



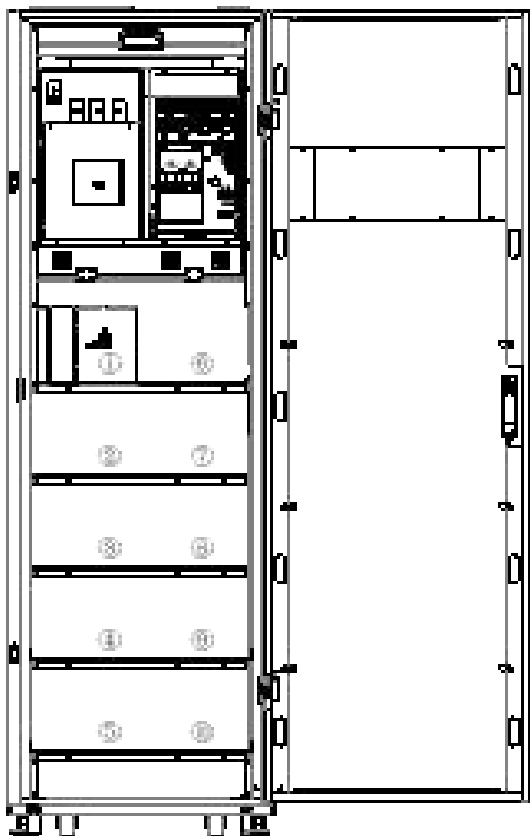
HV UPS Series

512V 100Ah

The 512V/100AH high voltage LFP battery system consists of LFP battery modules, battery cluster management module BCMS and energy management system EMS. There is a battery management unit (BMU) in the group to collect and manage battery data. Battery cluster management module BCMS is implemented by multiple battery modules in series manage battery clusters to ensure the safe operation of battery clusters. EMS system implementation this Ground monitoring management, upper monitoring docking, and a battery composed of multiple battery clusters Heap management to ensure the good operation of the system. Rich passive safety design, supports UL compliant perfluorohexanone and aerosol fire modules with optional cabinet level fire protection devices.

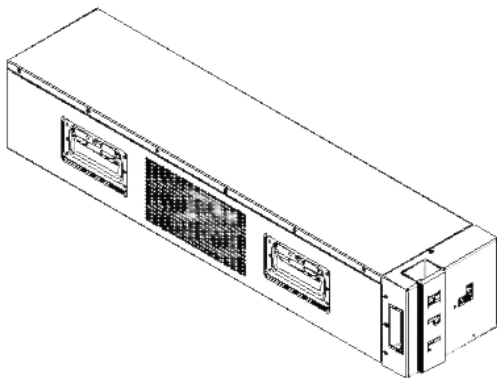
Feature

- Three-layer structure to ensure the good operation of the system.
- Simple UI, the function is more perfect, and UPS intelligent communication function is perfect, support the choice of support no communication working mode
- Cell adopts Gotion high rate lithium iron phosphate cell which has been used in application data center for more than 5 years.
- High rate discharge performance design, battery Pack supports a maximum rate of 4.5C discharge, with a lower system cost to meet the requirements of high-power discharge in short-delay UPS backup scenarios, more mature applications.

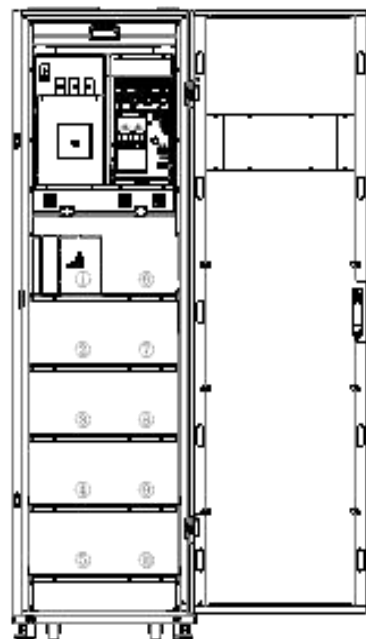




- The product appearance and UPS design elements, large 10.1 inch HMI touch screen configuration, aluminum profile frame design, support and UPS host similar appearance design, no need to distinguish the host and slave
- Rich active safety design, equipped with circuit breaker protection, DC contactor protection, fuse protection three active safety protection measures, the product passed UL 9540A test.
- Intelligent combination access and charging management to ensure system stability.
- Dual auxiliary power supply, the BMS system can obtain power from the DC side and the external AC power supply at the same time, reducing the battery power consumption.
- Multi-level human-computer interaction. In addition to displaying basic information about internal module indicators, external SOC and status indicators, the system is equipped with a 7-inch touch screen to further display the detailed status, alarm information and configuration information of the battery system. System parameters can also be set through the screen according to onsite requirements.
- The charge and discharge channels are different at the same port, and the charge and discharge switches intelligently to meet the charge and discharge requirements of the UPS.



