

Owner's Guide



Goodwe Energy Storage Systems

ET and GEH Series Inverter &

Lynx Home F-Series Battery

*Solahart PV and battery systems must be installed and serviced by a suitably qualified person.
Please leave this guide with the system owner.*



Warning: For continued safety of this Battery system it must be installed, operated and maintained in accordance with these instructions and the installation guides supplied with the Battery, Inverter and Battery Interface.



Warning: Only suitably qualified and accredited personnel should perform work on PV and/or Battery systems, such as design, installation, commissioning, maintenance and repairs. Be sure to follow the safety instructions for all system components. It is also important to observe relevant local codes and regulations for health and safety and accident prevention.

Only Solahart parts and Solahart approved parts may be used. No substitute parts may be used without prior approval from Solahart Industries Pty Ltd. Only parts supplied by Solahart Industries Pty Ltd are covered by the Solahart warranty.

The warranty can become void if safety devices are tampered with or if the installation is not in accordance with these instructions.

PATENTS

This battery system may be protected by one or more patents or registered designs in the name of Solahart Industries Pty Ltd.

TRADE MARKS

® Registered trademark of Solahart Industries Pty Ltd.

™ Trademark of Solahart Industries Pty Ltd.

Note: Every care has been taken to ensure accuracy in preparation of this publication. No liability can be accepted for any consequences, which may arise as a result of its application.

CONTENTS

Contents	3
Important Safety Instructions	4
About Your Battery System.....	5
Operating Procedures.....	7
Inverter Status	9
BATTERY Status.....	11
Electrical Safety	14
Maintenance.....	14
Solahart PV System and/or battery Warranty - Australia Only	15



IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE IMPORTANT SAFETY INSTRUCTIONS














During installation, testing and inspection, adherence to all the safety instructions is mandatory.

SAFETY SYMBOLS

The following symbols are used in this document to highlight important information:

-  **Warning:** **Warning** indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
-  **Caution:** **Caution** indicates potentially hazardous situation which, if not avoided, could result in minor or moderate injury and damage to or destruction of the product.
- Note:** **Note** indicates additional information intended to assist in the understanding of the text or an important step that leads to optimal results but is not safety or damage related.

GENERAL SAFETY INFORMATION

-  **Warning:** Adhere to the instructions in this document in addition to each system component installation guide. Failure to follow any instructions or warnings in the supplied documentation can result in electric shock, serious injury, or death.
-  **Warning:** Only qualified personnel should perform work on photovoltaic and Battery systems.
-  **Warning:** A Battery can present a risk of electrical shock, fire, or explosion from vented gases. Observe proper precautions.
-  **Warning:** Ensure electrical connection / disconnection is performed only when the relevant circuit is isolated. Do not connect / disconnect wiring under load conditions.
-  **Warning:** Do not attempt to disassemble, repair, tamper with, or modify any system component.
-  **Warning:** Do not expose any component to direct flame or heat sources.
-  **Warning:** Do not install any component that is defective, appears cracked, broken, or otherwise damaged.
-  **Warning:** Do not install the system in potentially hazardous locations.
-  **Warning:** Do not immerse any component in water or other liquids.
-  **Caution:** Ensure clearances are maintained around the Battery and System Components. Remove debris and other foreign objects from within the clearances areas.
-  **Caution:** Do not place any items on top of the Battery BCU.
-  **Caution:** Only Solahart supplied / approved components may be used.
-  **Caution:** Keep the Battery and Inverter system turned ON at all times. Do not turn OFF the system when leaving the home for an extended period of time.

ACTIONS TO UNDERTAKE IN THE EVENT OF AN EARTH FAULT ALARM OR TRIPPED AC/DC CIRCUIT BREAKER

Limit access to all parts of the PV and Battery system.

Contact Solahart Service on 1800 638 011 or your nearest Solahart dealer.

