



POWERKINETICS

POWERREACTOR³_{PLUS}

The World's Highest Availability Modular UPS System



FROM 12kVA
to 3000kVA
APPLICATIONS



MODULAR



SCALABLE



HOT-SWAPPABLE



PARALLEL
REDUNDANT



FLEXIBLE



SMART
COMMUNICATION



POWERREACTOR3TM PLUS

Modular, Parallel Redundant, Scalable and Hot-Swappable UPS for Data Centres or Critical Equipments requiring the Highest Reliability!

The PowerReactor3 PLUS is a Double Conversion On-line Sinewave Modular UPS system that has built-in automatic voltage regulation, power surge protection and lightning surge suppression. The UPS system provides critical equipments with continuous clean power supply when there is irregular voltage, brownouts or power failure.

The PowerReactor3 PLUS is the state-of-the-art "Plug & Play" modular UPS system with High-Availability (24x7) power protection for mission critical applications. The combination of Parallel-Redundant Architecture and Modularity give rise to the "Fault Tolerant" system, which means any faulty modules can be hot swapped within 5 minutes without the use of special tools or a maintenance bypass.



MODULAR

Custom-build your solution with 3kVA modules, up to 3000kVA to achieve fault tolerant solution.



Three-Phase Operation

Each 3kVA module is either three-phase input and single-phase output or three-phase input and three-phase output.



PARALLEL REDUNDANT

PowerReactor3 PLUS is based on parallel redundant architecture, which is designed to continuously supply power, even if fault occurs in a module.



High Reliability

In the PowerReactor3 PLUS, the greater the number of modules in a system, the higher the system reliability. Since the importance of mission-critical operations generally increases with the size of an installation, this feature of increasing redundancy with increasing capacity is invaluable.



SCALABLE

The scalability of PowerReactor3 PLUS protects your investment, ensuring your UPS can be easily upgraded in the future up to 3000kVA.



Multi-Master Redundancy

Each PowerReactor3 PLUS module has its own dedicated controller, unlike other systems that attempt to provide redundancy through the use of multiple-power modules connected to one or two central controllers.



HOT-SWAPPABLE

PowerReactor3 PLUS Power Modules can be easily replaced without turning the UPS off, providing uninterrupted protection during servicing or upgrading.



Comprehensive Monitoring of Operations

The LCD Module function is to monitor the UPS operation. The PowerReactor3 PLUS can also work with an optional software for remote monitoring of UPS operations.



FLEXIBLE

Each PowerReactor3 PLUS Power Module is a fully-functioning UPS. Build to the exact solution you need. Upsize or downsize as your requirements change.

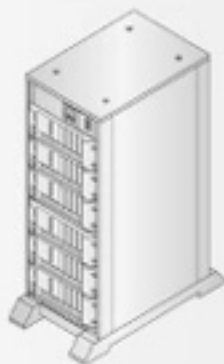


SMART COMMUNICATION

The UPS readily communicates directly with a computer through the serial port. The software can monitor the UPS remotely via the built-in serial port.

POWERKINETICS POWERREACTOR3™ PLUS

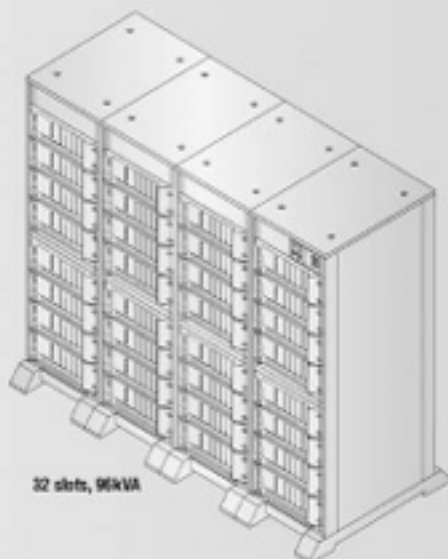
Flexibility in sizing



6 slots, 18kVA



12 slots, 36kVA



32 slots, 96kVA

Scalability configuration



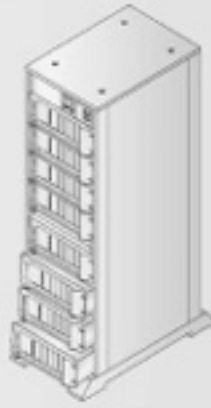
Each Power Module is 3kVA.
Configure in the field of single or three phase output.

+



8 slots, 15kVA
(3 slots available for upgrade)

=



8 slots, 24kVA

UPS Autonomy Run Time vs System Configuration (Based on 60% load)

