PERPETUAL POWER®
Where Technologies Matters

PPM Series Modular UPS
20 KVA- 1200 KVA
Modular Uninterrupted Power Supply

Table of Contents

About Perpetual Power

Perpetual Power Services Pvt. Ltd.
Registered Office & Factory: Bangalore, India Perpetual Power is a flagship brand of Perpetual Power Services Pvt. Ltd., an ISO 9001:2015 and ISO 14001:2004 certified company (Certification No.: ICR 08/25696 1999).Established in 1989, we bring over 34 years of experience in the manufacturing industry, specializing in:

- Online Uninterruptible Power Supply (UPS) Systems
- Modular Data Center Solutions
- Solar ESS (Energy Storage System) Series Technologies

Our products are engineered with next-generation technology, designed to support the vision of a greener, more sustainable world. Since our inception, our core values have been centered on quality and customer satisfaction. We take pride in offering our business partners high-quality products at highly competitive prices, ensuring both reliability and long-term value.

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Perpetual Power Modular UPS Overview

We develop and manufactures excellent modular products to users, which is to create the biggest values to customers.

HQ-M UPS provides multiple robust characteristics to minimize risks and make customers satisfied.

With system efficiency as high as 96.5%, HQ-M UPS brings in customer low operation expense

With 10/20/25/30/50/60 modules for choice, customers can make a flexible configuration with 20 to 1200KVA system capacity.

Equipped with smart human machine interfaces, HQ-M fits for all kinds of application requirements.

