2021.04.02

Specification

of PowerRack HV2

1. Product Specification

1.1 Battery Module

Table 1-1 Parameter of HV4875

Module Name	HV4875
Cell Technology	Li-ion(LFP)
Battery Module Capacity (kWh)	3.6
Battery Module Voltage (Vdc)	48
Battery Module Capacity (Ah)	75
Battery Module Cell Quantity (pcs)	45
Battery Cell Capacity (Wh)	80
Battery Cell Voltage (Vdc)	3.2
Battery Cell Capacity (AH)	25
Battery Module Cell Quantity in Series (pcs)	15S3P
Battery Module Charge Voltage (Vdc)	54
Battery Module Charge Current (Normal)	37.5
Battery Module Discharge lower-Voltage (Vdc)	42
Battery Module Discharge Current (Normal)	37.5
Dimension(W*D*H, mm)	481*410*133mm
Communication	CAN
Pollution Degree (PD)	I
IP Grade	IP20
Weight(kg)	31.5

1.2 System Performance Parameter

Table 1-2 Parameter of PowerRack HV2 system -1

Item	PowerRack HV2 -14	PowerRack HV2 -18	PowerRack HV2 -21	PowerRack HV2 -25
Module Type	LFP	LFP	LFP	LFP
Nominal Voltage(V)	192V	240V	288V	336V
Work Voltage Range(V)	168~216	210~270	252~324	294~378
Module configuration	4 Series	5 Series	6 Series	7 Series
Nominal Energy(kWh)	14.4	18	21.6	25.2
Nominal Power(kW)	8.64	10.8	12.96	15.12

Max Power(kW)	14.4	18	21.6	25.2
Charging Current(A)	37.5	37.5	37.5	37.5
Discharge Current(A)	37.5	37.5	37.5	37.5
Dimension(mm)	601*510*1393	601*510*1393	601*510*1393	601*510*1393
Weight(kg)	198.6	230.9	263.2	295.5
Battery Module Name	HV4875	HV4875	HV4875	HV4875
Battery Module Quantity(pcs)	4	5	6	7

Table 1-3 Parameter of PowerRack HV2 system -2

Item	**PowerRack HV2 -28**	**PowerRack HV2 -32**	**PowerRack HV2 -36**	**PowerRack HV2 -39**
Module Type	LFP	LFP	LFP	LFP
Nominal Voltage(V)	384V	432V	480V	528V
Work Voltage Range(V)	336~432	378~486	420~540	462~594
Module configuration	8 Series	9 Series	10 Series	11 Series
Nominal Energy(kWh)	28.8	32.4	36	39.6
Nominal Power(kW)	17.28	19.44	21.6	23.76
Max Power(kW)	28.8	32.4	36	39.6
Charging Current(A)	37.5	37.5	37.5	37.5
Discharge Current(A)	37.5	37.5	37.5	37.5
Dimension(mm)	601*510*2013	601*510*2013	601*510*2013	601*510*2013
Weight(kg)	349.8	382.1	414.4	446.7
Battery Module Name	HV4875	HV4875	HV4875	HV4875
Battery Module Quantity(pcs)	8	9	10	11

2. Interface Definition

2.1 Front Panel of battery module

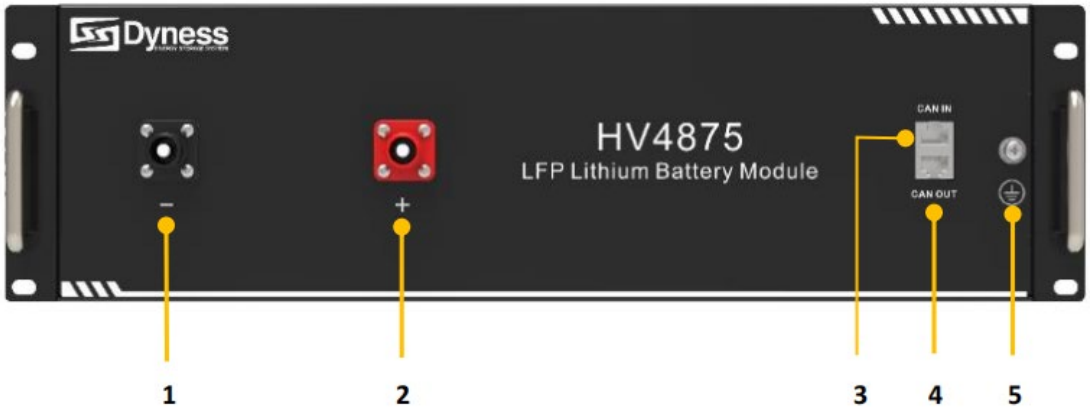

Figure2-1 The interface of HV4875

Table 2-1 Interface Definition

Item	Name	Definition
1	Negative socket	Battery output or Serial anode cable
2	Positive socket	Battery output or Serial anode cable
3	CAN IN	RJ45 port, connect to former module or BDU
4	CAN OUT	RJ45 port, connect to next module or BDU
5	Ground	⏚ Shell ground connection