ABOUT YOUR BATTERY SYSTEM

INTRODUCTION

This Owner's Guide applies to the GoodWe ET and GEH-Series Inverter, Goodwe Lynx Home F-Series Battery and balance of system components. For more information regarding the specific operation of a PV system, refer to "Owners Guide - Solahart" for PV systems.

SYSTEM OVERVIEW A – COMPLETE PV AND BATTERY WITH BACKUP SYSTEM

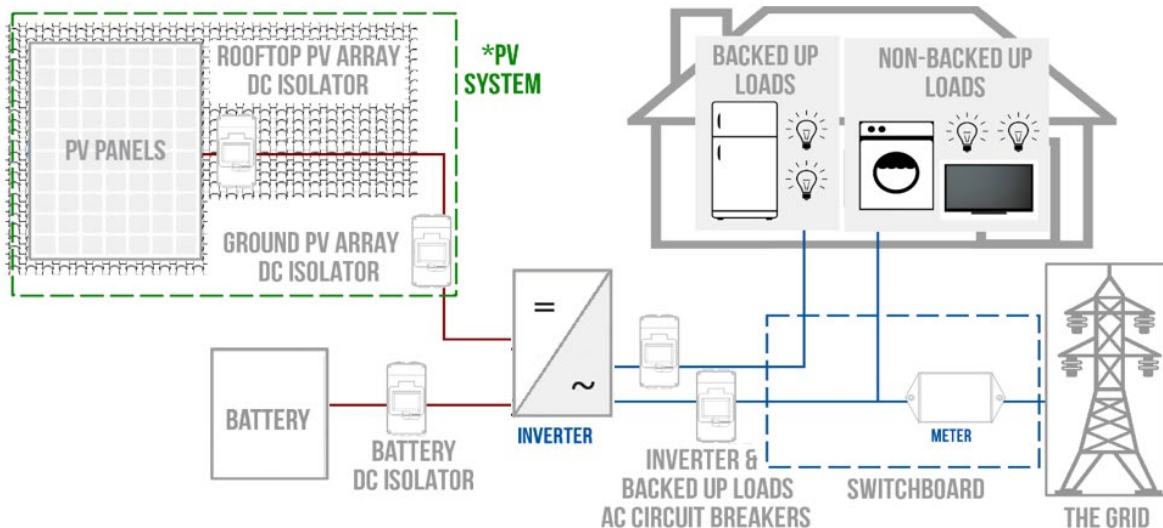


Figure 1 System Overview – Complete PV and Battery With Backup System

The Solahart Complete PV and Battery system consists of the following components:

- PV array – generates direct current (DC) power through the conversion of light energy from the sun.
- **Goodwe ET and GEH Series Inverter** – inverts the DC power generated from the PV array or supplied from the Goodwe Lynx U-Series Battery into alternating current (AC) power so it can be used in the home or exported to the grid. If configured, the inverter can also supply power to selected backed up loads during grid interruptions.

Note: Both the Inverter and house electrical wiring will need to be configured for backup functionality to operate. Your Solahart dealer will demonstrate and explain the operation of this configuration.

Note: A minimum Battery energy level (depth of discharge) can be reserved in case of a grid outage or just during normal operation. Discuss your requirements with the Solahart dealer to ensure the system is set correctly.

- Goodwe Lynx F-Series Battery – stores DC power generated by the PV array so the power can be used when the sun is not shining.
- PV Array DC Isolator – provides a means for isolating the PV array.
- Battery DC Isolator – provides a means of isolating the Battery.
- Inverter AC Isolator – provides overcurrent protection of the inverter and a method of isolating the PV System from the electrical distribution grid.
- Inverter Backup Load AC Isolator – provides a means of disconnecting the inverter from the backup loads (if applicable).

Note: It is optional to install an AC grid bypass switch on the Backup Circuit. Please confirm with the installer.

- Smart Meter – measures net electrical power to and from the grid.

For more information regarding the specific operation of a PV system, refer to the Solahart Owner's Guide – PV systems.