- Telecommunications bases
- Process control equipment

Modular UPS Product Family

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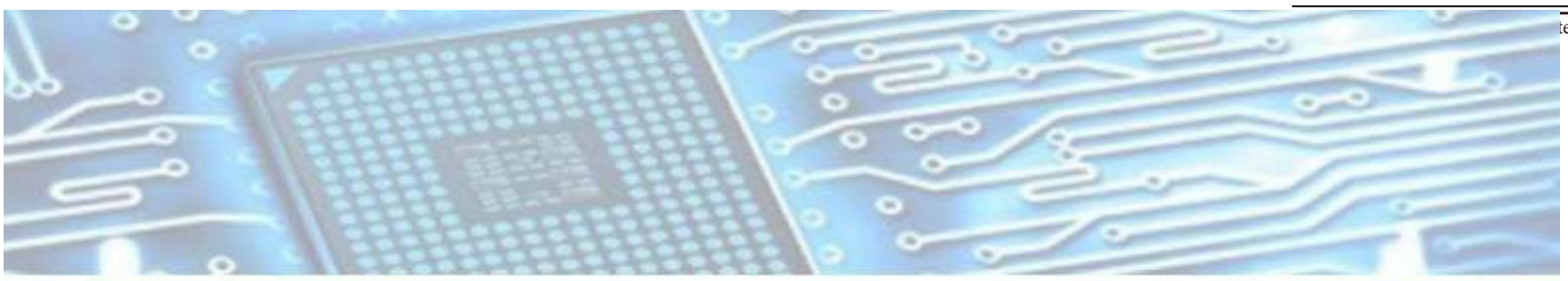
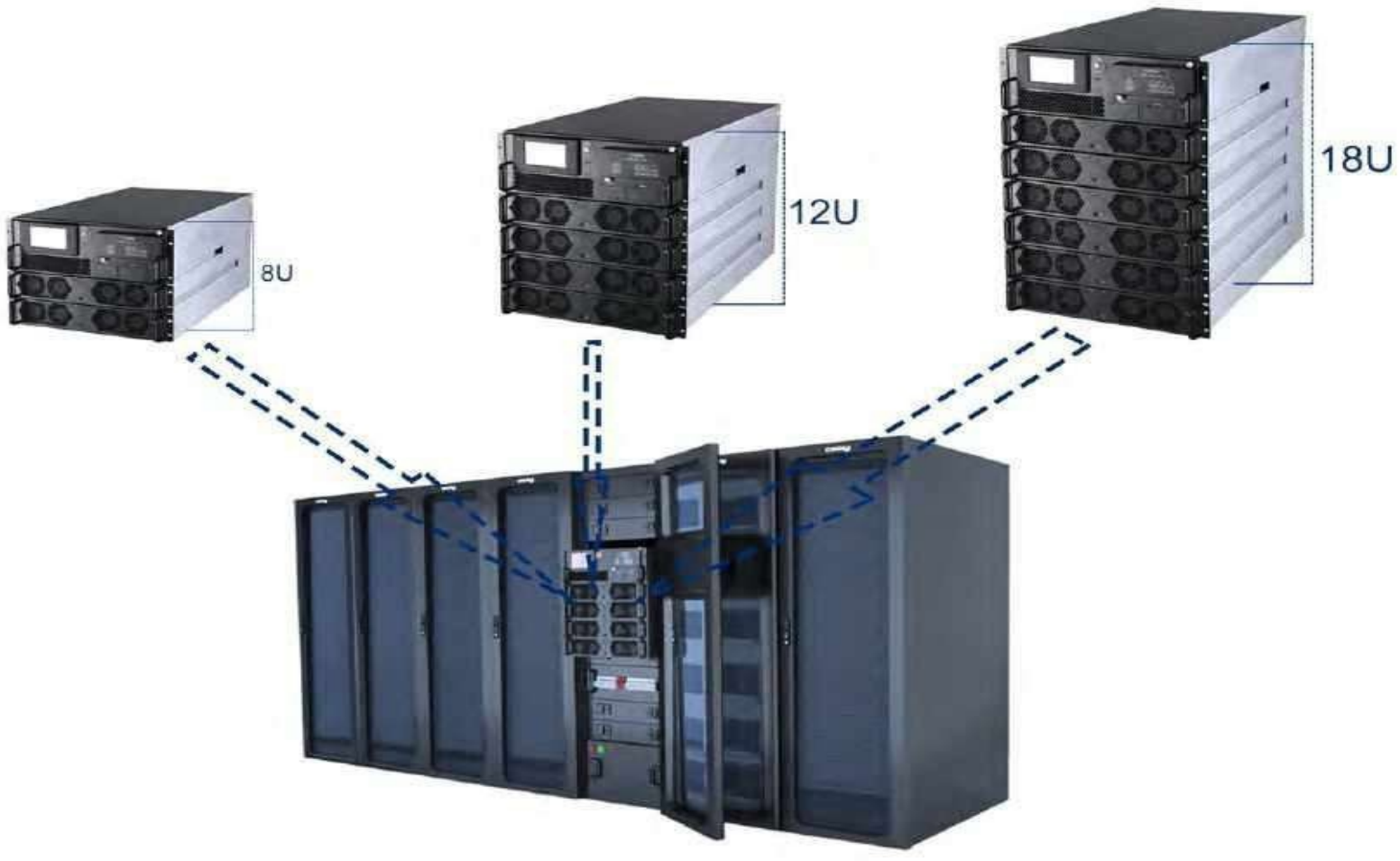
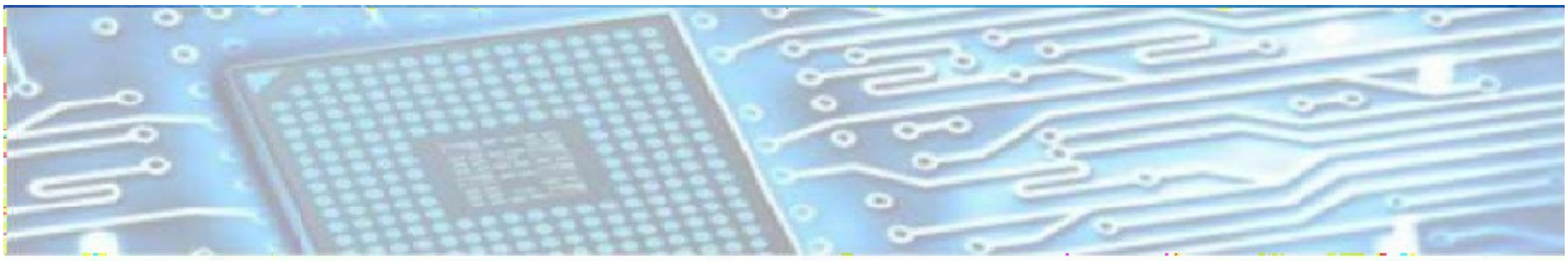


The Embedded Modular UPS



Features:

- **Reliable:** adopts 1 + 1 DSP design to improves system operation and response speed.
- **Efficient:** The system efficiency is as high as 96%; High power density ratio 2U height for modules.
- **Flexible:** Allowing 2/4/6 modules*20/25KVA modules to achieve different capacity for the system;
- **Simple:** Embedded installation design for standard 19-inch cabinets; integrated with the power distribution modules, batteries, monitoring in one cabinet from 50KVA to 150KVA.



