



# WARRANTY TERMS

## FOR ENERGY STORAGE SOLUTIONS

### **HV Series**

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## After-sales service and Limited warranty letters

### End User Definition

End User (hereinafter "Buyer") is the buyer who puts the Products into operation for the first time via the way authorized by Dyness.

### Authorized Seller

Authorized Seller is the Agents, Distributors, Partners, etc. authorized by Dyness.

### 1 Purpose

The primary purpose of Limited warranty letters part is to clearly define the matters related to warranty policy of Products.

The primary purpose of After-sales service part is to clearly define the matters related to precautions for use of Products.

### 2 Applicable products

HV4850 ESS unit, HV4875 ESS unit, HV51100 ESS unit, HV51100F ESS unit, PowerRack HV1, PowerRack HV2, PowerRack HV4, PowerRack HV4F, PowerStone

Dyness warrants to the End User as follows:

### 3 Product Warranty

#### Warranty start date definition

The Warranty Period shall commence from the earlier date of the following:

- (1) the date of when the first installation of the warranted product is completed
- (2) 180 days after the date of shipment from Dyness Digital Energy Technology Co., LTD

#### Warranty Period

No.	Product Name	Warranty Period
1	HV4850 ESS unit	10 years
2	HV4875 ESS unit	10 years
3	HV51100 ESS unit	10 years
4	HV51100F ESS unit	10 years
5	PowerRack HV1	10 years
6	PowerRack HV2	10 years
7	PowerRack HV4	10 years
8	PowerRack HV4 1C Version	5 years
9	PowerRack HV4F	10 years
10	PowerStone	10 years

Buyers can download the "Dyness" app from the mobile app store and register. Submit product installation information to obtain battery warranty. End users can also register at <https://ems.dyness.com/login> and submit product installation information to obtain battery warranty.

This Warranty covers a capacity equivalent to 1 full cycle per day.

Full cycle: Discharge the nominal capacity of a fully charged battery and fully charge it afterwards. Micro cycles sum up to full cycles according to amount of energy charged and discharged.

Note. Products are unavailable to protect itself from the deep discharge/charging in condition of without communication connection.

For products used without communications, the warranty period is five (5) years from the warranty start date.

Regarding self-discharging degradation, 180 days after ex-work is ensured.

## 4 Performance Warranty (standard)

### Capacity performance warranty

Dyness warrants that the product will maintain seventy percent (70%) of the rated energy during the warranty date or the minimum energy throughput calculated from the warranty start date, whichever comes first. The following table lists the rated energy and minimum energy throughput for each product model. The term "rated energy" herein refers to the product's original rated energy printed on the product label. The prerequisite for a valid performance warranty is to be executed in accordance with Appendix 1 - Use and Transportation Requirements. Table 4-1 Product Energy

Product Type	Nominal Energy (kWh)	Minimum Energy Throughput (MWh)
HV4850 ESS unit	2.4	6.70
HV4875 ESS unit	3.6	10.05
HV51100 ESS unit	5.12	14.30
HV51100F ESS unit	5.12	14.30
PowerRack HV1-9s	21.6	60.30
PowerRack HV2-7s	25.2	70.35
PowerRack HV4-7s	35.84	100.10
PowerRack HV4-11s	56.32	157.2
PowerRack HV4-7s(1C)	35.84	50.3
PowerRack HV4F-8s	40.96	114.40
PowerStone-15s	76.8	214.44

The corresponding Minimum Energy Throughput of the PowerRack HV1, PowerRack

HV2, PowerRack HV4, and PowerRack HV4F System is that the corresponding Energy Throughput of the matched battery module in the above table times the total number of modules.

Examples are as follows:

For Power Rack HV1, hypothesis it matches with 10 pcs HV4850 ESS unit, its

Minimum Energy Throughput calculated as follows:

$6.7\text{MWh} \times 10 = 67\text{MWh}$ .