BASIC SYSTEM OPERATION

The Solahart Complete and Retrofit systems increase energy independence by using the battery to store excess PV energy, which would otherwise be exported to the grid, so it can be used when required.

The Solahart Complete and Retrofit systems are programmed to maximise savings by minimising the power purchased from the grid. If the power delivered by the PV and Battery is insufficient to meet domestic demands, the power necessary to ensure the normal operation of the connected devices is drawn from the grid.

If the energy generated exceeds that required by property demands and the storage capacity of the Battery, your electrical network operator may allow the difference to be directly injected into the grid and become available to other users. Energy injected into the grid can be measured by electricity network operators as either gross (everything generated) or net (excess generated). Injected energy may or may not be purchased by the local electrical network operator according to national and local standards, and regulations.



Warning: Do not overload the backup circuit beyond the system specifications.



Warning: In the event any circuit breakers continue to trip, please contact your Solahart Dealer



Warning: Do not switch the battery off for extended period of time. It might cause damage.



Caution: If a backup changeover switch is not installed and the inverter is not operating, the loads and appliances on the backup circuit will not be supplied power.



Caution: Ensure that the backup reserve limit of the battery system is adjusted to an appropriate setting to provide backup power when the grid out. This can be set within the system monitoring portal.

INVERTER BACKUP CAPACITY

Inverter Model	Max. Backup Continuous Power Output	Peak Backup Power Output	Backup Max. AC Output Current
GW5kL-ET	5.0 kVA	10.0 kVA(60 seconds)	8.5 A
GW10kL-ET	10.0 kVA	16.5 kVA(60 seconds)	16.5 A
GW15K-ET	15.0 kVA	24.0 kVA(3 seconds)	22.7 A
GW20K-ET	20.0 kVA	32.0 kVA(3 seconds)	30.3 A
GW25K-ET	25.0 kVA	30.0 kVA(60 seconds)	37.9 A
GW29.9K-ET	29.9 kVA	36.0 kVA(60 seconds)	45.5 A
GEH8.6-1U-10	5.0 kVA	10.32 kVA(60 seconds)	39 A
GEH10-1U-10	9500(@220Vac) 10000(@230Vac)	12 kVA(60 seconds)	43.5 A

Note: If the load on backup circuits exceed the inverter backup capacity, the inverter will shut down temporarily to protect itself.

- During normal operation, the inverter will restart after 60s.
- During grid outage, the inverter will restart once grid is re-connected.

BATTERY CAPACITY

Battery Model	Rated Capacity	Usable Capacity	Max. Discharge Power
LX F6.6-H (x2)	6.55 kWh	6.6 kWh	6.1 kW
LX F9.8-H (x3)	9.83 kWh	9.83 kWh	9.2 kW
LX F13.1-H (x4)	13.10 kWh	13.10 kWh	12.2 kW
LX F16.4-H (x5)	16.38 kWh	16.40 kWh	15.3 kW

