

PS 100 Power Server

Modular Online UPS
100~1200kVA~7200kVA

Applications:

For all kind of ADP Machines

97.1% Efficiency
even at 50% load

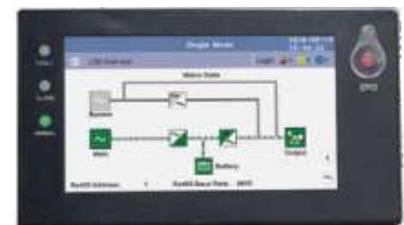
Three Level IGBT Rectifier & Inverter Technology
Ultra High Energy Efficiency



The PS100 series modular, true online double conversion transformer-less design with 3-Level IGBT Inverter topology UPS ranging from 100kVA to 1200kVA is designed to protect any critical load for medium and large data center achieving maximum availability. The PS100 series feature the latest technology of DSP Microprocessor based control, using IGBT devices, high switching frequency PWM and PFC input control & Input Phase Sequence Correction, which guarantees ultra high efficiency of 97.1% and reliability. Its compact design ensures power density of 1200kVA in one cabinet, 6 units can be paralleled for capacity expansion or redundancy up to 7200kVA, making it an excellent choice for medium and large data centre.

Features:

- Compact Design**
1000kVA in one cabinet, footprint of 1m², saving valuable space
- High Power Density**
100kVA 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 3-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 100kVA to 1200kVA in one single cabinet, 6 units in parallel for a capacity extension up to 7200kVA
- 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**
- 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



Monitoring Management



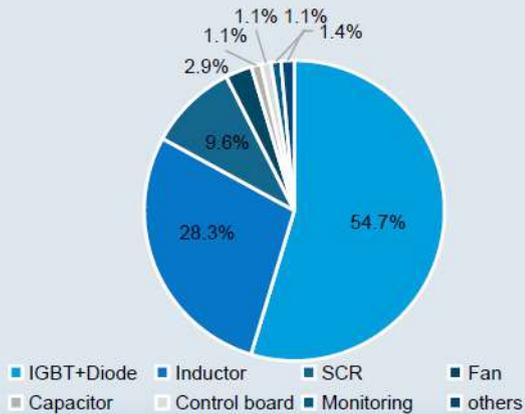
Structure - 100kVA/kW module



➤ High in Class Efficiency

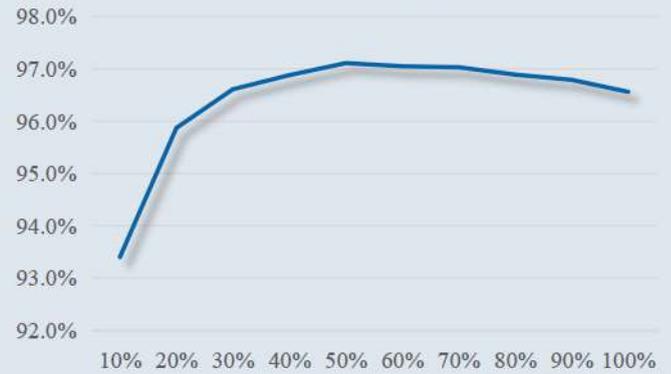
With the design of NPC type three-level inverter topology, the online mode efficiency can reach 97.1%

Operation loss distribution



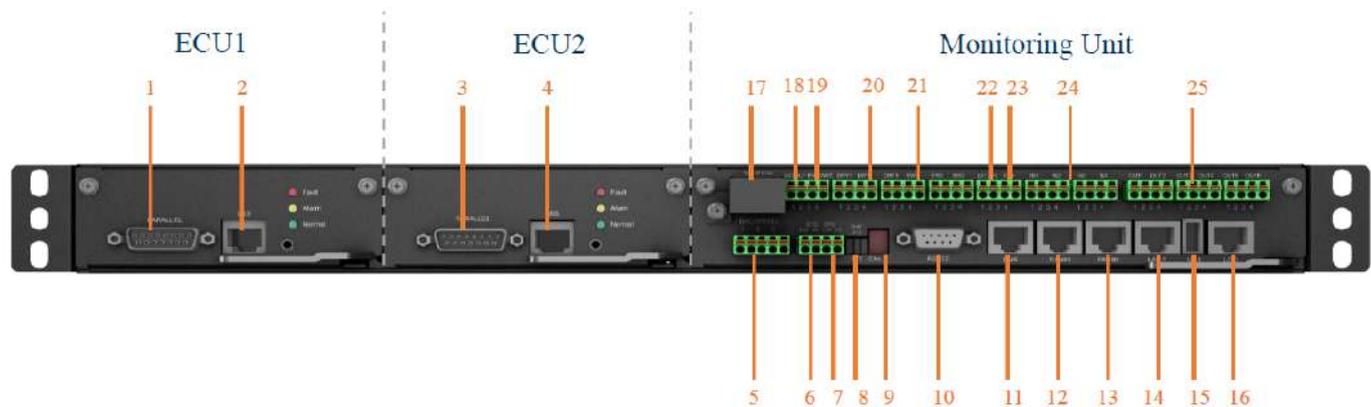
- IGBT, diode, capacitor, SCR contributes the most loss of 92.6%
- Effectively reduce switching losses by reducing IGBT, diode and inductor voltages by three level topology