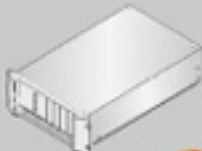
kVA	No. of PM	Total Battery Module Needed for Extended Backup Time									
		Number of Battery Module Required									
		30 min	1 hr	2 hrs	3 hrs	4 hrs	5 hrs	6 hrs	7 hrs	8 hrs	
12	4	3	5	8	12	15	20	22	23	27	
15	5	4	6	10	14	19	25	27	29	33	
18	6	4	7	12	17	23	30	32	35	40	
21	7	5	9	14	20	26	36	38	40	46	
24	8	6	10	16	23	30	41	43	46	53	
27	9	6	11	18	26	34	46	49	52	60	
30	10	7	12	21	29	38	51	54	58	66	
33	11	8	14	23	32	41	56	59	63	73	
36	12	9	15	25	35	45	61	65	69	80	
39	13	9	16	27	37	49	66	70	75	86	
42	14	10	17	29	40	53	71	75	81	93	
45	15	11	18	31	43	56	76	81	86	100	
48	16	12	20	33	46	60	81	86	92	106	
51	17	12	21	35	49	64	86	92	98	113	
54	18	13	22	37	52	68	91	97	104	119	
57	19	14	23	39	55	71	96	102	109	126	
60	20	14	25	41	58	75	101	108	115	133	

Above figures are for reference only. Actual run time duration and number of battery modules may vary depending on battery rating, temperature, conditions and type of load connected.

PM = Power Module

Please contact us for assistance on extended back-up time above 800kVA.

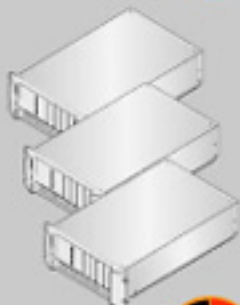
Extending Runtime



Each Power Module has its own battery to provide backup time sufficient for most applications.



Add a Battery Module to extend the backup time.



Add more Battery Modules for more backup time.





POWERKINETICS POWERREACTOR³ PLUS

Battery Module Specifications

Battery Type	Sealed Lead Acid, Maintenance Free
Battery Rating	12V 7AH or equivalent
No. of Batteries	20
Dimension (WxHxD) mm	482 x 175 x 711
Weight (Kg) with battery	69
Weight (Kg) without battery	15

UPS System Specifications

Topology	True On-line Double Conversion
System Architecture	Modular/Scalable/Parallel Redundant/ Hot-Swappable
System Operation	Automatic DC start-up capability
System Diagnostics	Automatic self-test

USER INTERFACE

Type of Interface	LCD Display (Input & Output Voltage/Load/ Frequency/ Temperature/Fault/UPS Status/UPS Configuration)
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COMMUNICATION INTERFACE

Communications***	Intelligent Serial Interface – RS232 (DB9)
SNMP Capability***	Via SNMP / Web-enabled Adaptor
Network Interface***	Support most major Operating Systems

PHYSICAL SPECIFICATIONS

Main & Expansion Cabinets	Refer to Standard Cabinet Sizes table
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APPROVALS AND COMPLIANCE

Approvals	CE
Surge Protection	EN 50082-1 Meets IEC 801-4
EMI Suppression	EN50091-2 Class A

Standard Cabinet Sizes

Dimension & Weight	Type	Main Cabinet	Expansion Cabinet
Dimension (WxHxD) mm	6 slots	535 x 1370 x 1000	535 x 1370 x 1000
Weight (Kg)		142	142
Dimension (WxHxD) mm	8 slots	535 x 1812 x 1000	535 x 1812 x 1000
Weight (Kg)		172	172

* Specifications are subject to change without prior notice.

** Backup time is for reference only. Actual duration may vary depending on system load, temperature, battery type and condition.

***Applicable when Power Module(s) is plugged into System Cabinet
Recommended not to load more than 80%.

Power Module Specifications

INPUT SPECIFICATIONS	
Nominal Input Voltage	380V / 400V
Input Voltage Range	312V to 477V
Input Frequency	50Hz ± 10%
Input Power Factor	> 0.92

OUTPUT SPECIFICATIONS

Output Power Rating	3KVA
Nominal Output Voltage	220V / 230V or 380V / 400 V
Output Voltage Regulation	±3%
Output Power Factor	0.7
Output Voltage Distortion	<3% THD
Output Frequency	Synchronized, 50Hz ± 3%
a) On Normal AC Mode	50 Hz ± 0.2%
b) On Battery	
Output Waveform	Pure Sinewave
Output Current Variation	0 to 100% permissible
Output Overload Capability	150% to 10 seconds
Load Crest Factor	3:1
Transfer Time	0 milliseconds

SYSTEM EFFICIENCY

AC Mode	> 85%
DC Mode	> 85%

BATTERY SPECIFICATIONS

Battery Type	Sealed Lead Acid, Maintenance Free
Battery Rating	12V 7AH or equivalent
No. of Batteries	10
Backup Time	15 minutes**
Battery Diagnostics Test	Automatic self-test

ENVIRONMENTAL SPECIFICATIONS

Audible Noise	<55 dBA
Ambient Temperature	0°C to 40°C
Relative Humidity	< 95% without condensation
Altitude	< 3000m without de-rating

INDICATIONS

Type of Indicators	12 LEDs (Power ON/Backup/Fault/ N+1/Load & Battery Levels) & Audible Alarm
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PHYSICAL SPECIFICATIONS

Dimension (WxHxD) mm	482 x 175 x 711
Weight (Kg) with battery	54
Weight (Kg) without battery	27

APPROVALS AND COMPLIANCE

Approvals	CE
Surge Protection	EN 50082-1 Meets IEC 801-4
EMI Suppression	EN50091-2 Class A