OPERATING PROCEDURES

CHECK BEFORE POWER ON

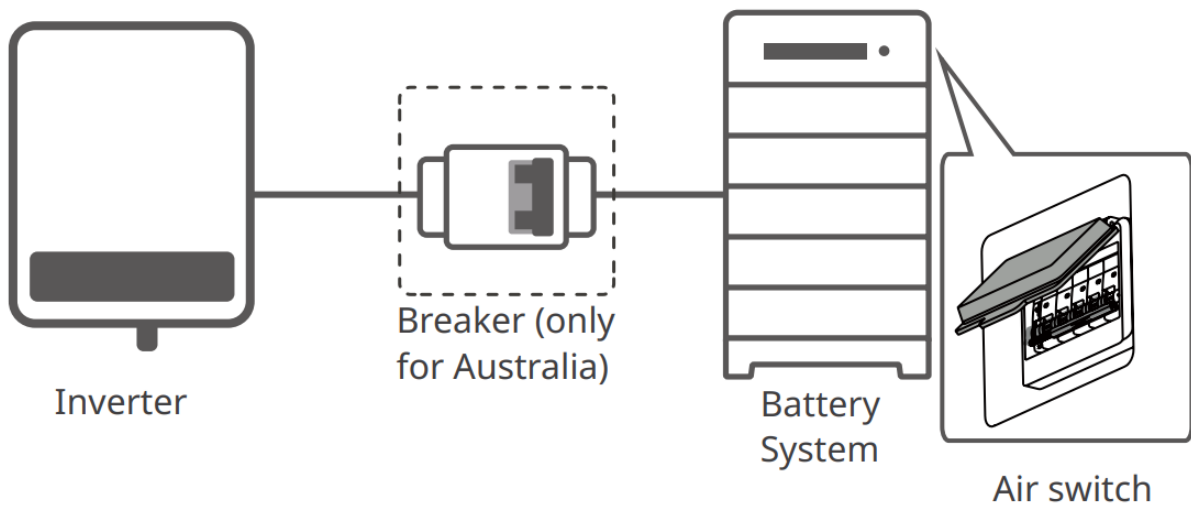
Check the following items before power on to avoid the battery system being damaged.

No.	Check Item
1	The inverter is firmly installed in a clean place where is well-ventilated and easy to operate.
2	The PE cable, power cable, communication cable, and terminal resistor are connected correctly and securely.
3	Cable ties are intact, routed properly and evenly.
4	Unused ports and terminals are sealed.

POWER ON THE BATTERY SYSTEM

Single Battery System

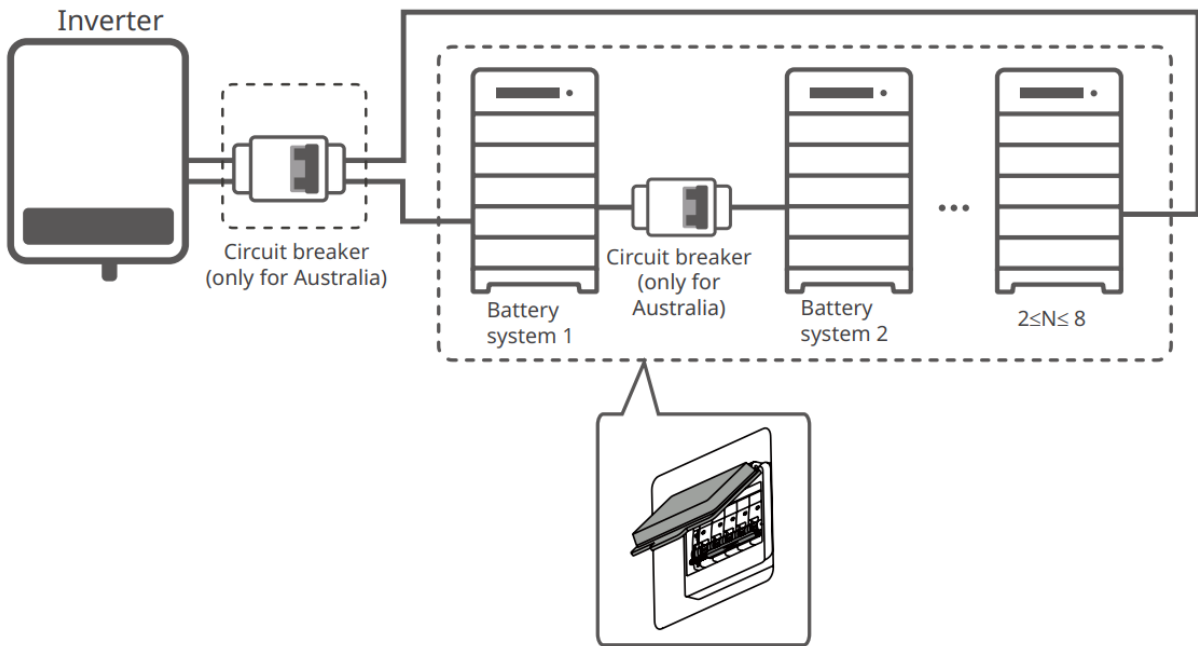
Turn on the breaker between the inverter and the battery system. Turn on the air switch of the battery system. Turn on the inverter in the system following the instructions in the user manual of the inverter.