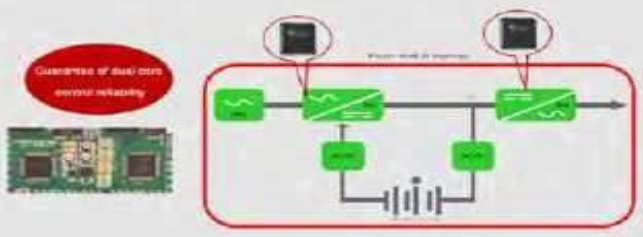
Value decomposition- Reliable

<< 6+1/10+2 Redundancy design

Power module N + X redundancy design, the system can provide up to 20% redundancy capacity under 100% load,reaching the highest level of rack Class B availability.
200kva = (10+2)*20kva modules.
500kva = (10+2)*50kva modules.
300kva = (6+1)*50kva modules.

<< Dual DSP Design

The power module DSP adopts 1 + 1 design to improve the system operation and response speed and reduce the complexity of multi module parallel control.

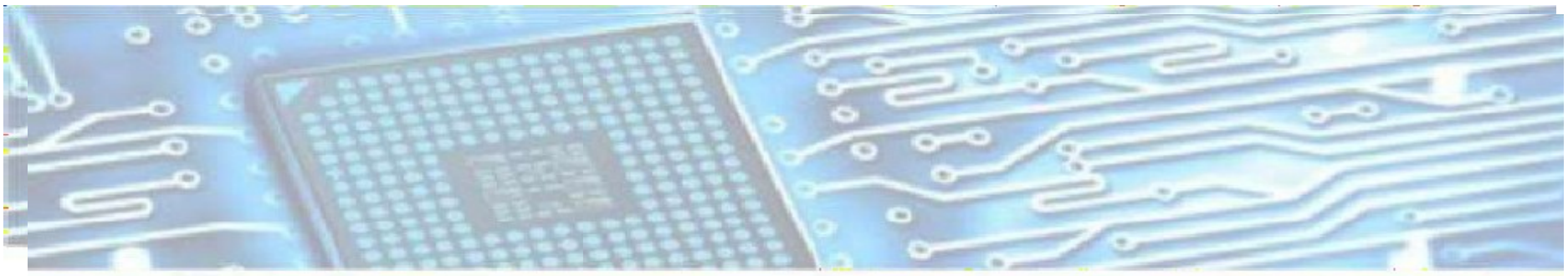


<< Redundancy design for Fans

The redundancy design of intelligent speed regulating fan will not affect the use of the whole module due to the abnormality of a single fan.

<< Redundant Monitoring

With LCD screen and LED indicator on each 50KVA power module, it allows independently monitoring module data and working status, to realizes 1 + 1 redundant backup with the system display.



Value decomposition -Flexible

<< All hot swappable module design

- The system supports phased deployment and capacity expansion on demand to reduce the initial investment cost of customers.
- The bypass module and power module both support online hot plug, the operation is easy and safe , and the MTTR is less than 5minutes.

