



CATALOGUE

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High Voltage Rack System

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Battery Control Unit

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**DYNESS
COMMERCIAL
SOLUTIONS**
”

ABOUT DYNESS

DYNESS is a high-tech company focusing on the research and manufacturing of LFP (LiFePO₄) battery energy storage solution.

As the core competence, DYNESS holds a team of industrial leaders and senior doctoral experts with vast experience in development, manufacturing, integration and management. So the company has great capability in independent material research, development and product development, in order to create outstanding power battery products.

DYNESS aims to create a green energy-saving model for the energy storage industry and create a green and healthy life for humanity.



100+
R&D Engineers



80+
Patents



70+
Global Footprints



2
Production Bases



60000+
Served Families



2017
Founded

LV SERIES RACK SYSTEM

FULLY CERTIFIED
48V/51.2V Battery Module

PowerRack LV1 PowerRack LV2 PowerRack LV4



High Safety LFP
Cell level monitoring and balancing



Wide Application
Cover all needs in commercial fields



Modular Design
Free configuration in parallel



Wide Compatible
Matching leading inverter brand



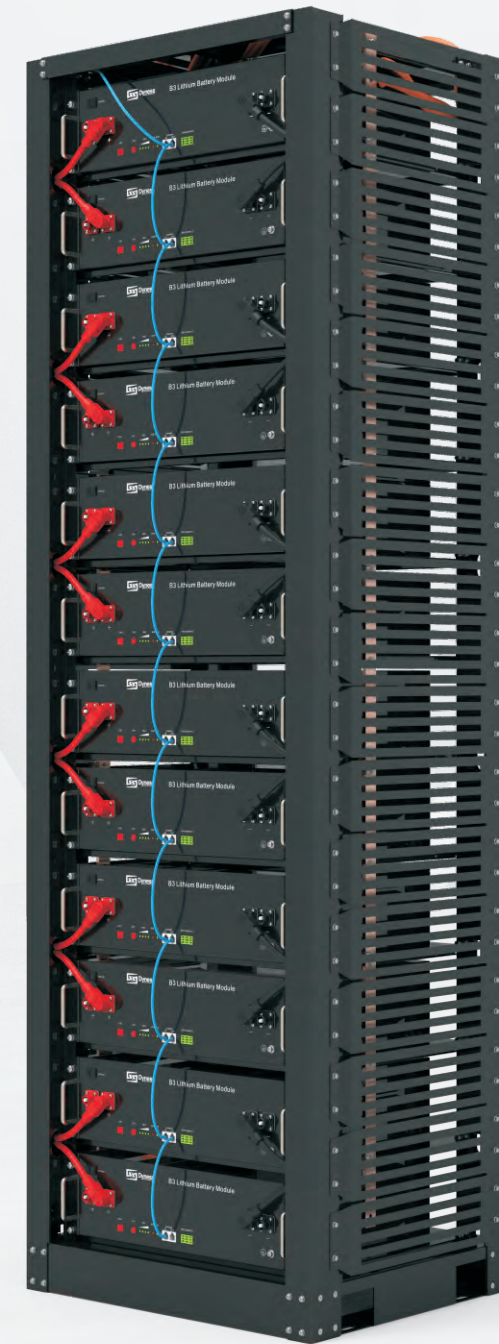
Expandable
Capacity from 2.4 to 204.8kWh



19" Inch
Easy install & maintenance

FULL RANGE AVAILABLE AT LOW VOLTAGE
AND HIGH VOLTAGE.

TAKE TIME FOR GREATER CONTROL IN ENERGY
WITH DYNESS RACK SYSTEM



Dyness Rack System LV1

Dyness 48V PowerRack LV1 system with its smart BMS in each battery module, no extra communication devices needed.

The entire system is intelligently managed. Keep you powered on all the time, cut the charges now.



Features and advantage

-  **High Safety LFP**
Cell level monitoring and balancing
-  **Modular Design**
Free configuration in parallel
-  **Expandable**
Capacity from 2.4 to 96kWh
-  **Wide Application**
Cover all needs in commercial fields
-  **Wide Compatible**
Matching leading inverter brand
-  **19" Inch**
Easy install & maintaince

Dyness Rack System LV1

Technical Parameters of B4850

Model	B4850
Battery Type	LiFePO4
Nominal Battery Energy	2.4kWh
Nominal Capacity	50Ah
Nominal Voltage	48V
Net Weight	22kg
Dimension(W*D*H)	480*360*90mm
Charging Temp. Range	0-50°C
Discharging Temp. Range	-10-50°C
Communication	CAN / RS485
Design Life	10+ Years
Calendar Life ^[1]	>6000 Cycles
Protection Level	IP20
Scalability	Up to 40 units in parallel
Compatible Inverters	Victron/SMA/Goodwe/Imeon/Solis/SAJ/Growatt/Luxpower /Voltronic/Deye etc.
Certification & Safety Standard	TUV/CE/EN62619/IEC62040/UN38.3/CEC Accredited/UL1973/CEI-021