4P16S 51.2V100Ah 65kg



1P10S 512V100Ah 870kg

Application area

512V/100AH high voltage lithium battery system is mainly used in education, government, medical, finance, transportation, manufacturing, retail, operators and other fields of data room and large and medium-sized data centers.

Application area

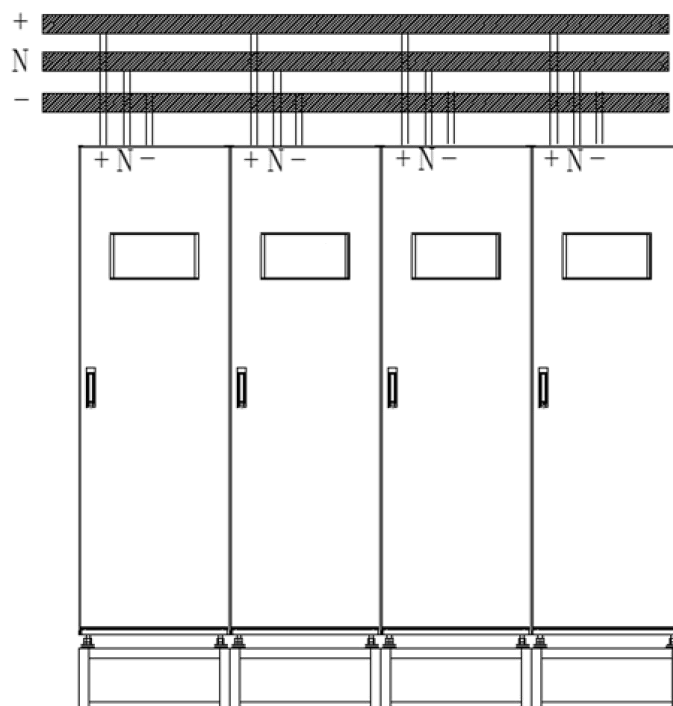


Diagram for parallel machines

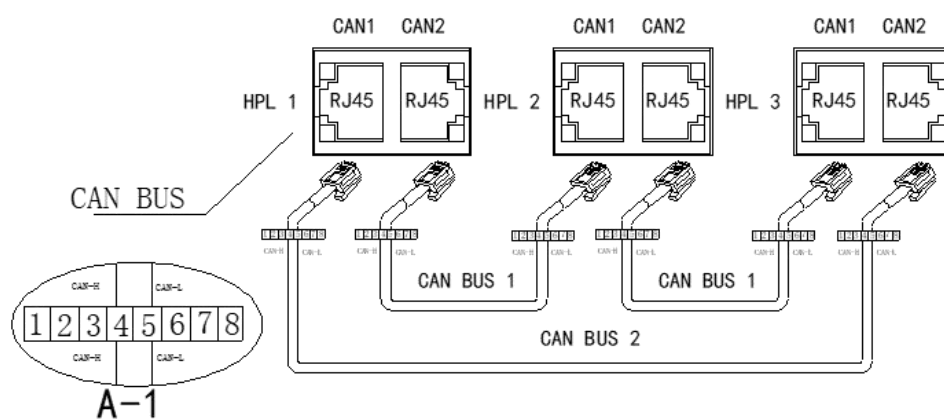


Diagram CAN BUS connection(3 examples)



System Logic

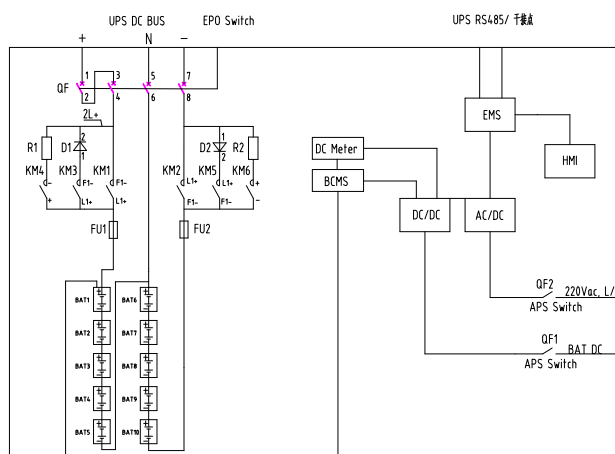


Diagram of system

QF	Breaker	BAT	Module	DC/DC	DC power
KM	Contactor	DC Meter	DC Meter	AC/DC	AC power
D	Diode	BMS	BMS	EMS	EMS
FU	Fuse	BCMS	BCMS	HMI	HPL screen
BAT	Battery module (include BMU) , Each system comes with 10 battery modules as standard				

System status description

●Nominal

The system is not fully charged, but the BMS is active.

●Charging

When the cabinet is being charged, the UPS can charge battery clusters. The charging current is controlled by the UPS. When the battery cluster SOC reaches 100%, the battery pack will automatically switch to the no-charge state, at which time the system still has the ability to discharge with zero delay.