<< Multiple and flexible configurations

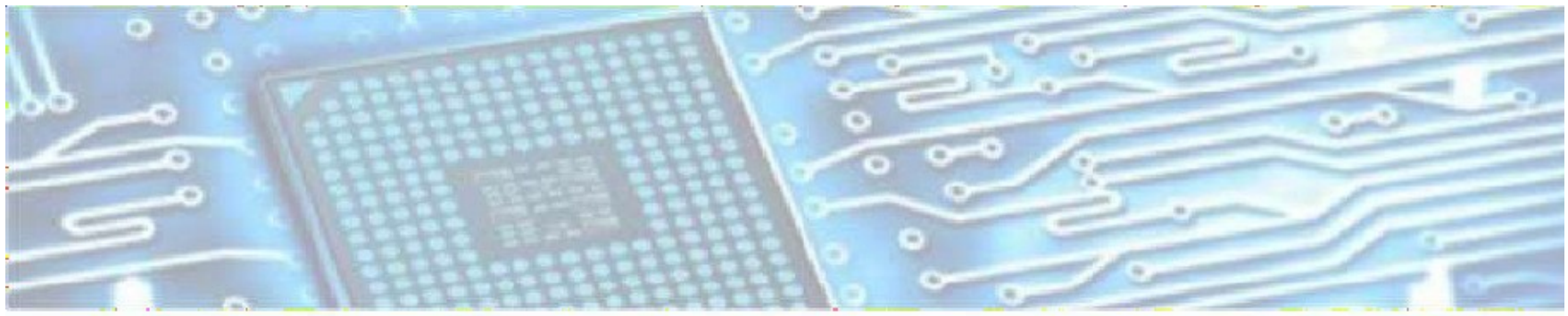
- Three switch built-in configuration solutions are selected on demand to save power distribution system and user investment.
- The top and bottom incoming cables are compatible, seamlessly adapt to the on-site distribution layout and save land occupation.

<< Cold start function

When main power fail, the system supports direct battery startup to meet the requirements of multi scenario applications, easy for pre-check after installation.

<< Adjustable battery configurations

The ultra-wide battery regulation 30-44 pcs range helps to accurately match the battery capacity and flexibly utilize the old battery pack on site, saving customer investment.



Value decomposition - Intelligent

<< Touch screen for visual control

- 10 inch color touch screen: graphical display and rich functions are available.
- Main page can directly view the current working status. All the running information of each part can be check from display.

<< Intelligent battery management

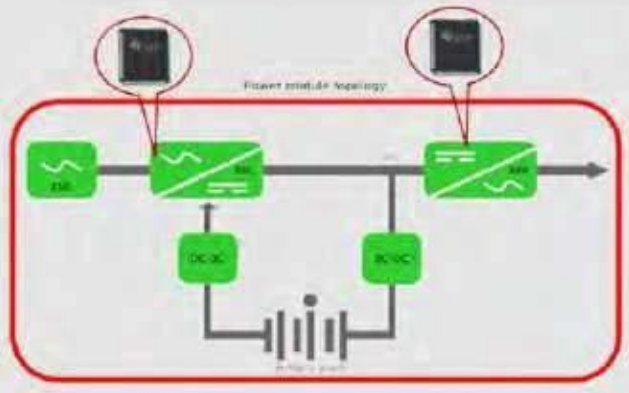
- UPS can interacts with the lithium battery BMS system in real time to realize the intelligent management and linkage of the UPS to the battery and prevent the battery from getting out of control.

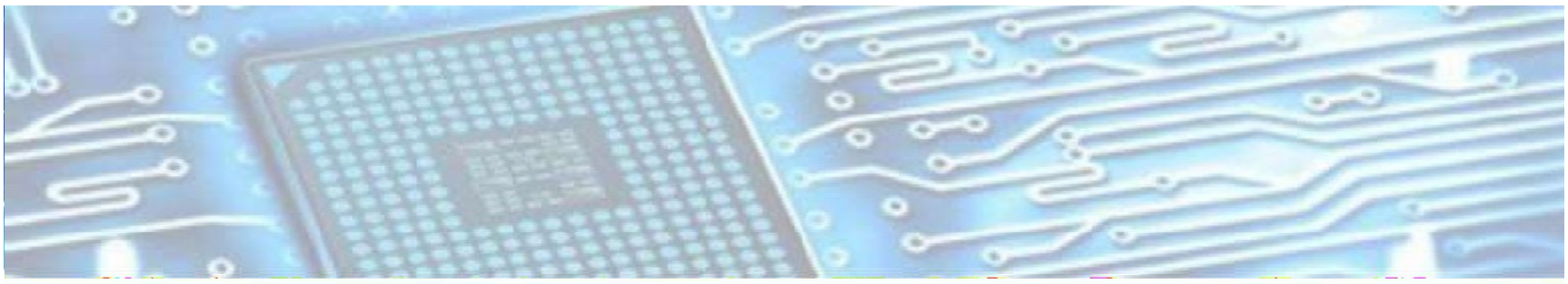
<< Rich communication interfaces

Rich communication interfaces and networking forms help to flexibly monitor the real-time operation status of UPS system:RS232/RS485/Dry contact/SNMP.