[1]Test conditions:0.2C Charging/Discharging,@25°C,80% DOD

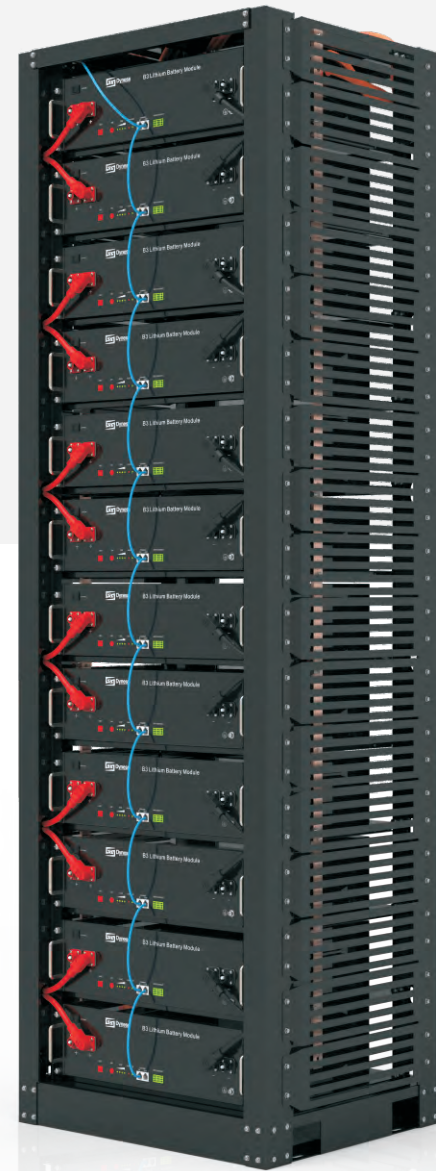
Technical Parameters

Model	Rack System LV1	
	PowerRack LV1-10P	PowerRack LV1-16P
Rack Type	PowerRack LV1-10P	PowerRack LV1-16P
Battery Module Type	B4850	B4850
Battery Module Quantity	10 units	16 units
Battery Type	LFP	LFP
Nominal Battery Energy	24kWh	38.4kWh
Nominal Capacity	500Ah	900Ah
Nominal Voltage	48V	48V
Operating Vol. Range	42-54V	42-54V
Nominal Power Output	12kW	19.2kW
Max. Power Output	24kW	38.4kW
Recommend Charging Current	250A	400A
Recommend Discharging Current	250A	400A
Net Weight	310kg	480kg
Dimension(W*D*H)	601*510*1290mm	601*510*1957mm
Module Number and Configuration	10 Units in parallel	16 Units in parallel

Dyness Rack System LV2

Dyness 48V PowerRack LV2 system with its smart BMS in each battery module, no extra communication devices needed.

The entire system is intelligently managed. Keep you powered on all the time, cut the charges now.



Features and advantage

- High Safety LFP**
Cell level monitoring and balancing
- Modular Design**
Free configuration in parallel
- Expandable**
Capacity from 3.6 to 144kWh
- Wide Application**
Cover all needs in commercial fields
- Wide Compatible**
Matching leading inverter brand
- 19" Inch**
Easy install & maintainece

Dyness Rack System LV2

Technical Parameters of B3

Model	B3
Battery Type	LiFePO4
Nominal Battery Energy	3.6kWh
Nominal Capacity	75Ah
Nominal Voltage	48V
Net Weight	30kg
Dimension(W*D*H)	480*360*130mm
Charging Temp. Range	0-50°C
Discharging Temp. Range	-20-50°C
Communication	CAN / RS485
Design Life	10+ Years
Calendar Life ^[1]	>6000 Cycles
Protection Level	IP20
Scalability	Up to 40 units in parallel
Compatible Inverters	Victron/SMA/Goodwe/Imeon/Solis/SAJ/Growatt/Luxpower /Voltronic/Deye etc.
Certification & Safety Standard	TUV/CE/IEC62619/IEC62040/UN38.3

[1]Test conditions:0.2C Charging/Discharging,@25°C,80% DOD

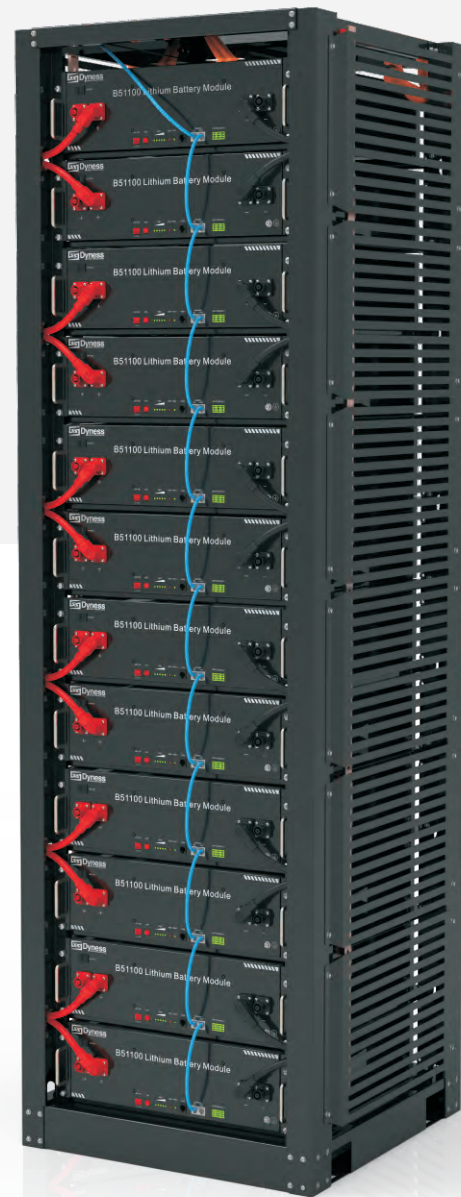
Technical Parameters

Model	Rack System LV2	
	PowerRack LV2-8P	PowerRack LV2-12P
Rack Type	PowerRack LV2-8P	PowerRack LV2-12P
Battery Module Type	B3	B3
Battery Module Quantity	8 units	12 units
Battery Type	LFP	LFP
Nominal Battery Energy	28.8kWh	43.2kWh
Nominal Capacity	600Ah	900Ah
Nominal Voltage	48V	48V
Operating Vol. Range	42-54V	42-54V
Nominal Power Output	9.6kW	14.4kW
Max. Power Output	19.2kW	28.8kW
Recommend Charging Current	200A	300A
Recommend Discharging Current	200A	300A
Net Weight	339kg	494kg
Dimension(W*D*H)	601*510*1393mm	601*510*2013mm
Module Number and Configuration	8 Units in parallel	12 Units in parallel








Dyness Rack System LV4

Dyness 48V PowerRack LV4 system with its smart BMS in each battery module, no extra communication devices needed.