Double conversion mode



- Up to 97.1% at half load
- Even at 30% load, the efficiency is still higher than 96.3%

➤ MCU Module



- | | |
|---|--|
| (1) ECU1_Parallel port 1 | (15) USB port |
| (2) ECU1_LBS port | (16) LCD port |
| (3) ECU2_Parallel port 2 | (17) EPO port |
| (4) ECU2_LBS port | (18) External output switch status input |
| (5) Monitoring module_bypass backfeeding protection port | (19) SWITCH STATUS_MT: Port for monitoring the maintenance circuit breaker |
| (6) BTG: Port for detecting battery grounding faults | (20) BCB-DRV: Controls battery circuit breaker trip (3 nos) |
| (7) SPD: Port for monitoring the input AC surge protective device (SPD) | (21) Battery switch status input (3 nos) |
| (8) Battery temperature sensor (thermistor) port | (22) External bypass switch status detection signal input |
| (9) CAN communication resistor matching port | (23) GEN: Port for detecting diesel generator (D.G.) mode |
| (10) RS232 port | (24) Dry contact signal input(4 nos settable) |
| (11) Lithium battery BMS port | (25) Dry contact signal output(6 nos settable) |
| (12) RS485 port1 | |
| (13) RS485 port2 | |
| (14) Battery temperature port | |

➤ Flexible application

Adapt to centralized power supply solution



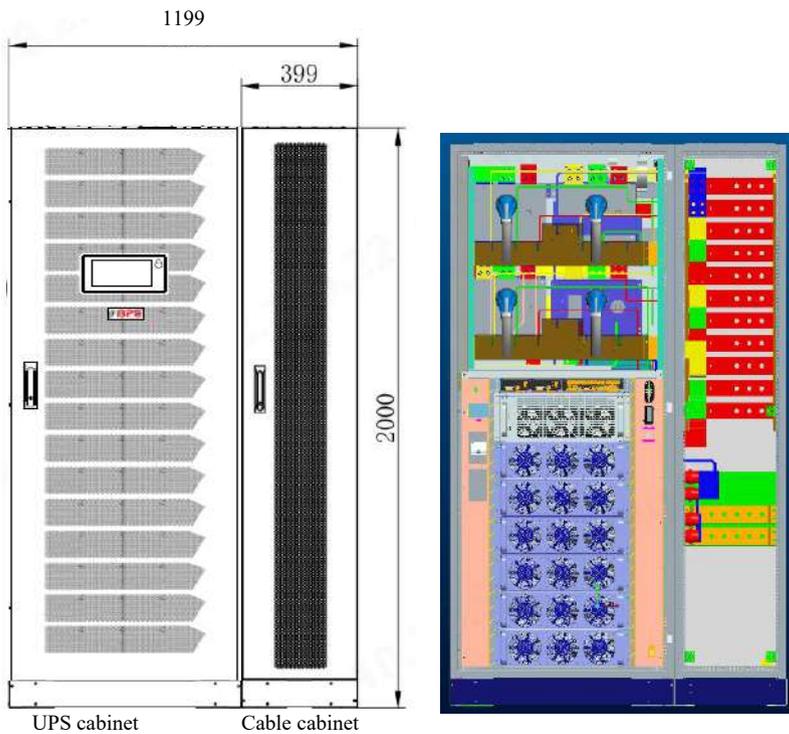
- 800mm width high density design ①
- Supports cable or copper bar access
- Battery no neutral line design, compatible with lead acid and lithium
- 6kV line +6kV② line ground surge protection
- 138-485V ultra-wide voltage input
- Ultra-wide battery input range, 30-50 batteries adjustable

Note:

① For 400-800 kVA UPS;

② 1 kV + 2 kV is standard required ;

