is convenient to operate, and the operation and maintenance personnel can choose to discharge the battery at any convenient time. After the test is complete, the Ups displays battery discharge data for O&M personnel to judge battery performance.



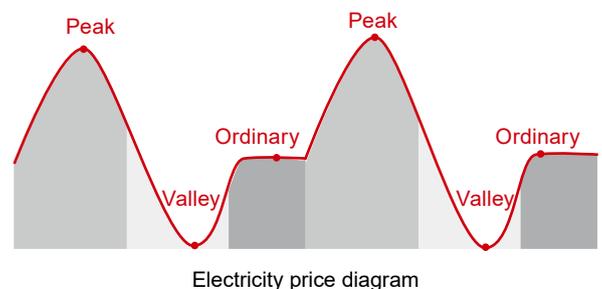
Capacitor online monitoring display function

The FR-UK33GEL series UPS can monitor and display the current capacitance value of the DC bus support capacitor online in normal operation mode through advanced software algorithms. Operators can set the capacitance value decay alarm threshold. When the capacitance value decay exceeds this threshold, the UPS will locally and remotely alert, prompting operators to perform inspection and maintenance. The online intelligent monitoring display function of capacitance value turns past emergency repairs of capacitor faults into proactive warnings, enabling operations and maintenance personnel to plan maintenance. It also provides a basis for reporting spare parts replacement budgets.



Energy storage mode

The UPS accepts EMS power scheduling, or switches the battery charging and discharging status and adjusts the battery charging and discharging current according to the preset scheduling curve of the touch screen, charges and discharging the battery in a specific period, and uses the difference in electricity price to save electricity costs.



Technical Specification

MODEL	FR-UK 3310-GEL	FR-UK 3320-GEL	FR-UK 3330-GEL	FR-UK 3340-GEL	FR-UK 3360-GEL	FR-UK 3380-GEL	FR-UK 33100-GEL	FR-UK 33120-GEL	FR-UK 33200-GEL
Capacity (kVA)	10	20	30	40	60	80	100	120	200
INPUT									
Voltage (Vac)	L-L: 286-476 (305-476 at full load)								
Frequency (Hz)	50/60±10%								
Power Factor	≥0.99								
THDi	≤3% (resistive full load)								
Phase	3W+N+PE								
BYPASS									
Voltage (Vac)	-25%/-20%/-15%/-10% (default -20%) ~ +10%/+15%/+20% (default +15%)								
Frequency (Hz)	±5%/±10% (default ±10%)								
Overload	130%: long term; 170%:10min; 200% 1min; above 200%: 5s								
OUTPUT									
Voltage (Vac)	L-L: 380/400/415±1%								
Frequency (Hz)	50/60±0.2Hz								
Power Factor	0.9								
THDv	≤1% (resistive full load), ≤5% (non-linear full load)								
AC/AC Efficiency (Max.)	94%								
Overload	105%: long term; 130% 10min; 155% 1min; above 155%: 1s								
Transfer Time (ms)	0 (Mains mode-Battery mode), ≤1 (Mains mode-Bypass mode)								
Crest Factor	3:1								
BATTERY									
Battery Type	Lead-acid/ S ³ lithium-ion batteries								
Voltage (Vdc)	384 (348-480 at full load)								
Charging Current (A)	5 (5-10)	10 (5-30)			15 (5-30)		20 (5-40)		
GENERAL									
Communication	RS485/RS232, dry contact Optional: SNMP card								
Display	7" touch screen								
Noise (dB)	<70								
Working Temperature (°C)	-5~40								
Altitude (m)	2000								
Relative Humidity	0 ~ 95%, no condensation								
Protection Grade	IP20 (IP21 optional)								
Agency/Certification/ Conformance	EN IEC 62040-1, EN IEC 62040-2								
Dimension (W×D×H)(mm)	600×800×2000						1000×800×2000		
Weight (kg)	288±5%	345±5%	372±5%	405±5%	470±5%	505±5%	720±5%	780±5%	1095±5%

● Specification is subject to change without prior notice.

Reliable • Flexible • Responsible

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