The entire system is intelligently managed. Keep you powered on all the time, cut the charges now.



Features and advantage

-  **High Safety LFP**
Cell level monitoring and balancing
-  **APP monitoring**
Remote upgrade available
-  **Modular Design**
Free configuration in parallel
-  **Expandable**
Capacity from 5.12 to 204.8kWh
-  **Wide Application**
Cover all needs in commercial fields
-  **Wide Compatible**
Matching leading inverter brand
-  **19" Inch**
Easy install & maintenance

Dyness Rack System LV4

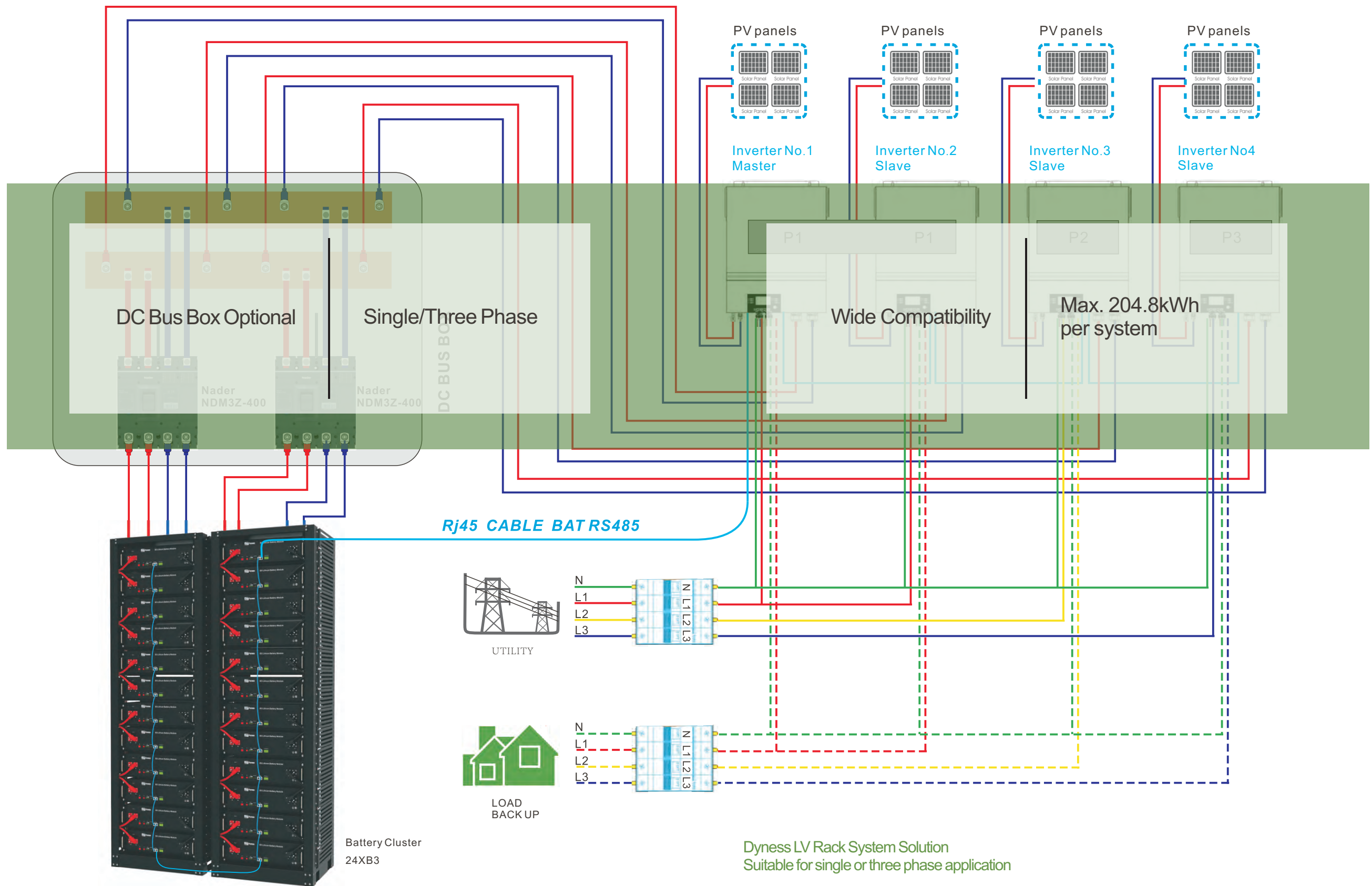
Technical Parameters of B51100

Model	B51100
Battery Type	LiFePO4
Nominal Battery Energy	5.12kWh
Nominal Capacity	100Ah
Nominal Voltage	51.2V
Net Weight	44kg
Dimension(W*D*H)	481*535*140mm
Charging Temp. Range	0-50°C
Discharging Temp. Range	-20-50°C
Communication	CAN / RS485
Design Life	10+ Years
Calendar Life ^[1]	>6000 Cycles
Protection Level	IP20
Scalability	Up to 40 units in parallel
Compatible Inverters	Victron/SMA/Goodwe/Imeon/Solis/SAJ/Growatt/Luxpower /Voltronic/Deye etc.
Certification & Safety Standard	TUV/CE/IEC62619/UN38.3