Note. 6.7MWh, this data is the Minimum Energy Throughput of HV4850 ESS unit

### Capacity measurement condition

Ambient temperature: 25~30°C

Initial battery temperature from BMS: 25~30°C

### Charging/discharging method

Table 4-2 Charging/discharging method

Product Type	Charge:	Discharge:	Current at
	(0.2) CC/CV (Constant		
PowerRack HV1 - voltage: 9s	(486) V/ Cut-off current (0.05) C)	(0.2)CC (Cut-off voltage: (378)V)	(0.2)C
	(0.2) CC/CV (Constant		
PowerRack HV2- 7s	voltage: (378) V/ Cut-off current (0.05) C)	(0.2)CC (Cut-off voltage: (294)V)	(0.2)C
	(0.2) CC/CV (Constant		
PowerRack HV4- 7s	voltage: (403.2) V/ Cut-off current (0.05) C)	(0.2)CC (Cut-off voltage: (313.6)V)	(0.2)C
	(0.2) CC/CV (Constant		
PowerRack HV4- 11s	voltage: (633.6) V/ Cut-off current (0.05) C)	(0.2)CC (Cut-off voltage: (492.8)V)	(0.2)C
	(0.2) CC/CV (Constant		
PowerRack HV4F-voltage: 8s	(460.8) V/ Cut-off current (0.05) C)	(0.2)CC (Cut-off voltage: (358.4)V)	(0.2)C

PowerStone-15s	0.2) CC/CV (Constant voltage: (864) V/ Cut-off current (0.05) C)	(0.2)CC (Cut-off voltage: (672)V) (0.2)C
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Note. Current and voltage measurement at battery DC side

## 5 Exclusion of Warranty

Damage to the Products resulting from any of following activities is not covered by this Limited Warranty:

- (1) Without payment to the Seller, the Buyer may pay the unpaid amount to the Seller in support of the warranty claim under the circumstances that the Seller has the right to refuse the warranty request in accordance with this clause.
- (2) Not complying with Dyness's official user manual of the product and "Appendix 1 - Usage and Transportation requirements".
- (3) Product damage caused by modification, alteration, disassembly, repair or replace maintenance and other services conducted by personnel unauthorized by Dyness.
- (4) Damage or defect arise due to the buyer's unauthorized use of his own design, materials, mixed, function changed or service to the Products.
- (5) Product damage and defect caused by buyer's improper use, mixed-use, misuse, abuse, which non-conforming with User Manual.
- (6) Appearance damage, deformation, abrasion, stain, rust, mildew, or similar external influences caused by the buyer during use.
- (7) Improper transportation, storage, installation, wiring and use with faulty or incompatible devices by Buyer. If Buyer fails to use the original packaging materials provided by Seller during the transportation of the equipment, the Products damage or failure shall not fall under the warranty scope of the product.
- (8) The model number, nameplate or product serial number of the product has been altered, erased or unrecognizable or the tamper-evident logo has been arbitrarily damaged.
- (9) Products suffered any external influences including unusual physical, natural force, electrical stress (power failure surges, inrush current, lightning, flood, fire, accidental breakage, etc.)
- (10) Product damage caused by external force, force majeure (causes of natural disasters such as unforeseeable, unavoidable and insurmountable objective events, including but not limited to war, civil war, strike, riot or other activities intervened by government, terrorism, war, riots, strikes, unavailability of suitable and sufficient labor or materials and other events which are out of control of

Dyness) or other third party.

- (11) Removal and reinstallation at another place from the original installation without the written confirmation from Dyness.
- (12) Damage of Products arise due to renewal of the national or regional laws or regulations.
- (13) Product damage and defect caused by End User deliberately or by willful act.
- (14) Use of an incompatible inverter, rectifier or PCS.
- (15) Products failure is not reported to Seller or Dyness Authorized Service Partner within 2 weeks of appearance.
- (16) Purchase and installation of the Product in an area other than the local area..
- (17) Warranty period specified above has already expired.

## **6 About Service Products/Parts**

### **Fault Handling**

- (1) If the product fails, the Buyer shall cooperate with the Seller to obtain the faulty equipment usage information, including but not limited to: faulty equipment serial number, working temperature, usage mode, supporting energy storage inverter manufacturer/model/specification, power consumption equipment power information, PV system configuration information, fault phenomena, operating procedures, battery operation logs, etc.
- (2) When both parties agree that the product belongs to the warranty scope, Dyness or Dyness authorized sellers can repair or replace the non-conforming products or parts. Before repairing or replacing the non-conforming products, the Buyers shall confirm with the Dyness or Dyness authorized sellers in writing and provide the serial number of the failure equipment and the serial number of the spare parts to be installed in time. The warranty period of the replacement product shall follow the remainder of the original product warranty period.
- (3) If the two parties disagree with whether the faulty equipment meets the warranty conditions, the products may be tested jointly by the ways approved by both parties, or the products shall be submitted to the third-party testing institutions recognized by both parties. Both parties can provide reasonable opinions on the test methods, basis and conclusions. The testing fee shall be borne by the Buyer first. If the testing result proves that the product meets the warranty conditions, the Seller shall pay the transportation fee and testing fee generated in full to the Buyer, and assume the responsibility for the faulty equipment warranty.