Parallel Connected Battery System

1. Turn on the breaker between the inverter and the battery system.
2. Turn on the breakers between the battery systems.
3. Turn on the air switch of the battery systems in turn.

4. Turn on the inverter in the system following the instructions in the user manual of the inverter.



POWER OFF THE BATTERY SYSTEM

Follow the steps below to power off the battery system to prevent the system from being damaged.

Method one:

1. Turn OFF the inverter in the system following the instructions in the user manual of the inverter.
2. Long press the multifunction button indicator for more than 15s, and make sure that the SOC indicator and multifunction button indicator of the PCU are off.

Method two:

1. Turn OFF the inverter in the system following the instructions in the user manual of the inverter.
2. Disconnect the air switch, and make sure that the SCO indicator and multifunction button indicator of the PCU are off



Danger: Power off the battery system before operations and maintenance. Otherwise, the equipment may be damaged or electric shocks may occur.

Push the air switch to restart the battery..



Warning: Depending upon the system there may be more than one PV Array DC Isolator.



Warning: To effectively isolate the wiring between the AC Isolator and switchboard, the Solar Supply Main Switch located in the switchboard must also be in the OFF position.
















































Warning: PV Array DC Isolators do not de-energise the PV array and array cabling.



Caution: If the Solahart Battery system is expected to be OFF for longer than one month, refer to the instructions supplied with the Battery.

INVERTER STATUS

The **GEH Series** inverter status is indicated by several LEDs, please refer to the following table for details.
































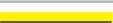













INDICATOR	COLOR	STATUS	EXPLANATION
 SYSTEM			ON = System is ready
			BLINK = System is starting up
			OFF = System is not operating
 BACK-UP			ON = Back-up is ready / power available
			OFF = Back-up is off / on power available
 BATTERY			ON = Battery is charging
			BLINK 1 = Battery is discharging
			BLINK 2 = Battery is low / soc is low
			OFF = Battery is disconnected / not active
 GRID			ON = Grid is active and connected
			BLINK = Grid is active but not connected
			OFF = Grid is not active
 ENERGY			ON = Consuming energy from grid / buying
			BLINK 1 = Supplying energy to grid / zeroing
			BLINK 2 = Supplying energy to grid / selling
			OFF = Grid not connected or system not operating
 COM			ON = BMS and meter communication ok
			BLINK 1 = Meter communication ok, BMS communication fail
			BLINK 2 = BMS communication ok, meter communication fail
			OFF = BMS and meter communication fail
 WiFi			ON = WiFi connected / active
			BLINK 1 = WiFi system resetting
			BLINK 2 = WiFi not connect to router
			BLINK 4 = WiFi server problem
			OFF = WiFi not active
 FAULT			ON = Fault has occurred
			BLINK1 = Overload of back-up / Output / reduce load
			BLINK4 = CT wiring fault
			OFF = No fault

Note: Refer to GoodWe GEH Series inverter user manuals for simple troubleshooting procedures.

Note: If the Inverter LED Status indicates a FAULT, contact your nearest Solahart Dealer.

The **ET Series** inverter status is indicated by several LEDs, please refer to the following table for details.

