

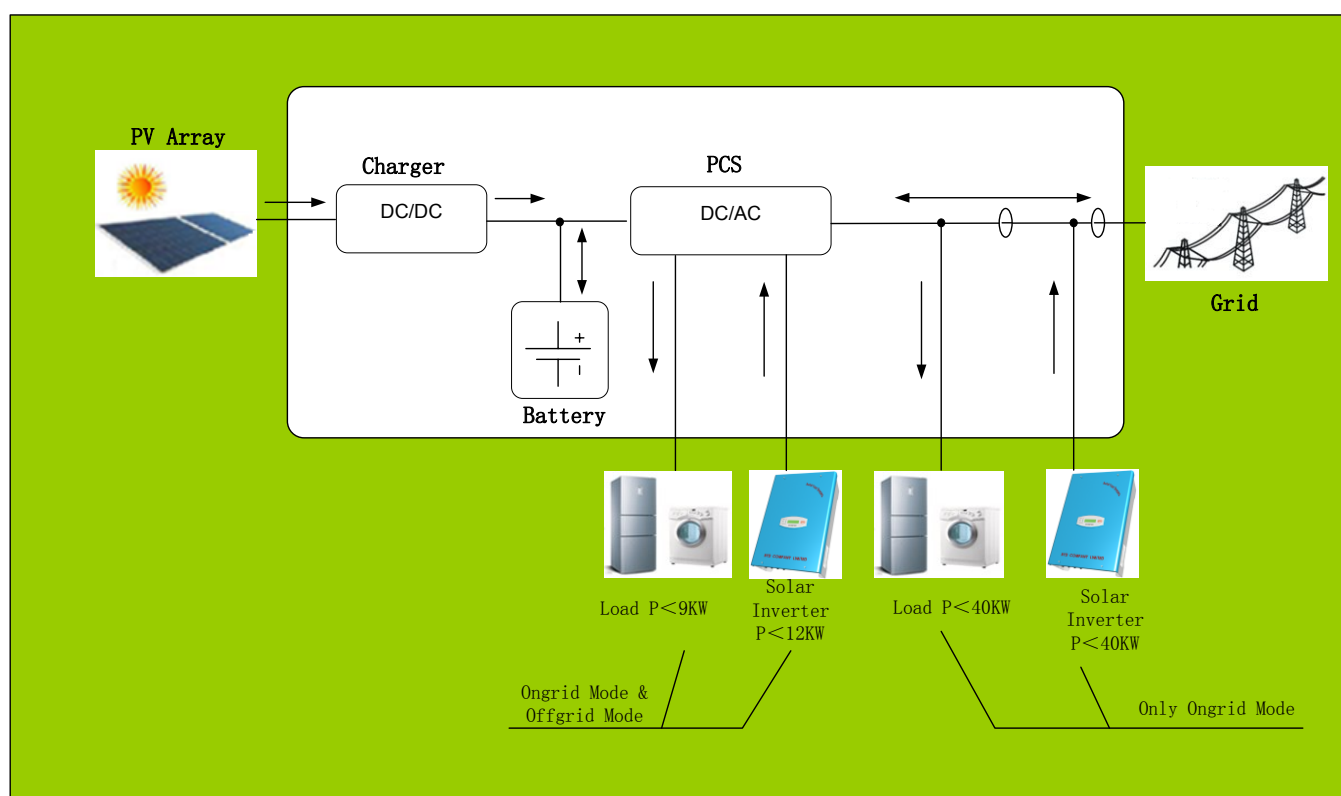


Distributed DESS Specification

1. BYD Distributed Energy Storage System (DESS) — Distributed Type (European Version)

Distributed Energy Storage System, that means converter cabinet (optional photovoltaic charger mounted or not), energy storage batteries and BMS cabinet make the corresponding combination of DESS with different capacity, power and functions. The output is three-phase AC, applying to the occasions with large load or three-phase power supply.

1、 System Principle Diagram



System Principle Diagram

2、 Performance Characteristics

- Converters with Isolation design having safety and reliability;
- Fe-battery application with high capacity and high safety;
- Operate in on-grid mode or off-grid mode;



Distributed DESS Specification

- Forming small-scale micro-grid system with photovoltaic generation and other AC generating equipment(no larger than 12KW);
- Under on-grid operation, max. connection of 40KW load or photovoltaic or other AC generating equipment allowed

3、Function Description

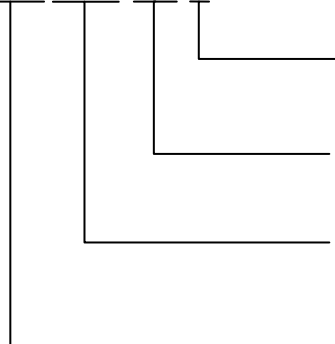
DESS shall convert the electricity generated by photovoltaic batteries and then storage it to energy storage batteries and also shall converter it to AC to feed the grid or provide to users. During this process, in addition to clean and green electricity got, users shall sell the excess electricity to the grid; when the grid is black out, DESS shall independently provide stable electricity to users; when the grid does not allow the electricity feedback, DESS shall realize the balance of use and generation of electricity in the system, that is to guarantee the less use of grid electricity, and also guarantee the system operates in according to the grid demands.