[1]Test conditions:0.2C Charging/Discharging,@25°C,80% DOD

Technical Parameters

Model	Rack System LV4	
	PoweRack LV4-8P	PowerRack LV4-12P
Rack Type	PoweRack LV4-8P	PowerRack LV4-12P
Battery Module Type	B51100	B51100
Battery Module Quantity	8 Units	12 Units
Battery Type	LiFeO4	LiFeO4
Nominal Battery Energy	40.96kWh	61.44kWh
Nominal Capacity	800Ah	1200Ah
Nominal Voltage	51.2V	51.2V
Operating Vol. Range	44.8~57.6V	44.8~57.6V
Nominal Power Output	20.48kW	30.72kW
Max. Power Output	32.76kW	49.15kW
Recommend Charging Current	400A	600A
Recommend Discharging Current	400A	600A
Net Weight	433kg	644kg
Dimension(W*D*H)	601*510*1392mm	601*510*2120mm
Module Number and Configuration	8 Units in parallel	12 Units in parallel



Dyness LV Rack System Solution
Suitable for single or three phase application

HV SERIES RACK SYSTEM

FULLY CERTIFIED
High Voltage Battery

PowerRack HV1 PowerRack HV2 PowerRack HV4 HV PowerCore



High Safety LFP
Cell level monitoring and balancing



Cluster Design
Free configuration for larger capacity



More Flexible Install
Outdoor and indoor solution optional



Tailor-made Cabinet
Suitable for multi-module install



High Voltage Range
179V~768V solutions



Wide Application
Cover all needs in commercial fields

FULL RANGE AVAILABLE AT LOW VOLTAGE
AND HIGH VOLTAGE.

TAKE TIME FOR GREATER CONTROL IN ENERGY
WITH DYNESS RACK SYSTEM










Dyness Rack System HV1

Dyness high voltage PowerRack HV1 system is equipped with an intelligent battery control unit in each battery cluster, ensuring the system operates with high safety and high efficiency. The entire system is intelligently managed. Keep you powered on all the time, cut the charges now.



Features and advantage

-  **Voltage Range**
168~876V
-  **High Safety LFP**
LFP & smart BMS
-  **Expandable**
Capacity up to 38.4kWh per cluster
-  **More Flexible Install**
Outdoor and indoor solution optional
-  **Tailor-made Cabinet**
Suitable for multit-module install
-  **High Voltage**
High system efficiency
-  **Wide Application**
Cover all needs in commercial fields

Dyness Rack System HV1

Technical Parameters of HV4850

Model	HV4850
Battery Type	LiFePO4
Nominal Battery Energy	2.4kWh
Nominal Capacity	50Ah
Nominal Voltage	48V
Net Weight	23kg
Dimension(W*D*H)	481*410*89mm
Charging Temp. Range	0-50°C
Discharging Temp. Range	-10-50°C
Communication	CAN / RS485(Optional)
Design Life	10+ Years
Calendar Life ^[1]	>6000 Cycles
Protection Level	IP20
Scalability	Up to 16 units in series
Compatible Inverters	Goodwe/Solis/SAJ/Sinexcel/Hoymiles/Growatt/Ecatus/Sermatec /ATESS/Sunways etc.
Certification & Safety Standard	UN38.3/UL1642(Battery Cell)

[1]Test conditions:0.2C Charging/Discharging,@25°C,80% DOD

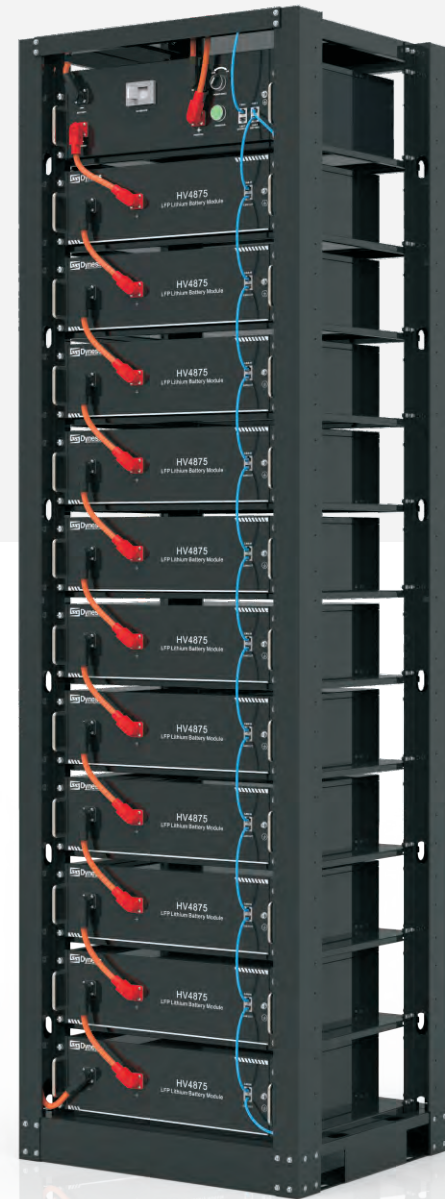
Technical Parameters

Model	Rack System HV1	
Rack Type	PowerRack HV1-9s	PowerRack HV1-15s
Battery Module Type	HV4850	HV4850
Battery Module Quantity	9 units	15 units
Nominal Battery Energy	21.6kWh	36kWh
Nominal Capacity	50Ah	50Ah
Nominal Voltage	432V	720V
Operating Vol. Range	378-486V	620-810V
Nominal Power Output	12.96kW	21.6kW
Max. Power Output	21.6kW	36kW
Recommend Charging Current	25A	25A
Recommend Discharging Current	25A	25A
Net Weight	277.5kg	444.5kg
Dimension(W*D*H)	601*510*1250mm	601*510*1917mm
Battery Control Unit Type ^[1]	BDU50	BDU50
Module Number and Configuration	9 Units in series	15 Units in series

[1]HV4850 battery module need to be used with BDU50 control unit.