LED Indicators

INDICATOR	COLOR	STATUS	EXPLANATION
 SYSTEM			ON = System is ready
			BLINK = System is starting up
			OFF = System is not operating
 BACK-UP			ON = Back-up is ready / power available
			OFF = Back-up is off / on power available
 BATTERY			ON = Battery is charging
			BLINK 1 = Battery is discharging
			BLINK 2 = Battery is low / soc is low
			OFF = Battery is disconnected / not active
 GRID			ON = Grid is active and connected
			BLINK = Grid is active but not connected
			OFF = Grid is not active
 ENERGY			ON = Consuming energy from grid / buying
			BLINK 1 = Supplying energy to grid / zeroing
			BLINK 2 = Supplying energy to grid / selling
			OFF = Grid not connected or system not operating
 COM			ON = BMS and meter communication ok
			BLINK 1 = Meter communication ok, BMS communication fail
			BLINK 2 = BMS communication ok, meter communication fail
			OFF = BMS and meter communication fail
 WiFi			ON = WiFi connected / active
			BLINK 1 = WiFi system resetting
			BLINK 2 = WiFi not connect to router
			BLINK 4 = WiFi server problem
			OFF = WiFi not active
 FAULT			ON = Fault has occurred
			BLINK1 = Overload of back-up / Output / reduce load
			BLINK4 = CT wiring fault
			OFF = No fault

Note: Refer to GoodWe ET Series inverter user manuals for simple troubleshooting procedures.

Note: If the Inverter LED Status indicates a FAULT, contact your nearest Solahart Dealer.

BATTERY STATUS

The battery status is indicated by several LEDs, please refer to the following table for details.



Button Indicator	Status
Green	Standby or Working
Red	Alarming or Faulty










7.4.1 Normal Status

Button Indicator	SOC Indicator	Description
Idle: green light double blink Standby: green light single blink Working: steady green		SOC<5%
		5%≤SOC<25%
		25%≤SOC<50%
		50%≤SOC<75%
		75%≤SOC<95%
		SOC≥95%











NOTICE









- The SOC indicator keeps on when charging.
- The SOC indicator single blinks when discharging.

7.4.2 Alarming Status

Button Indicator	SOC Indicator	Alarm	Solutions
Red light double blink		Battery Overvoltage	Restart the battery. If the problem persists, please contact the after-sales service.
		Battery Undervoltage	Long press the button for 5 seconds to start the battery under charging conditions. If the problem persists, contact the after-sales service.
		Overcurrent Charging	Restart the battery. If the problem persists, please contact the after-sales service.
		Overcurrent Discharging	Restart the battery. If the problem persists, please contact the after-sales service.
		Temperature Difference Exception	Power off and wait for 2 hours. If the problem persists, please contact the after-sales service.
		High Temperature	Power off and wait for 2 hours. If the problem persists, please contact the after-sales service.
		Low Temperature	Power off and wait for 2 hours. If the problem persists, please contact the after-sales service.
		Interlock Failure	Contact the after-sales service.
		Others	Contact the after-sales service.

7.4.3 Faulty Status

Button Indicator	SOC Indicator	Fault	Solutions
Steady red		Battery Overvoltage	Restart the battery. If the problem persists, please contact the after-sales service.
		Battery Undervoltage	Long press the button for 5 seconds to start the battery under charging conditions. If the problem persists, contact the after-sales service.
		Overcurrent Charging	Restart the battery. If the problem persists, please contact the after-sales service.
		Overcurrent Discharging	Restart the battery. If the problem persists, please contact the after-sales service.
		Temperature Difference Exception	Power off and wait for 2 hours. If the problem persists, please contact the after-sales service.
		High Temperature	Power off and wait for 2 hours. If the problem persists, please contact the after-sales service.
		Low Temperature	Power off and wait for 2 hours. If the problem persists, please contact the after-sales service.
		Inconsistent Software Version	Contact the after-sales service.
		Precharge Fault	Restart the battery. If the problem persists, please contact the after-sales service.
		Relay Fault	Restart the battery. If the problem persists, please contact the after-sales service.