<< Full Digital control

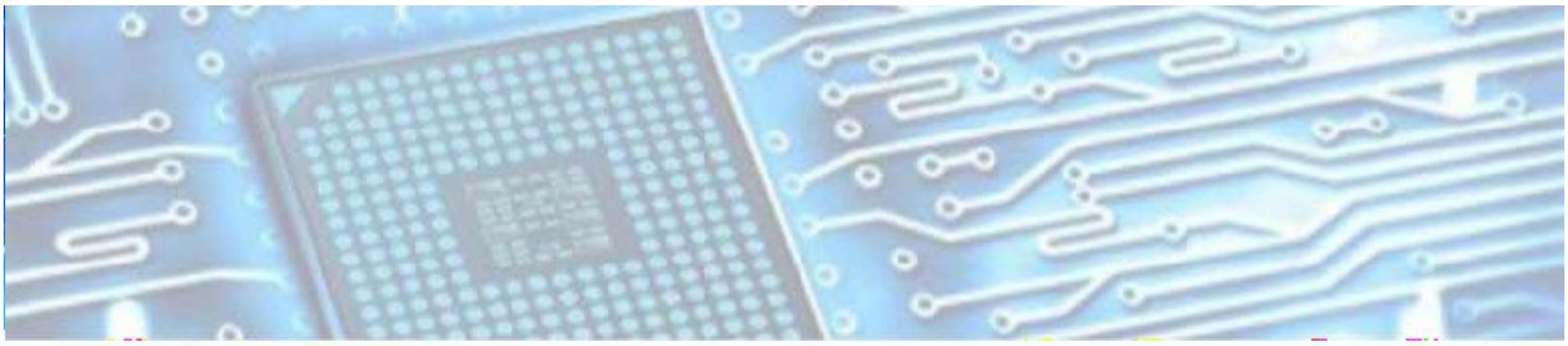
- Advanced dual DSP control technology, accurate and fast data processing, optimized circuit design, fast fault self-diagnosis and processing capabilities.
- Digital parallel current sharing technology: ensure the high power quality for IT equipment, and ensure the safe operation of user equipment.





HQ-M Composition

1. 10 inch touch screen
2. Communication interface
3. Bypass module
4. Power module
5. Mechnical frame
6. Dust-proof net
7. Mains switch
8. Bypass switch
9. Maintenance bypass Switch
10. Output switch



<< Power module

- 2U height for 20/25KVA modules.
- 3U height for 40/50/60KVA modules.

<< Bypass module

The bypass module can provide continuous power supply to load in case the power modules are out of work. The bypass module features concentrated design, also provides rich communication interfaces.

<< SNMP card (Optional)

The SNMP card supports remote monitoring to the UPS, all running status and working parameters can be viewed through the monitoring page. With the SNMP card, the UPS can be remotely controlled by the operators.

<< LBS communication cable

The LBS communication cable is for load bus Synchronization control when the outputs of 2 UPS systems should be synchronous, which can ensure the outputs can be the same frequency and phase.

<< Parallel communication cable

The parallel communication cables are used for parallel connection system, which can ensure the parallel UPS sustain and share the load at the same time, on the other hand, to make sure the system running in a logic way.