### **Out of Warranty**

- (1) If the product is out of warranty or not covered by the warranty, Dyness may (in its discretion) provide certain after-sales service to Original Buyer, but all the costs and expenses, such as parts, labour costs and travel expenses, shall be borne by

Original Buyer, Please refer to the after-sales service policy document for details.

## **7 Claim payment policy**

Dyness reserves the rights to refuse product warranty claim for lacking proper documentation and information.

Claims under this Warranty must be made by notifying the Seller from whom Products was purchased within 2 weeks of defects' appearance.

For a Warranty Claim to be processed, it must include but not limited following items:

- (1) Proof of the original
- (2) Description of the alleged defect(s) from authorized service center
- (3) The relevant Product's serial number and the start date of the warranty

Buyers who are unable to contact the Seller from whom Product was purchased should contact Dyness Digital Energy Technology Co., LTD. at the Contact Us Section of the Website: <http://www.dyness.com>

Email: [service@dyness-tech.com](mailto:service@dyness-tech.com)

## **8 Applicable Law**

The Warranty is subject to the local legislation and regulations. The certified which is excluded in the English language shall prevail in the event of conflict between the English version and the translated Chinese version.

The company reserves all rights for the final explanation of the warranty terms.

## Appendix 1

### Usage and Transportation requirements

This product includes Lithium iron phosphate battery and the Accessory Components. In order to ensure that the buyer is entitled to full warranty policy, the following clauses should be strictly observed in the transportation and use of products. The product failure or damage caused by violation of the following requirements is not covered by this Limited Warranty.

#### 1 Operating environment requirements

- Working temperature: -20~55 °C
- Working humidity: 5%~85% RH
- Altitude: <4000m
- No conductive dust and corrosive gas
- Installation location should be away from the sea to avoid brine and high humidity environment.
- The ground is flat and level.
- There is no flammable explosive near to the installation places.
- Keep away from dust and messy zones, water source and heat source, prevent equipment from entering water and overheating.

#### 2 Storage environment requirements

- Short-term storage environment:  
Within 3 months of temperature range is -20~40°C.  
Relative humidity <85%RH.  
No corrosive gases.
- More than 3 months long-term storage environment:  
temperature range for -10~35°C  
Relative humidity <65% RH No corrosive gases
- If long-term storage is required, it should be recharged every 6 months, and no less than 80% of SOC should be charged.
- Keep away from dust and messy zones, water source and heat source, prevent equipment from entering water and overheating.

#### 2 Transportation requirements

- (1) When the product is transported separately, the individual products should be transported with the original packaging materials of the Seller. If long-distance transportation such as sea transportation is required, additional packaging measures should be taken to ensure the safety of transportation. The product stack in transportation does not exceed 6 layers.



- (2) If the product does not use Seller's original packaging material transportation, Buyer shall fully consider the risks of vibration, drop and collision in the transportation process, and adopt adequate product protection measures.

### 3 Equipment installation requirements

- |   |                                       |  |
|---|---------------------------------------|--|
| 1 | Visual inspection                     | <p>Check the appearance for damage and check the attachment variety and quantity according to the packing list.</p> <p>Verify that the device is off state.</p>  |
| 2 | Electrical specification confirmation | <p>The rated working voltage of the energy storage should be confirmed that the storage energy inverter battery power interface parameter is matched.</p> <p>Confirm that the maximum charging and discharging current designed by the system meets the specification requirements of the energy storage PACK.</p> <p>The external power supply should not generate a surge that causes damage to the battery or BMS.</p> <p>When connecting the power line, pay attention to the positive and negative electrode, avoid reverse connection and short circuit.</p> |
| 3 | Connection                            | <p>It is forbidden to connect the battery directly to ac power.</p> <p>The battery can be used in parallel and not in series.</p> <p>Do not mix batteries with other factory batteries or other types of batteries.</p> <p>The battery should be reliable grounding, grounding resistance should be less than 1 <math>\Omega</math>.</p>   |