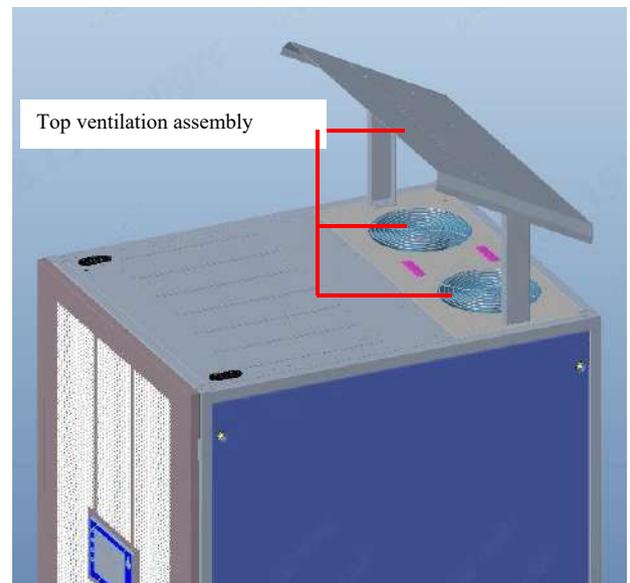
Optional Cable Duct & Top Ventilation Assembly



UPS cabinet

Cable cabinet

Bottom connection



Top ventilation assembly

Wall installation

Best Power Equipments India Pvt. Ltd.

Corporate Office: G-240, Sector-63, Distt. Gautam Buddh Nagar, Noida-201307 UP
 Registered Office: 812A, Shakuntala Building, 59, Nehru Place, New Delhi-110019 PH: +91 120 4637000-0029 | Mobile: +91 9311995859 | Email: crm@bpee.co.in
 support@bpeindia.com | Toll Free: 1800 103 1247 | Website: www.bpee.com

SPECIFICATION OF RACK

MODEL	PS100R4MU42	PS100R5MU42	PS100R6MU42	PS100R8MU42	PS100R10MU42	PS100R12MU42
Rating (kVA) Configurable	400	500	600	800	1000	1200
Dimension WxDxH (mm)	800 x 1000 x 2000			800 x 1000 x 2000 (S) 1400 x 1000 x 2000 (F)	1400 x 1000 x 2000 (S) 1800 x 1000 x 2000 (F)	
Weight (Kg)	305 (S) 350 (F)	330 (S) 380 (F)	350 (S) 410 (F)	405 (S) 780 (F)	690 (S) 850 (F)	760 (S) 920 (F)
Bypass	Feature	Hot-Swappable Inbuilt Static Bypass Module for Max. Inbuilt Maintenance Bypass Switch				
	Voltage	Max. Voltage: + 15% (Optional +5%, +10%, +20%), Min. Voltage: -45% (Optional -10%, -15%, -20% & -30%)				
	Frequency	50 / 60 Hz Auto Sensing ± 1Hz, ± 3Hz, ± 5Hz				
	Overload	135% Overload Continuous ; > 1000% Overload for 100 ms				
Monitoring	7 Inch. Touch Screen Display					
Nos. of Module	100kVA x 04	100kVA x 05	100kVA x 06	100kVA x 08	100kVA x 10	100kVA x 12
Switches & Connections	Connections - Rectifier Input / Output / Bypass Input / Battery & Switches - Input, Bypass, Output & Maintenance Bypass					

SPECIFICATION OF MODULE

MODULE	PS100M33100
Dimension WxDxH (mm)	440 x 755 x 130 (3U)
Weight (Kg) Each 100kVA	52.5 Kg
INPUT	
Nominal Voltage	380V / 400V / 415V AC (3Ph+N+PE)
Operating Voltage Range	138V ~ 322V AC for 40% Load & 323V ~ 485V AC for 100% Load
Operating Frequency Range	40Hz ~ 70Hz Auto Sensing
Power Factor	≥ 0.99
Harmonic Distortion (THDi)	≤ 3%
Generator Input / Walking	Support / 0~40 Sec. (Configurable)
OUTPUT	
Output Voltage	380V / 400V / 415V AC (3Ph+N+PE)
Voltage Regulation	± 1%
Power Factor	1.0 (Unity)
Frequency	Auto Sensing 50 / 60 Hz ± 3Hz Sync Mode (Configurable), 50/60 Hz ± 0.1 Hz (Free Running / Self Clocked Mode)
Crest Factor	3:1
Harmonic Distortion (THDv)	≤ 1%
Over Load	≤110% for 60 min, ≤125 % for 10 min, ≤ 150% for 1 min, > 150% for 200 ms
Slew Rate	1 Hz/s
Phase Displacement Angle	120° ± 1° (At 100% Balanced Load) & 120° ± 2° (At 100% Balanced Load)
Transient Response & Response time	0% to 90 % step load = +/- 5%, < 10 ms (Asynchronized Mode)
Efficiency	97.1% Dual Conversion Mode, 99.0% ECO Mode
BATTERY	
Battery Voltage	± 240V 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: 0~50°C*, Storage: -25°C ~ 70°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
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
Monitoring Software	NetAgent Utility v5.8 / Muser 4000 / Power Manager

* Conditions apply.

Specifications are subject to change without prior notice.

(S): Standard cabinet & (F) Full size cabinet with all 4 Breakers

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