

# **WARRANTY TERMS**

## FOR ENERGY STORAGE SOLUTIONS

### **A48100**

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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

A48100 ESS unit

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

The Products warranty period is seven (7) years from the warranty start date. If the customer registers on the Dyness official website: <http://www.dyness-tech.com/sign.html>, and obtains Dyness's official approval, the product warranty period can be extended to ten (10) years. Dyness warrants that the Product will be free from defects in materials or workmanship for ten (10) years from Warranty Start Date, subject to the exclusions and limitations set out below.

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.

Products used without communications, or when used in mobile vehicles such as

recreational vehicle (RV), or camp and marine applications, the warranty period is five (5) years from the warranty start date. And this must base on that the customer registers on the Dy ness official website: <http://www.dy ness-tech.com/sign.html>, and obtains Dy ness's official approval.

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

## 4 Performance Warranty

### Capacity performance warranty

Dy ness warrants that the Products maintain seventy percent (70%) of the Nominal Energy for ten (10) years from the warranty start date or a Minimum Energy Throughput calculated from the warranty start date, whichever occurs first. The Nominal Energy and Minimum Energy throughput for each Product Model are set out in the table below. The term "Nominal Energy" herein means the initial nominal Energy of the products as printed on the label of Products. The preconditions of the valid 10-year Performance Warranty shall be followed in accordance with Appendix 1 - Usage and Transportation requirements

Table 4-1 Product Energy

Product Type	Nominal Energy (kWh)	Minimum Energy Throughput (MWh)
A48100	4.8	13.40

### Capacity measurement condition

Ambient temperature: 25~30°C

Initial battery temperature from BMS: 25~30°C

### Charging/discharging method

Charge: (0.2) CC/CV (Constant voltage: (54.75) V/ Cut-off current (0.05) C) Discharge: (0.2)CC (Cut-off voltage: (42)V)

Current at (0.2)

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 Dy ness'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, Dy ness or Dy ness 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 Dy ness or Dy ness 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, Dy ness 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**

Dy ness 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 Dy ness Digital Energy Technology Co., LTD. at the Contact Us Section of the Website: <http://www.dy ness-tech.com>

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

Fax: 029 8954 0338

## **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 PACK is 48V, and it 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>The battery's long-term max continuous charging current should be <math>\leq 0.75 C</math>.</p> <p>If the battery capacity is empty, please charge it within 48 hours after the battery is empty.</p> |
| 2 | Discharging | <p>The battery's long-term max continuous discharging current of the battery should be <math>\leq 0.75C</math></p> <p>The maximum depth of discharge (DOD) of Battery PACK is no more than 90%</p>       |



- This Warranty covers a capacity equivalent to 1 full cycle per day for ten (10) years.
- 3 Cycles 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.
- 4 Move To remove the battery, disconnect the external power supply and turn off the switch.
- 5 Maintain It is forbidden to open the battery shell or dismantle the components before obtaining the written authorization of Seller.
- 6 Fire emergency In case of emergency, for the use of fire-fighting equipment, use only dry powder fire extinguishers.

## 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
A48100	10 years 70%SOH	13.40	≤0.75 C	≤0.75 C	≤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 product can achieve 6000 cycles.



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