●Discharging

In this state, the cabinet discharges power to the UPS and automatically protects it at the end of the discharge.

●Sleeping

When the battery is extremely low, the battery goes to sleep. The system automatically closes the main loop of the cabinet and shuts down the BMS system to prevent further battery consumption.

**BMU Specifications**

Item	Parameter
BMU working consumption	$\leq 3W$
BMU sleeping consumption	$\leq 10mW$
Voltage accuracy of Battery	$\pm 0.1V$
Voltage accuracy of Cell	$\pm 5mV$
Temperature accuracy	$\pm 1^{\circ}C$
CAN baud rate	500Kbps
Equilibrium mode	Passive equalization
Status indicator	RGB lighting
Working temperature of BMU	$-25^{\circ}C \sim 65^{\circ}C$
Storage Temperature range of BMU	$30^{\circ}C \sim 70^{\circ}C$
Working humidity range of BMU	$< 95\% @ 40^{\circ}C$
Cell series	16S

**BCMS Specification**

Item	Parameter
Rated voltage (V)	512
Rated capacity (Ah)	100
Maximum voltage (V)	576
cutoff voltage (V)	448
charging current (A)	0.5C
Maximum discharge current (A)	450
BCMS working consumption	$\leq 18W$
BCMS nominal consumption	$\leq 5W$
Voltage accuracy of rack	$\pm 2V$
Total voltage acquisition channel	2
Range of current measurement	$\pm 500A$ (Adjustable)
Current accuracy	FSC $\pm 1\%$
protect	Over pressure, high and low temperature, over current, short circuit
Measurement support	SOC、SOH
CAN Communications Baud rate	500Kbps
RS485 Communications Baud rate	9.6Kbps
SOC indicate	4 pcs LED
State instructions	RGB lighting
The BCMS operating temperature range	-25℃~45℃



Item	Parameter
The BCMS storage temperature range	-30℃~70℃
Operating humidity range of the BCMS	< 95%@40℃
Number of cell series	160S
Screen	LCD
Heat dissipation method	Natural cooling
storage capacity	40%-50% SOC
working temperature (℃)	0-40
Working humidity	5%-95%
levels of protection	IP20
Overall dimensions (mm) W * D * H	600*1100*2000

Power	Back-up time (min)
97kw	27.9
119.5kw	23.2
148kw	18.6
193.2kw	14.1

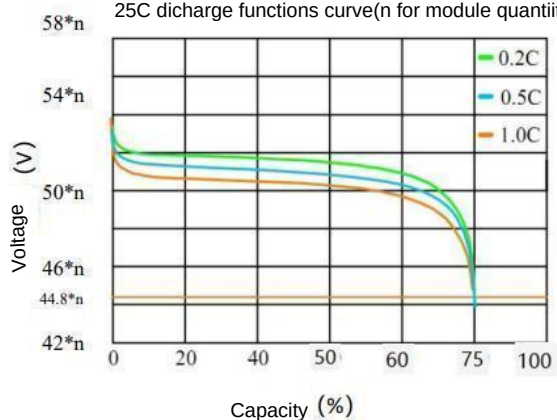
Discharge time for rated power(512V100Ah)

(Conditions: charging 548V/0.5C CC-CV to 0.05C, discharge to cut-off voltage 448V)

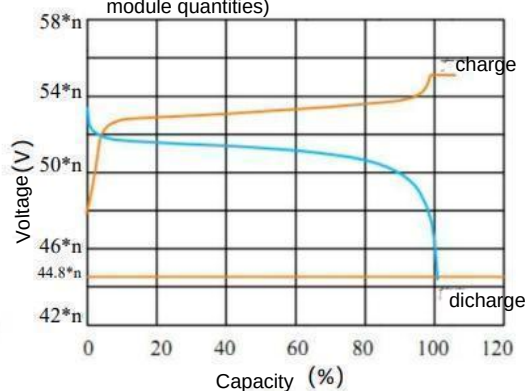


Charge/Discharge Curve

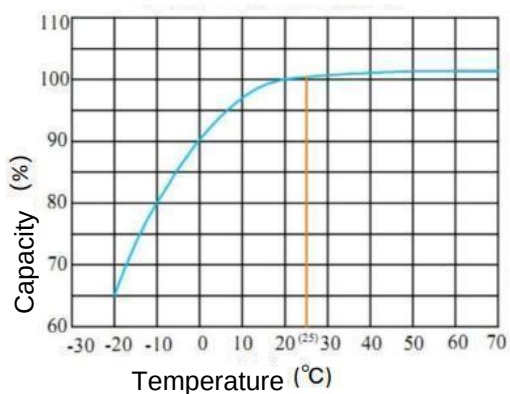
25C discharge functions curve(n for module quantities)



25C Charge&Discharge curve at 0.5C (n for module quantities)



Effect of temperature on 0.5C discharge capacity



25C cycle life curve(0.5C charge&0.5C discharge)