The system reserves the access ports of photovoltaic generation and other AC power supplies (the max. power is 12KW, and diesel generator is not included (that no larger than 12KW) that can operate in on-grid mode or independent operation or form micro-grid, meanwhile DESS has the capacity of photovoltaic generation, external connection of AC power supply, electricity load and grid input that matching the system itself. To meet the connection of larger generating equipment or load, the Hybrid System of Distributed DESS series products reserves the access port of 40KW photovoltaic generating AC equipment, and load access port with larger power (40KW), this function is valid in on-grid operation.

4、PCS Cabinet

4.1 Naming Rule

DESS-P09H-C00-E



U: the United States; C: China;
E: Europe; when there is no code, the default is European version
C: photovoltaic charger; 00: no photovoltaic charger;
04: 4KW; 08: 8KW。
P09: the power of PCS is 9KW, three-phase; H: hybrid system。
DESS: the English abbreviation form of Distributed Energy Storage System



Distributed DESS Specification

4.2 Specification

Type		Remarks	P09-C00	P09-C04	P09-C08	P09H-C08	
PCS Parameter	Nominal Power		9KW				
	Nominal Voltage		230/400Vac				
	requency		50HZ				
	Max. Output Current		13.1×3A				
	On-off Grid Switch Time		<200ms				
	Max. Inverter Efficiency		93.70%				
	Output Waveform		Sine Wave				
	THD	Current (On-grid Mode)		<4%			
		Voltage (Off-grid Mode)		<2%			
Reference Standard for Certification		VDE4105/AS4777/CEI0-21					
Photovoltaic Charger Parameter	Nominal Power		—	4KW	8KW	8KW	
	Input Voltage Range		—	65V~145Vdc	65V~145Vdc	65V~145Vdc	
	MPPT Voltage Range		—	70~120VDC	70~120VDC	70~120VDC	
	Output Voltage		—	32V~60Vdc	32V~60Vdc	32V~60Vdc	
	Max. Output Current		—	70A	140A	140A	
	Max. Efficiency		—	97.30%	97.30%	97.30%	
System Parameter	12KW AC Power Interface Reserved		Yes(Valid both in on-grid and off-grid operation)	Yes(Valid both in on-grid and off-grid operation)	Yes(Valid both in on-grid and off-grid operation)	Yes(Valid both in on-grid and off-grid operation)	
	40KW AC Power Interface Reserved		No	No	No	Yes(Only valid in on-grid operation)	



Distributed DESS Specification

40KW Load Interface Reserved		No	No	No	Yes(Only valid in on-grid operation)
Communication Interface		Ethernet	Ethernet	Ethernet	Ethernet
IP Grade		20	20	20	20
Working Ambient Temperature		0~45℃	0~45℃	0~45℃	0~45℃
Working Relative Humidity		10%~90% (No Condensation)	10%~90% (No Condensation)	10%~90% (No Condensation)	10%~90% (No Condensation)
Altitude		<2000m	<2000m	<2000m	<2000m
Overall Dimension (mm)	L×W×H	750×608×1290			
Net Weight (KG)		190	200	210	215