Dyness Rack System HV2

Dyness high voltage PowerRack HV2 system is equipped with an intelligent battery control unit in each battery cluster, ensuring the system operates with high safety and high efficiency. The entire system is intelligently managed. Keep you powered on all the time, cut the charges now.



Features and advantage

- Voltage Range**
168~864V
- High Safety LFP**
LFP & smart BMS
- Expandable**
Capacity up to 57.6kWh per cluster
- More Flexible Install**
Outdoor and indoor solution optional
- Tailor-made Cabinet**
Suitable for multit-module install
- High Voltage**
High system efficiency
- Wide Application**
Cover all needs in commercial fields

Dyness Rack System HV2

Technical Parameters of HV4875

Model	HV4875
Battery Type	LiFePO4
Nominal Battery Energy	3.6kWh
Nominal Capacity	75Ah
Nominal Voltage	48V
Net Weight	31.5kg
Dimension(W*D*H)	481*410*133mm
Charging Temp. Range	0-50°C
Discharging Temp. Range	-10-50°C
Communication	CAN / RS485(Optional)
Design Life	10+ Years
Calendar Life ^[1]	>6000 Cycles
Protection Level	IP20
Scalability	Up to 16 units in series
Compatible Inverters	Goodwe/Solis/SAJ/Sinexcel/Hoymiles/Growatt/Ecatus/Sermatec /ATESS/Sunways etc.
Certification & Safety Standard	UN38.3/UL1642(Battery Cell)

[1]Test conditions:0.2C Charging/Discharging,@25°C,80% DOD

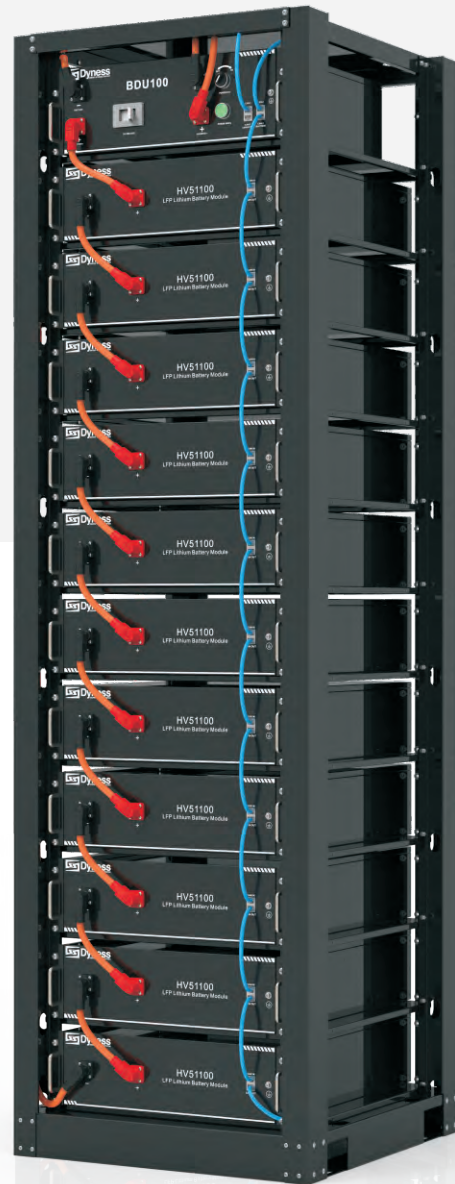
Technical Parameters

Model	Rack System HV2	
	PowerRack HV2-7s	PowerRack HV2-11s
Rack Type		
Battery Module Type	HV4875	HV4875
Battery Module Quantity	7 units	11 units
Nominal Battery Energy	25.2kWh	39.6kWh
Nominal Capacity	75Ah	75Ah
Nominal Voltage	336V	528V
Operating Vol. Range	294-378V	462-594V
Nominal Power Output	15.12kW	23.76kW
Max. Power Output	25.2kW	39.6kW
Recommend Charging Current	37.5A	37.5A
Recommend Discharging Current	37.5A	37.5A
Net Weight	295.5kg	446.7kg
Dimension(W*D*H)	601*510*1393mm	601*510*2013mm
Rack System Control unit Type ^[1]	BDU100	BDU100
Module Number and Configuration	7 Units in series	11 Units in series

[1]HV4875 battery module need to be used with BDU100 control unit.

Dyess Rack System HV4

Dyess high voltage PowerRack HV4 system is equipped with an intelligent battery control unit in each battery cluster, ensuring the system operates with high safety and high efficiency. The entire system is intelligently managed. Keep you powered on all the time, cut the charges now.



Features and advantage

- Voltage Range**
179~864V
- High Safety LFP**
LFP & smart BMS
- Expandable**
Capacity up to 76.8kWh per cluster
- More Flexible Install**
Outdoor and indoor solution optional
- Tailor-made Cabinet**
Suitable for multit-module install
- High Voltage**
High system efficiency
- Wide Application**
Cover all needs in commercial fields

Dyess Rack System HV4

Technical Parameters of HV51100

Model	HV51100
Battery Type	LiFePO4
Nominal Battery Energy	5.12kWh
Nominal Capacity	100Ah
Nominal Voltage	51.2V
Net Weight	40kg
Dimension(W*D*H)	481*535*133mm
Charging Temp. Range	0-50°C
Discharging Temp. Range	-10-50°C
Communication	CAN / RS485(Optional)
Design Life	10+ Years
Calendar Life ^[1]	>6000 Cycles
Protection Level	IP20
Scalability	Up to 16 units in series
Compatible Inverters	Goodwe/Solis/SAJ/Sinexcel/Hoymiles/Growatt/Ecatus/Sermatec /ATESS/Sunways etc.
Certification & Safety Standard	UN38.3/ICE62619

