

PS50 Power Server

Modular Online UPS

50~500kVA~1000kVA~6000kVA

Applications:

For all kind of ADP Machines

97.1%
Efficiency
even at 50% load

Three Level IGBT Rectifier
& Inverter Technology
Ultra High Energy
Efficiency



The PS50 series modular UPS, based on true online double conversion transformer-less design with 4-Level IGBT based Inverter topology. UPS capacity ranging from 50kVA to 1000kVA is designed to Maintain & protect critical load from power outage & grid quality problems for medium and large data for center achieving maximum availability. The PS50 series feature the latest technology of DSP Microprocessor based control, using IGBT devices, high switching frequency PWM, Input Phase Sequence Correction & PFC at input during Online as well as in static bypass mode (E-conversion mode) which guarantees ultra high Input PF (0.99), efficiency of 97.1% and reliability with redundant fans. Its compact design ensures power density of 1000kVA in one cabinet, 6 units can be paralleled for capacity extension or redundancy up to 6000kVA, making it an excellent choice for medium and large data centre. Inbuilt switches for Input, Output, static bypass and maintenance bypass for easy operation with top as well as bottom cable entry provision.

Features:

- **Compact Design**
500kVA in one cabinet, footprint less than 1.02m², saving valuable space
- **High Power Density**
50KVA Hot Swappable power module in 3U height, easy for capacity expansion with full capacity, Modular & Scalable UPS with hot swappable STS Module, controller & Aux Power Board
- **Ultra Efficiency**
Advanced 4-level technology guarantees high efficiency operating in double conversion mode 97.1%
- **Intelligent Battery Management**
The system intelligently control the whole process of the charging and discharging, effectively improve the life time of the battery
- **IGBT based Rectifier and Inverter**
- **High Scalability**
The system can be configured from 50kVA to 1000kVA in one single cabinet, 6 units in parallel for a capacity extension up to 6000kVA
- **Friendly HMI**
7 inch touch screen with graphic display With Waveform Recording
- **Smart Sleep Function Load Management**
System can intelligently shutdown some power modules in case of less load, save electrical energy.
- **Multi Communication Interface**
Provide RS232, RS485, USB, SNMP, AS400 and programmable dry contacts
- **Lithium battery compatible (LFP/NMC/LMO Battery)**
- **Self Loading Feature**
Self Loading Feature enables testing of the unit for load testing without external load & helps in Load simulation
- **Unbalanced Load Operation**
Capable to operate at 100% unbalanced load conditions



7 inches touch screen, fully graphic Operation, supporting multi-language (10.4 inches touch screen optional)



Monitoring Management



Structure - 50kW module



SPECIFICATION OF RACK

MODEL		PS50R4MU36	PS50R6MU42	PS50R10MU42	PS50R16MU42	PS50R20MU42
Rating (kVA) Configurable		200	300	500	800	1000
Dimension WxDxH (mm)		600x850x1600	600x850x2000	1200x850x2000	2000x850x2000	
Weight (Kg)		230	260	650	980	1050
Bypass	Feature	Hot-Swappable Inbuilt Static Bypass Module for Max. Inbuilt Maintenance Bypass Switch				
	Voltage	Max. Voltage: ± 15% (Optional ± 5%, ± 10%, ± 25%)				
	Frequency	50 / 60 Hz Auto Sensing ± 1Hz, ± 3Hz, ± 5Hz				
	Overload	135% Overload for 1 Min ; >1000% Overload for 100 ms				
Monitoring		7 Inch. Touch Screen Display+Keyboard				
Nos. of Module		50kVA x 04	50kVA x 06	50kVA x 10	50kVA x 16	50kVA x 20
Switches & Connections		Connections - Rectifier Input / Output / Bypass Input / Battery & Switches - Input, Bypass, Output & Maintenance Bypass				

SPECIFICATION OF MODULE

MODULE 50kVA	PS50M3350
Dimension WxDxH (mm)	440x620x130 (3U)
Weight (Kg) Each 50kVA	34 Kg
INPUT	
Nominal Voltage	380V / 400V / 415V AC (3Ph+N+PE)
Operating Voltage Range	228V ~ 480V AC Load Dependent
Operating Frequency Range	40Hz ~ 70Hz Auto Sensing
Power Factor	≥ 0.99
Harmonic Distortion (THDi)	$\leq 3\%$
Generator Input / Walking	Support / 0~40 Sec. (Configurable)
OUTPUT	
Output Voltage	380V / 400V / 415V AC (3Ph+N+PE)
Voltage Regulation	$\pm 1\%$
Power Factor	1.0 (Unity)
Frequency	Auto Sensing 50 / 60 Hz $\pm 3\text{Hz}$ Sync Mode (Configurable), 50/60 Hz $\pm 0.01\text{ Hz}$ (Free Running / Self Clocked Mode)
Crest Factor	3:1
Harmonic Distortion (THDv)	$\leq 1\%$
Over Load	$\leq 125\%$ for 10 min, $\leq 150\%$ for 1 min, $> 150\%$ for 200 ms
Slew Rate	1 Hz/s
Phase Displacement Angle	$120^\circ \pm 1^\circ$ (At 100% Balanced Load) & $120^\circ \pm 2^\circ$ (At 100% Balanced Load)
Transient Response & Response time	0% to 90 % step load = $\pm 5\%$, < 10 ms (Asynchronized Mode)
Efficiency	97.1% Dual Conversion Mode, 98.5% E-conversio mode, 99.0% ECO Mode
BATTERY	
Battery Voltage	$\pm 240\text{V}$ DC Nominal (30 ~ 50 Nos. Configurable)
SYSTEM FEATURE	
Self-Diagnostics	During Power ON and Software Control
EPO	UPS Shut down
Transfer Time	Zero
Alarm / Protections	Short Circuit, Input Under/Over Voltage, Over Temperature, Over Load, DC BUS Under / Over Voltage and Battery low
Event Logging & Statistical Data	16,384 events on LCD: Over temp, DC Bus Fail, Fan Fail, Fuse Fail, Overload, Short- circuit, Device Fail, Inverter Fail, Rectifier Fail, Bypass Fail, etc
Display	Touch Screen LCD & LED Indication
ENVIRONMENTAL	
Temperature	Operating: $0\sim 50^\circ\text{C}^*$, Storage: $-25^\circ\text{C} \sim 70^\circ\text{C}$
Humidity / Altitude	0~95% RH Non-condensing / <1500 M (above sea level) without derating, Derating 1% for each additional 100m.
Noise	<55dBA
STANDARDS	
Quality	ISO 9001, ISO 14001, ISO 27001, ISO 50001, RoHS
Safety	IEC/EN62040-1
EMC / Performance	Complying to CE, IEC/EN62040-2; IEC/EN62040-3; IEC/EN62040-4
COMMUNICATION INTERFACE	
Standard	Rack: RS232, RS485, Dry Contact
Optional	BMS/ RS485/ SNMP / ModBus / Dry Contact (Output Dry contact : 6 configurable for 21 events including Battery breaker shunt trip, back feed protection, EPO activated etc. & Input Dry contact : 4 / Parallel Port (LBS) / REPO / External Battery Temperature sensor / External switch Breaker status / Environment monitoring
Monitoring Software	BPE Cyber / Muser 4000 / Power Manager

* Conditions apply.

Specifications are subject to change without prior notice.

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