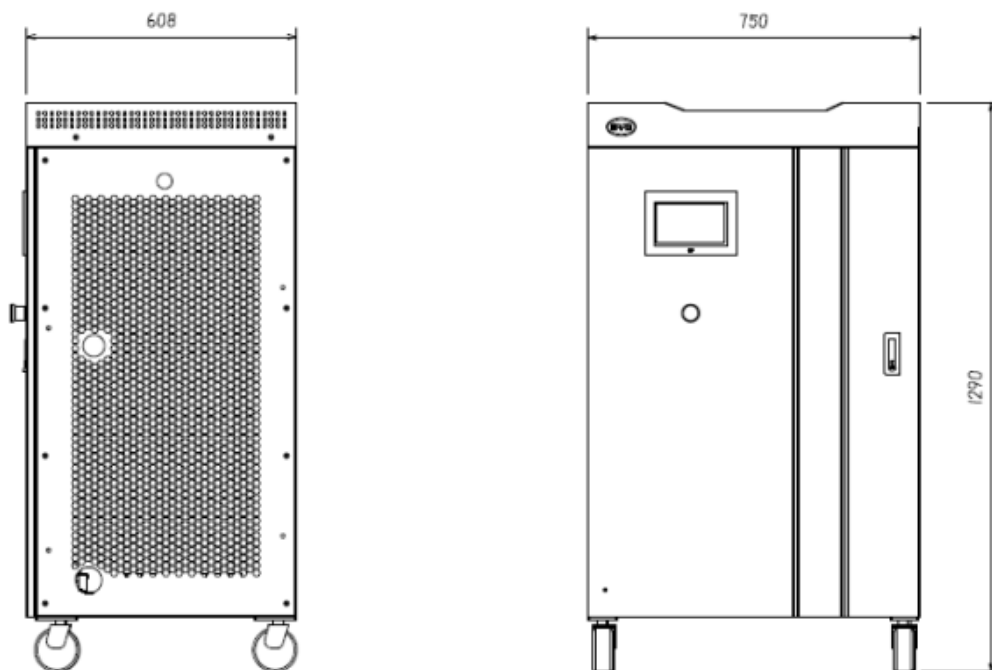
Distributed DESS Specification

4.3 Appearance Effect



Appearance Effect of PCS Cabinet

4.4 Dimension of PCS



Dimension Figure of PCS Cabinet



Distributed DESS Specification

5、Energy Storage Battery and BMS Cabinet

5.1 Naming Rule

DESS-B10

B10: the capacity of energy storage batteries is 10KWh。

DESS: the English abbreviation of Distributed Energy Storage System。

5.2 Specification

Energy Storage Battery Parameter	Nominal Voltage	51.2V
	Working Voltage Range	44.8V~57.6V
	Battery Type	LiFePO4
	Energy Storage Capacity	10KWh
	Battery Management	YES
	On-line Equilibrium	YES
	IP Grade	20
	Working Ambient Temperature	0~45℃
	Working Relative Humidity	10%~90% (No Condensation)
	Altitude	<2000m
Structure Parameter	Overall Dimension (mm) L×W×H	580×608×1290
	Net Weight (KG)	206



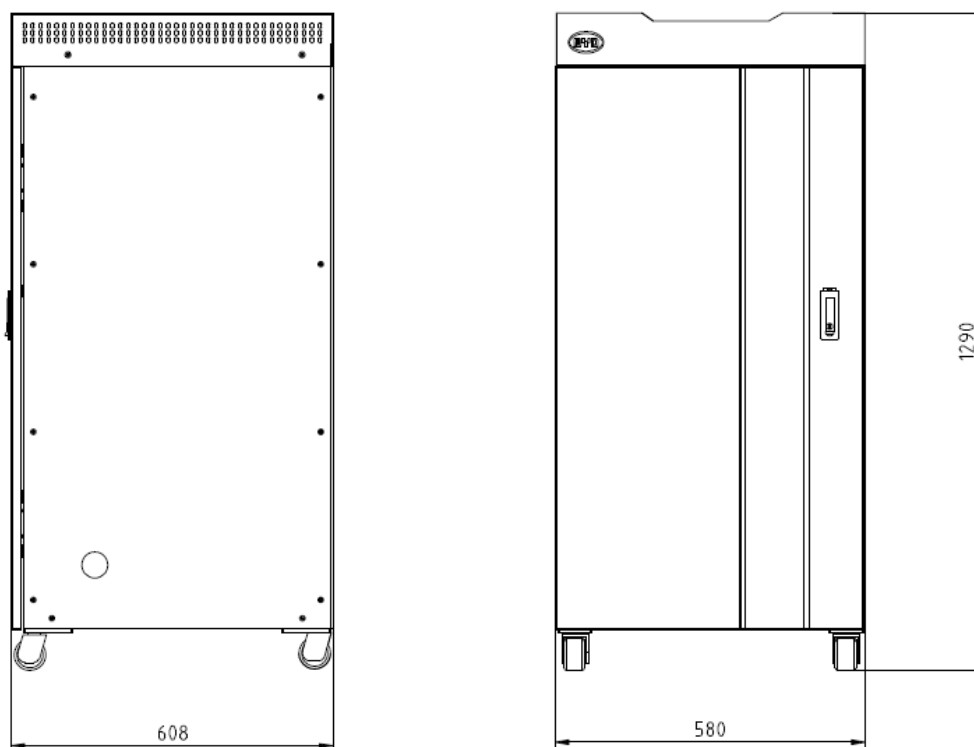
Distributed DESS Specification

5.3 Appearance Effect



Appearance Effect of B10 Battery Cabinet

5.4 Dimension Figure



Dimension Figure of Battery Cabinet



Distributed DESS Specification

6、 Cabinet Combination Application

The three types of PCS cabinets shall be matched with one or many battery cabinets to form DESS; when one battery cabinet is chosen, the AC power of system is 9KW and energy storage capacity is 10KWh; when many pieces are made, the expansion of energy capacity is realized through parallel connection of battery cabinets, and the AC power of system is 9KW, and energy storage capacity is $N \times 10\text{KWh}$.

*When purchasing the product, the specification type of PCS cabinet and battery cabinet shall be respectively listed. *