### 4 Equipment Use

- |   |          |  |
|---|----------|--|
| 1 | Charging | <p>For HV4850, HV4875, HV51100, HV1, HV2, HV4, the battery's long-term max continuous charging current should be <math>\leq 0.6C</math></p> <p>For HV51100F, HV4F, Powerstone, the battery's long-term max continuous charging current should be <math>\leq 1C</math></p> <p>If the battery capacity is empty, please charge it within 48 hours after the battery is empty. If the battery capacity is empty, please charge it within 48 hours after the battery is empty.</p> |
|---|----------|--|

- |   |                |   |
|---|----------------|---|
|   |                | For HV4850, HV4875, HV51100, HV1, HV2, HV4, the battery's long-term max continuous discharging current should be $\leq 0.6C$  |
| 2 | Discharging    | <p>For HV51100F, HV4(1C), HV4F, Powerstone, the battery's long-term max continuous discharging current should be <math>\leq 1C</math></p> <p>The maximum depth of discharge (DOD) of Battery PACK is no more than 90%</p>   |
| 3 | Cycles         | <p>This Warranty covers a capacity equivalent to 1 full cycle per day for ten (10) years.</p> <p>Full cycle: Discharge the Nominal capacity of a fully charged battery and fully charge it afterwards. Micro cycles sum up to full cycles according to amount of energy charged and discharged.</p> |
| 4 | Move           | <p>To remove the battery, disconnect the external power supply and turn off the switch.</p>   |
| 5 | Maintain       | <p>It is forbidden to open the battery shell or dismantle the components before obtaining the written authorization of Seller.</p>  |
| 6 | Fire emergency | <p>In case of emergency, for the use of fire-fighting equipment, use only dry powder fire extinguishers.</p>  |

## Appendix 2

**Table 1. The preconditions of the valid 10-year Performance Warranty**

Product model	Warranty period	Minimum throughput (MWh)	Preconditions			
			Long-term max continuous charging current	Long-term max continuous discharging current	Depth of discharge	Cycles
HV4850	10 years 70%SOH	6.70	$\leq 0.6\text{ C}$	$\leq 0.6\text{ C}$	$\leq 90\%$	1 full cycle/day
HV4875	10 years 70%SOH	10.05	$\leq 0.6\text{ C}$	$\leq 0.6\text{ C}$	$\leq 90\%$	1 full cycle/day
HV51100	10 years 70%SOH	14.30	$\leq 0.6\text{ C}$	$\leq 0.6\text{ C}$	$\leq 90\%$	1 full cycle/day
HV51100F	10 years 70%SOH	14.30	$\leq 1\text{ C}$	$\leq 1\text{ C}$	$\leq 90\%$	1 full cycle/day
PowerRack HV1-9s	10 years 70%SOH	60.30	$\leq 0.6\text{ C}$	$\leq 0.6\text{ C}$	$\leq 90\%$	1 full cycle/day
PowerRack HV2-7s	10 years 70%SOH	70.35	$\leq 0.6\text{ C}$	$\leq 0.6\text{ C}$	$\leq 90\%$	1 full cycle/day
PowerRack HV4-7s	10 years 70%SOH	100.10	$\leq 0.6\text{ C}$	$\leq 0.6\text{ C}$	$\leq 90\%$	1 full cycle/day
PowerRack HV4-11s	10 years 70%SOH	157.2	$\leq 0.6\text{ C}$	$\leq 0.6\text{ C}$	$\leq 90\%$	1 full cycle/day
PowerRack HV4-7s(1c)	5 years 70%SOH	50.3	$\leq 1\text{ C}$	$\leq 1\text{ C}$	$\leq 90\%$	1 full cycle/day
PowerRack HV4F-8s	10 years 70%SOH	114.40	$\leq 1\text{ C}$	$\leq 1\text{ C}$	$\leq 90\%$	1 full cycle/day

						day
Powerstone -15s	10 years 70%SOH	214.44	$\leq 1\text{ C}$	$\leq 1\text{ C}$	$\leq 90\%$	1 full cycle/ day

1. Other preconditions of the product's valid 10-year Performance Warranty shall be followed by Appendix 1 -Usage and Transportation requirements. It is possible to use the product for more than 1 full cycle per day by end users. However, when the battery is used at full load for more than one full cycle continuously, the intervals of each full cycle must be more than two hours to avoid possible unexpected high battery temperatures which affect the battery's cycle life.

2. In the conditions of 25°C, 80%DOD, 0.2C charging/discharging, the products can achieve 6000 cycles.



Discover Your Nature

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