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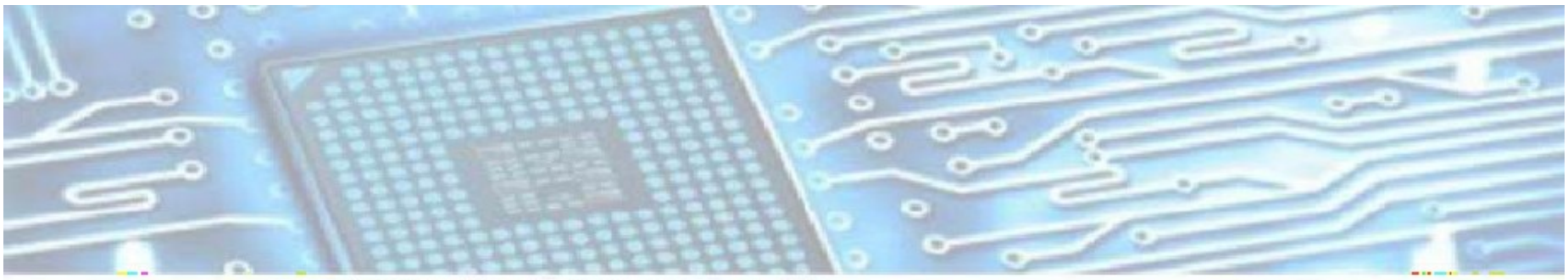

Technical data (Based on 2U power modules)

Model	HQ-M50R	HQ-M100R	HQ-M150R
Rated power	50 kVA	100 kVA	150 kVA
Power module rate	25kVA（20kVAavailable）		
Power module quantity	2	4	6
Mains input			
Input Wiring	3P＋N＋PE		
Rated voltage	380/400/415 VAC		
Voltage range	±25%（100% load）		
Rated frequency	50/60Hz		
Input Frequency	40-70 Hz		
Input Power Factor	≥0.99		
Total Harmonic Distortion	THDi<3%（linear full load)；THDi<5%（Nonlinear full load）		
Bypass input			
Rated Voltage	Rated voltage 380/400/415VAC; Default voltage range ＋15%～－20%（－40%～＋25% settable）		
Input Frequency	Rated frequency 50/60Hz；±1Hz，±3Hz，±5Hz settable		
Battery			
Rated voltage	±192VDC（30-44 pcs settable）		
Battery type	Lead acid battery，Li-ion battery etc.		
Output			
Rated voltage	380V/400V/415VAC（L-L）		
Rated frequency	50/60Hz		
Output Power Factor	1		
Voltage accuracy	≤±1.0%@ balanced load；≤±5.0% @unbalanced load		
Frequency accuracy	50/60Hz±0.01%		
Frequency trace range	±0.5Hz-±5Hz settable；±3Hz as default		
THDv	THDv≤2%（100% linear load)，THDv≤4%（100% nonlinear load）		
Crest factor	3：1		
Overload ability	110%,60mins；125%,10mins；150%,1min；		
System			
Efficiency	96%		
HMI	5 inch color touch screen		
Cable Entry Route	From the top or from the bottom		
Standard	IEC62040-1；IEC62040-2；IEC62040-3		
IP level	IP20		
Communication	RS232、RS485/SNMP/Dry contact		
Optional accessary	SNMP card/ expand dry contact card/ SPD module/LBS cable/ Antiseismic assembly/Humiture sensor		
Working environment	Working temperature：0～40℃；Relative Humidity：0～95%（No condensing）		
Noise	<65dB(A)@1 meter		
Maximum Operating Altitude	0-1000m. Above 1000m, derating rate based on EN/IEC 620403		
Cabinet dimension（W×D×H）	482.6*800*353（8U）	482.6*800*531（12U）	482.6*900*800（16U）
Power module dimension（W×D×H）	440×690×86mm（2U）		
Cabinet weight	37kg	47kg	72kg
Power module weight	25kg		

*The product is subject to the actual product, subject to change without notice

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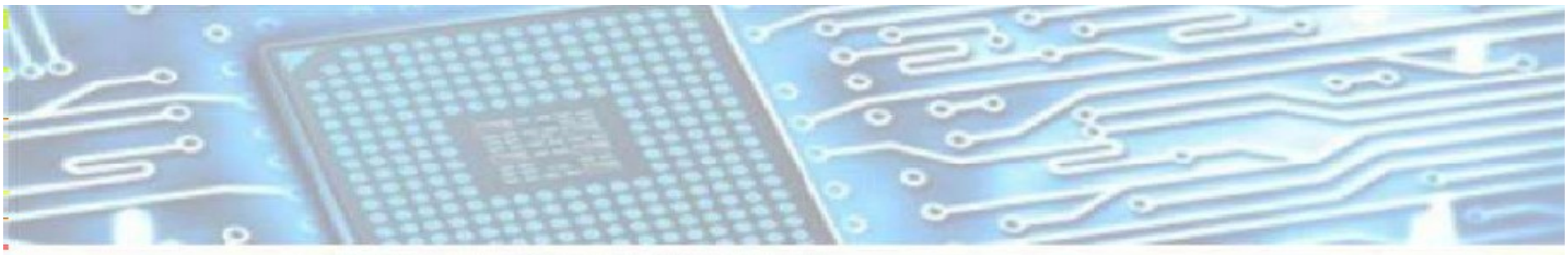