[1]Test conditions:0.2C Charging/Discharging,@25°C,80% DOD

Technical Parameters

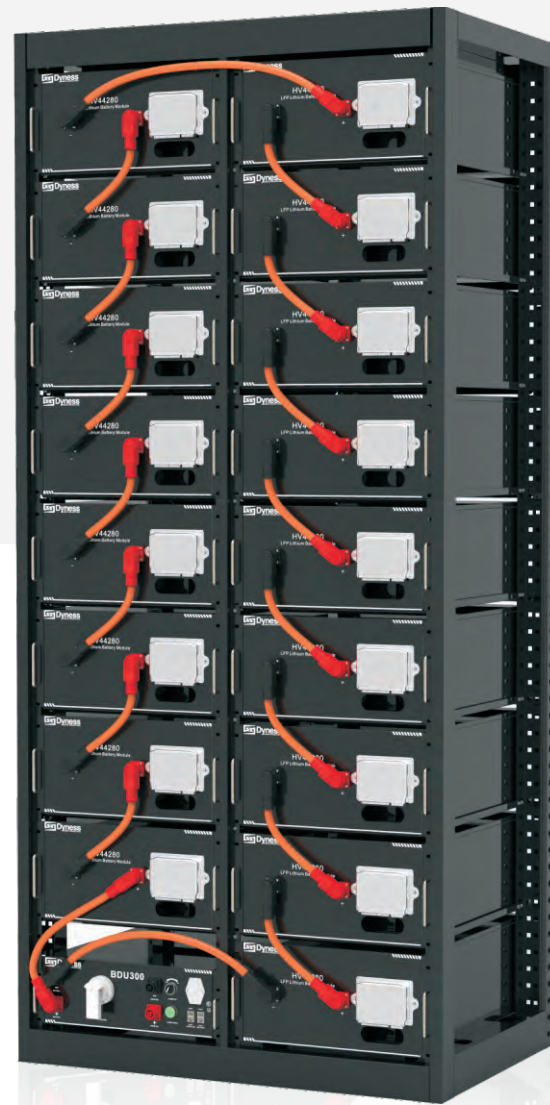
Model	Rack System HV4	
	PowerRack HV4-7s	PowerRack HV4-11s
Rack Type	PowerRack HV4-7s	PowerRack HV4-11s
Battery Module Type	HV51100	HV51100
Battery Module Quantity	7 Unis	11 Unis
Nominal Battery Energy	35.84kWh	56.32kWh
Nominal Capacity	100Ah	100Ah
Nominal Voltage	358.4V	563.2V
Operating Vol. Range	313.6-403.2V	492.8-633.6V
Nominal Power Output	21.5kW	33.79kW
Max. Power Output	35.84kW	56.32kW
Recommend Charging Current	50A	50A
Recommend Discharging Current	50A	50A
Net Weight	373kg	608kg
Dimension(W*D*H)	601*610*1422mm	601*610*2063mm
Rack System Control unit Type ^[1]	BDU100	BDU100
Module Number and Configuration	7 Units in series	11 Units in series

[1]HV51100 battery module need to be used with BDU100 control unit.

Dyness Rack System HV5

Dyness high voltage PowerRack HV5 system is equipped with an intelligent battery control unit in each battery cluster, ensuring the system operates with high safety and high efficiency.

The entire system is intelligently managed. Keep you powered on all the time, cut the charges now.



Features and advantage

- Voltage Range**
156~856V
- High Safety LFP**
LFP & smart BMS
- Expandable**
Capacity up to 213.2kWh per cluster
- More Flexible Install**
Outdoor and indoor solution optional
- High Voltage**
High system efficiency
- Wide Application**
Cover all needs in commercial fields

Dyness Rack System HV5

Technical Parameters of HV44280

Model	HV44280
Battery Type	LiFePO4
Nominal Battery Energy	12.54kWh
Nominal Capacity	280Ah
Nominal Voltage	44.8V
Net Weight	94kg
Dimension(W*D*H)	485*635*226mm
Charging Temp. Range	0-50°C
Discharging Temp. Range	-10-50°C
Communication	CAN / RS485(Optional)
Design Life	10+ Years
Calendar Life ^[1]	>6000 Cycles
Protection Level	IP20
Scalability	Up to 17 units in series
Compatible Inverters	Goodwe/Solis/SAJ/Sinexcel/Hoymiles/Growatt/Ecatus/Sermatec /ATESS/Sunways etc.
Certification & Safety Standard	UN38.3/UL1642(Battery Cell)

[1]Test conditions:0.2C Charging/Discharging,@25°C,80% DOD

Technical Parameters

Model	Rack System HV5
Rack Type	PowerRack HV5-17s
Battery Module Type	HV44280
Battery Module Quantity	17 Units
Nominal Battery Energy	213.24kWh
Nominal Capacity	280Ah
Nominal Voltage	761.6V
Operating Vol. Range	666.4-856.8V
Nominal Power Output	127.9kW
Max. Power Output	213.2kW
Recommend Charging Current	140A
Recommend Discharging Current	140A
Net Weight	1792kg
Dimension(W*D*H)	1060*725*2370mm
Rack System Control unit Type ^[1]	BDU300
Module Number and Configuration	17 Units in series