2.2 Front Panel of BDU module

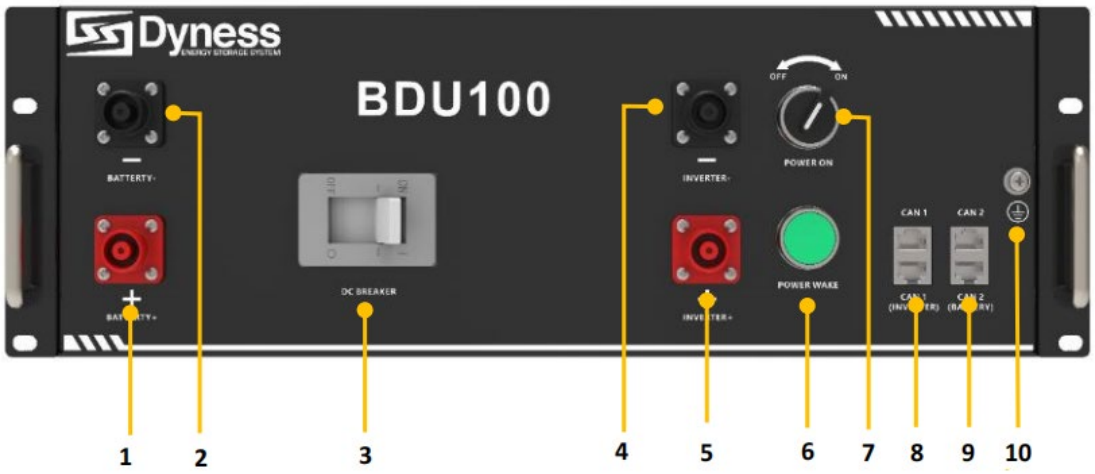

Figure2-2 The interface of BDU100

Table 2-2 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

3. Alarms and protection

Note: "N" in the table is Battery Module Quantity

No.	Item		Default value	Remark
1	High charging voltage protection and recovery	Alarm value	52.5V*N	
		Alarm recovery value	51V*N	
		Protection value	54.75V*N	
		Protection recovery value	52V*N	
2	Low discharging voltage protection	Alarm value	43.5V*N	
		Alarm recovery value	46.5V*N	
		Protection value	38.25V*N	
		Protection recovery value	42V*N	
3	Low cell voltage protection and recovery	Alarm value	2.9V	
		Alarm recovery value	3.1V	
		Protection value	2.55V	
		Protection recovery value	2.8V	

No.	Item		Default value	Remark
4	High cell voltage protection and recovery	Alarm value	3.6V	
		Alarm recovery value	3.6V	
		Protection value	3.65V	
		Protection recovery value	3.45V	
5	Charging over current protection	Alarm value	75A	
		Alarm recovery	After the alarm, restored when the current release or if there is a discharging current recovery.	
		Protection value	80A	
		Protection recovery	After protection, restored in 1s delay or immediately when there is discharging current.	
6	Discharging over current protection	Alarm value	75A	
		Alarm recovery	After the alarm, restored when the current release or if there is a charging current recovery.	
		Protection value	80A	
		Protection recovery	After protection, restored in 1s delay or immediately when there is charging current.	
7	Cell over temperature protection and recovery	Charging alarm value	55℃	
		Charging alarm recovery value	54℃	
		Charging protection value	60℃	
		Charging protection	59℃	
		Recovery value		
		Discharging alarm value	55℃	
		Discharging alarm recovery value	54℃	
		Discharging protection value	60℃	
		Discharging protection recovery value	59℃	
8	Cell low	Discharging alarm value	0℃	

No.	Item		Default value	Remark
	temperature protection and recovery	Discharging alarm recovery value	1℃	
		Discharging protection value	-10℃	
		Discharging protection recovery value	-9℃	
		Charging alarm value	0℃	
		Charging alarm recovery value	1℃	
		Charging protection value	-10℃	
		Charging protection recovery value	-9℃	

4. Communication port

Figure 4-1 CAN interface definition

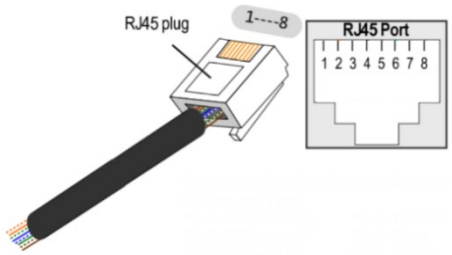

Table 4-1 BDU CAN1 Pin Definition

Foot position	Color	Definition
PIN1	Orange/white	Reserve
PIN2	Orange	XGND
PIN3	Green/white	Reserve
PIN4	Blue	CANH
PIN5	Blue/white	CANL
PIN6	Green	Reserve
PIN7	Brown/white	Reserve
PIN8	Brown	Reserve

Table 4-2 BDU CAN2 & Battery CAN Pin Definition

Foot position	Color	Definition
PIN1	Orange/white	WAKE
PIN2	Orange	24V+
PIN3	Green/white	24V+
PIN4	Blue	CANSH
PIN5	Blue/white	CANSL
PIN6	Green	24V-
PIN7	Brown/white	24V-
PIN8	Brown	CANSG

Remark: HV4875 module need to be used with BDU.

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