Technical data (Based on 2U power modules)

Model	HQ-M60	HQ-M120	HQ-M200	HQ-M300
Rated power	60 kVA	120kVA	200 kVA	300 kVA
Power module rate	20kVA（ 25kVA available）			
Power module quantity	3+1	6+1	10+2	12
Mains input				
Input Wiring	3P＋N＋PE			
Rated voltage	380/400/415 VAC			
Voltage range	±25%（100% load）			
Rated frequency	50/60Hz			
Input Frequency	40-70 Hz			
Input Power Factor	≥0.99			
Total Harmonic Distortion	THDi＜3%（linear full load）; THDi＜5%（Nonlinear full load）			
Bypass input				
Rated Voltage	Rated voltage 380/400/415VAC; Default voltage range ＋15%～－20%（－40%～＋25% settable）			
Input Frequency	Rated frequency 50/60Hz: ±1Hz, ±3Hz, ±5Hz settable			
Battery				
Rated voltage	±192VDC（30-44 pcs settable）			
Battery type	Lead acid battery, Li-ion battery etc.			
Output				
Rated voltage	380V/400V/415VAC（L-L）			
Rated frequency	50/60Hz			
Power factor	1			
Voltage accuracy	≤±1.0%@ balanced load; ≤±5.0% @unbalanced load			
Frequency accuracy	50/60Hz±0.01%			
Frequency trace range	±0.5Hz-±5Hz settable; ±3Hz as default			
THDv	THDv≤2%（100% linear load）, THDv≤4%（100% nonlinear load）			
Crest factor	3：1			
Overload ability	110%,60mins; 125%,10mins; 150%,1min;			
System				
Efficiency	96%			
HMI	7 inch color touch screen			
Cable entry	Support top in/Bottom in			
Standard	IEC62040-1; IEC62040-2; IEC62040-3			
IP level	IP20			
Communication	RS232、RS485/SNMP/Dry contact			
Optional accessary	SNMP card/ expand dry contact card/ SPD module/LBS cable/ Antiseismic assembly/Humiture sensor			
Working environment	Working temperature: 0～40℃; Relative Humidity: 0～95%（No condensing）			
Noise	＜65dB(A)@1 meter			
Altitude	0-1000m. Above 1000m, derating rate based on EN/IEC 620403			
Cabinet dimension（W×D×H）	600×890×2000mm	600×960×1600mm		600×1010×2000mm
Power module dimension（W×D×H）	440×690×86mm（2U）			
Cabinet weight	140kg	185kg	250kg	270kg
Power module weight	25kg			

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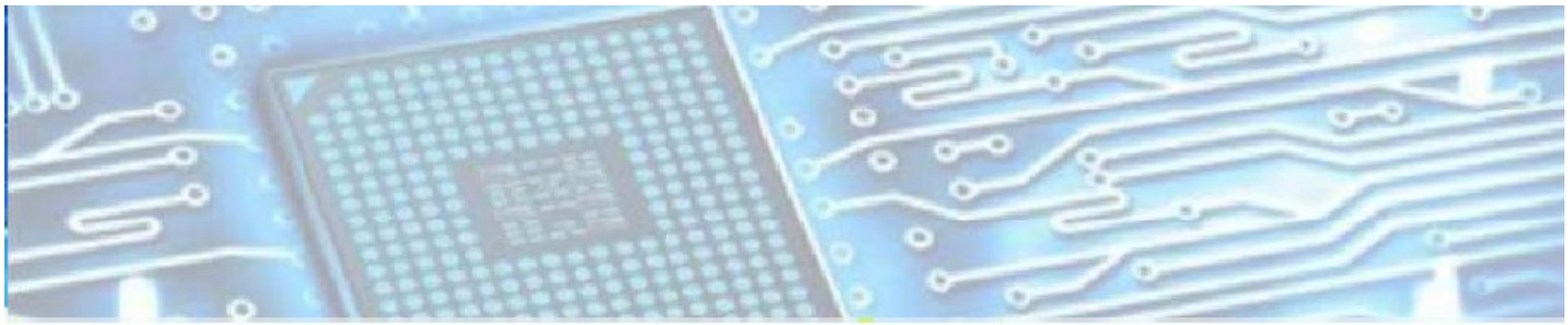