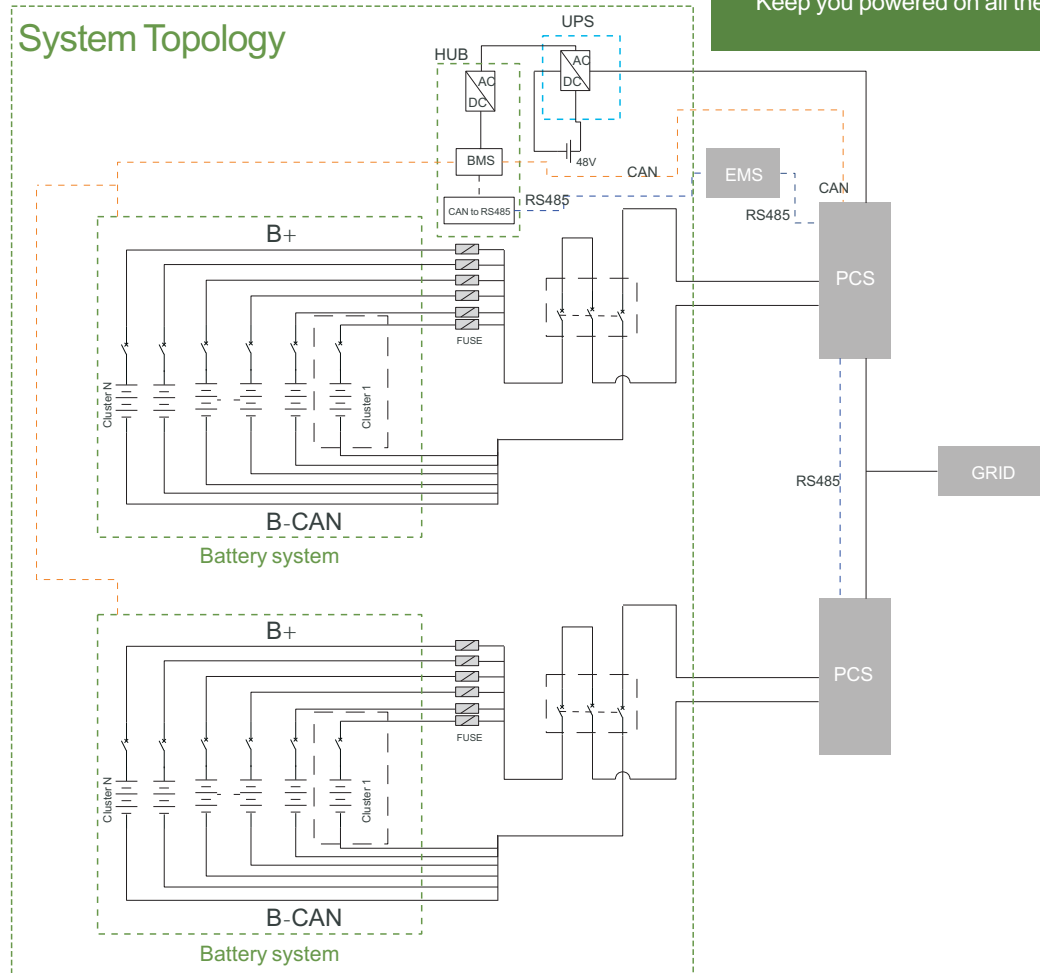
[1]HV44280 battery module need to be used with BDU300 control unit.



Dyness PowerCore HV5

Dyness high voltage PowerCore HV5 system, easy to expand to multi-system. The entire system is intelligently managed. Keep you powered on all the time, cut the charges now.

System Topology



Dyness Rack System HV5

Technical Parameters

Model	PowerCore HV5	
	PowerCore HV5-17s	PowerCore HV5-13s
Rack Type	PowerCore HV5-17s	PowerCore HV5-13s
Battery Module Type	HV44280	HV44280
Battery Module Quantity	17 units	26 units
Nominal Battery Energy	213.24kWh	326.04kWh
Nominal Capacity	280Ah	280Ah
Nominal Voltage	761.6V	582.4V
Operating Vol. Range	666.4-856.8V	509.6-655.2V
Nominal Power Output	127.9kW	195.6kW
Max. Power Output	213.2kW	326.1kW
Recommend Charging Current	140A	140A
Recommend Discharging Current	140A	140A
Net Weight	2570kg	3440kg
Dimension(W*D*H)	1200*1449*2027mm	1200*1449*2027mm
Battery Control Unit Type ^[1]	BDU300	BDU300
Module Number and Configuration	17 Units in series per cluster	2 Clusters of 13 units each

[1]HV44280 battery module need to be used with BDU300 control unit.