Technical data (Based on 3U power modules)

Model	HQ-M300	HQ-M400	HQ-M500	HQ-M600	HQ-M800	HQ-M1200
Rated power	300 kVA	400 kVA	500 kVA	600 kVA	800 kVA	1200 kVA
Power module rate	50 kVA （40kVA/60 kVA available）					
Power module quantity	6+1	8	10+2	12	14	24
Mains input						
Input Wiring	3P＋N＋PE					
Rated voltage	380/400/415 VAC					
Voltage range	±25%（100% load）					
Rated frequency	50/60Hz					
Input Frequency	40-70 Hz					
Input Power Factor	≥0.99					
Total Harmonic Distortion	THDi＜3%（linear full load）；THDi＜5%（Nonlinear full load）					
Bypass input						
Rated Voltage	Rated voltage 380/400/415VAC; Default voltage range ＋15%~—20%（—40%~＋25% settable）					
Input Frequency	Rated frequency 50/60Hz：±1Hz，±3Hz，±5Hz settable					
Battery						
Rated voltage	±240VDC（32-44 pcs settable）					
Battery type	Lead acid battery，Li-ion battery etc.					
Output						
Rated voltage	380V/400V/415VAC（L-L）					
Rated frequency	50/60Hz					
Power factor	1					
Voltage accuracy	≤±1.0%@ balanced load：≤±5.0% @unbalanced load					
Frequency accuracy	50/60Hz±0.01%					
Frequency trace range	±0.5Hz-±5Hz settable：±3Hz as default					
THDv	THDv≤1%（100% linear load），THDv≤2%（100% nonlinear load）					
Crest factor	3：1					
Overload ability	110%,60mins：125%,10mins：150%,1min：					
System						
Efficiency	96.5%					
HMI	10.4 inch color touch screen					
Cable entry	Support top in/Bottom in					
Standard	IEC62040-1：IEC62040-2：IEC62040-3					
IP level	IP20					
Communication	RS232、RS485/SNMP/Dry contact					
Optional accessary	SNMP card/ expand dry contact card/ SPD module/LBS cable/ Antiseismic assembly/Humiture sensor					
Working environment	Working temperature：0~40℃；Relative Humidity：0~95%（No condensing）					
Noise	＜65dB(A)@1 meter					
Altitude	0-1000m. Above 1000m, derating rate based on EN/IEC 62040-3					
Noise	＜65dB(A)@1 meter					
Altitude	0-1000m. Above 1000m, derating rate based on EN/IEC 62040-3					
Cabinet dimension（W×D×H）	600×1100×2000mm	1000×1100×2000mm			1600×1100×2000mm	2000×1100×2000mm
Power module dimension（W×D×H）	440×720×130mm（3U）					
Cabinet weight	250kg	500kg	530kg		980kg	1050kg
Power module weight	36kg		38kg			

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Our Clients

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1964

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GOVT.ED MEDICAL COLLEGE ALAPPUZHA
1963

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GOVERNMENT MEDICAL COLLEGE
MANJERI

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Telangana Public Health Doctor's Association
TPHDA
Regd. No. 302/2018

Government Engineering College

HAL

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GHAZIABAD

The Institute of Mathematical Sciences

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(A Government of Kerala undertaking)

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Contact Info

Head Office: #121/6, Sathnur Main Road, Near Country Club, Sathnur,

Bangalore – 560064

Registered Office: #40/102, L.G.F, C.R.Park, New Delhi - 110019

Email: ajeet@perpetualpowerups.com

Phone: +91 984 5271 112

Toll Free No: 1800 569 1663