Features and advantage



Voltage Range
156-856V



High Safety LFP
LFP & smart BMS



Tailor-made Cabinet
IP55 outdoor solution



Expandable
Capacity up to 213.2kWh per cluster

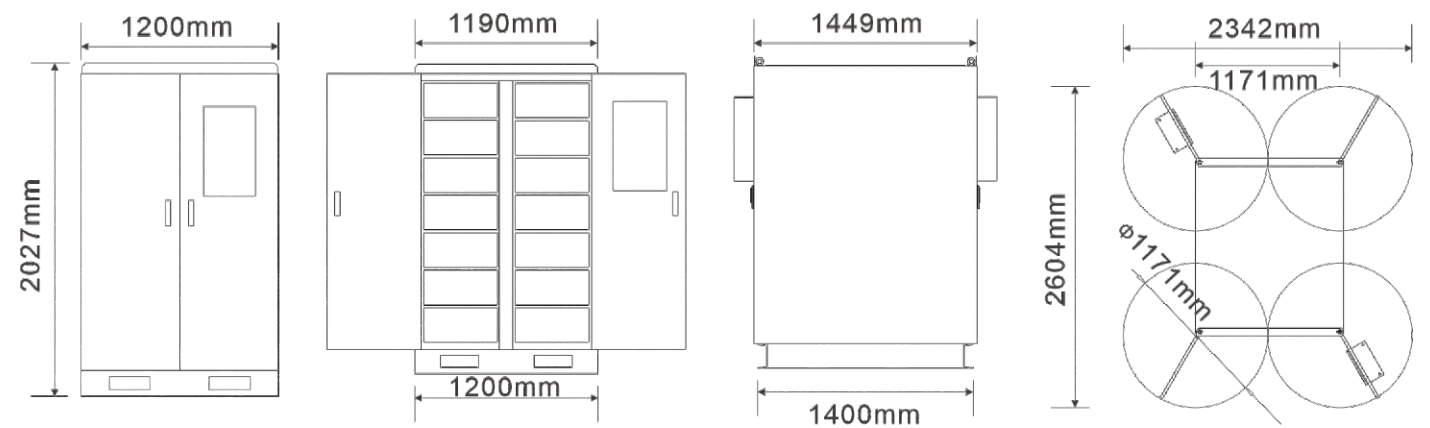


High Voltage
High system efficiency



Wide Application
Cover all needs in commercial fields

Dimension of the PowerCore cabinet



Battery Control Unit BDU50/BDU100

Features and advantage

- ▶ High safety built-in DC breaker. Overcurrent protection, continuous charge and discharge up to 50A.
- ▶ The maximum operating voltage of 768V ensures high-voltage systems operate reliably.
- ▶ Smart control, protection and alarm for overheating, overcurrent, and overvoltage
- ▶ 19" design is suitable for 2U/3U rack installation in the market, easy to install.
- ▶ 1000V withstand voltage grade
- ▶ The BDU is powered by batteries and does not require an external power supply.

Front Panel of BDU module

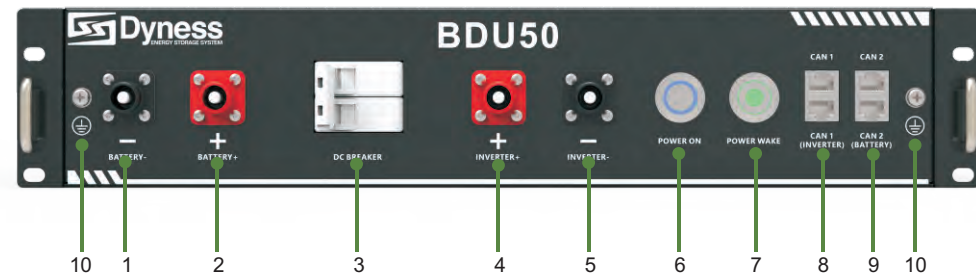


Figure2-2 The interface of BDU50

Interface Definition

Item	Name	Definition
1	Negative Socket	Battery input cable
2	Positive Socket	Battery input cable
3	DC Breaker	The master switch of the battery system, you must switch on it before switching on power on & power wake switch; Short circuit protection.
4	Positive Socket	Battery output cable
5	Negative Socket	Battery output cable
6	Power On Button	Turn on the switch to power the BMS system
7	Power Wake Button	Long press this button to start the battery system
8	CAN 1	RJ45 communication port between the battery system and inverter
9	CAN 2	RJ45 communication port between battery module and BDU
10	Grounding	Shell ground connection

Battery Control Unit BDU300

Features and advantage

- ▶ High safety built-in DC breaker. Overcurrent protection, continuous charge and discharge up to 200A.
- ▶ The maximum operating voltage of 768V ensures that a series of 213kWh high-voltage systems operate reliably.
- ▶ Smart control, protection and alarm for overheating, overcurrent, and overvoltage
- ▶ 19" design can be used for 3U rack installation in the market, easy installation
- ▶ 1000V withstand voltage grade
- ▶ The BDU is powered by batteries and does not require an external power supply.

Front Panel of BDU module

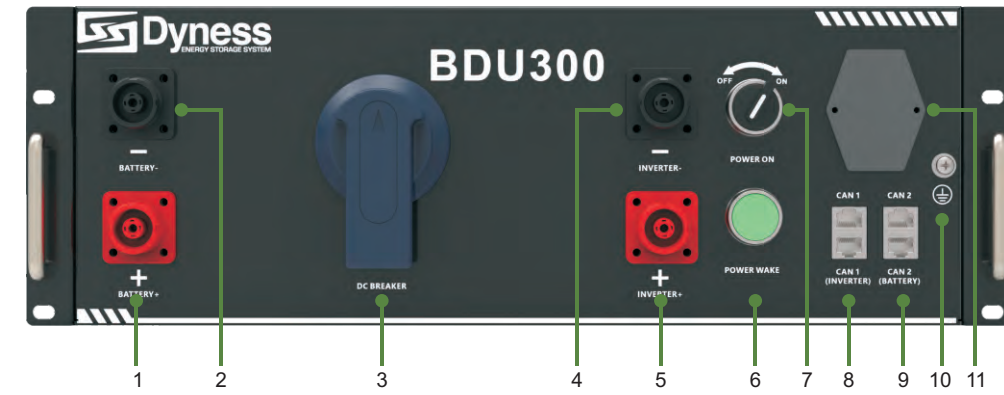


Figure2-2 The interface of BDU300

Interface Definition

Item	Name	Definition
1	Positive Socket	Battery input cable
2	Negative Socket	Battery input cable
3	DC Breaker	The master switch of the battery system, you must switch on it before switching on power on & power wake switch; Short circuit protection.
4	Negative Socket	Battery output cable
5	Positive Socket	Battery output cable
6	Power Wake Button	Long press this button to start the battery system
7	Power On Switch	Turn on the switch to power the BMS system
8	CAN 1	RJ45 communication port between the battery system and inverter
9	CAN 2	RJ45 communication port between battery module and BDU
10	Grounding	Shell ground connection
11	AC Power Input Socket	Reserved port, battery system wake-up function under low voltage state