Steady red		Air Switch Fault	Restart the battery. If the problem persists, please contact the after-sales service.
		Insulation Fault	Do not touch the battery and contact the after-sales service.
		Internal Communication Fault	Power off and check the communication cables. Restart the battery. If the problem persists, contact the after-sales service.
		SN Fault	Contact the after-sales service.
		Voltage Balance Fault	Restart the battery. If the problem persists, please contact the after-sales service.
		Inconsistent Master and Slave	Restart the battery. If the problem persists, please contact the after-sales service.
		Temp. Sensor Fault	Restart the battery. If the problem persists, please contact the after-sales service.
		Others	Contact the after-sales service.

Note: Refer to GoodWe Lynx F Series battery user manuals for simple troubleshooting procedures.

Note: If the Battery LED Status indicates a FAULT, contact your nearest Solahart Dealer.

ELECTRICAL SAFETY

SAFETY REQUIREMENTS

The voltages and currents produced by the Inverter & Battery system can be dangerous. Do not tamper with system cabling under any circumstances.

UNIQUE HAZARDS OF DC ELECTRICITY

Batteries typically operate using DC electricity. Once the current is flowing, breaking or opening a connection (e.g. disconnecting a DC cable from the Inverter) can cause a DC electrical arc. Unlike arcs occurring in conventional low voltage AC wiring, DC arcs are not self-extinguishing. They are a potentially lethal burn and fire hazard, capable of creating high temperatures that can destroy contacts and connectors.

EARTH FAULTS

An earth fault is a system fault where a short circuit is formed between the DC circuitry of the PV and Battery system and earth. As the system owner, please be aware of the method of communication of earth faults on your system. Refer to Earth Fault Alarms in the Solahart Owner's Guide for PV systems.

MAINTENANCE


GENERAL

The Solahart Inverter & Battery system has been designed for minimal and easy maintenance.

Note: Ensure that you have monitoring access to your Inverter & Battery System. If you do not, contact your nearest Solahart Dealer.

For recommended maintenance of the PV system, refer to the Solahart Owner's Guide for PV systems.

RECOMMENDED MAINTENANCE SCHEDULE

 WARNING	
<ul style="list-style-type: none">• Contact after-sales service for help if you find any problems that may influence the battery or the hybrid inverter. Disassemble without permission is strictly forbidden.• Contact after-sale service for help if the copper conductor is exposed. Do not touch or disassemble privately because the high voltage danger exists.• In case of other emergencies, contact after-sales service as soon as possible. Operate following the instructions or wait for the after-sales service personnel.	

Maintaining Item	Maintaining Period
Check whether the locking brackets are secured, tighten it if not.	Once every 6 months
Check whether the outer enclosure is broken. Repair the painting or contact after-sales service if there is any broken.	Once every 6 months
Check whether there is an exposed cable. Replace the exposed cable or contact the after-sales service for help.	Once every 6 months
Check whether there is any dust around the battery module. Clean the dust if there is any to avoid affecting heat dissipation.	Once every 6 months
Check whether there is any liquid or pest near the battery to avoid intrusion in a long term.	Once every 6 months

SOLAHART PV SYSTEM AND/OR BATTERY WARRANTY - AUSTRALIA ONLY

IMPORTANT NOTE: This Limited Warranty covers a range of systems, products and components. This Warranty only applies in respect of the specific items you have purchased and which are delivered to you in conjunction with this hard copy Warranty document.

Your new PV System comprises a PV Module, an Inverter, a racking system and balance of system components (together the **PV System**). Alternatively, you may add components sourced from Solahart to your existing PV System, including a battery and associated products.

The PV System, the Battery, and any other components supplied by Solahart (collectively, the 'Products') are covered by this warranty given by Solahart Industries Pty Ltd ABN 45 064 945 848 of 1 Alan Street, Rydalmere NSW 2116 (**Solahart**). The terms of your warranty are set out below. This warranty consists of a number of parts (not all of which will apply, depending on the Products you have purchased):

- A. The specific warranty terms for Modules supplied by Solahart;
- B. The specific warranty terms for the LG Chem, Tesla, GoodWe, SolarEdge and BYD Batteries;
- C. The specific warranty terms for Inverters and EV chargers – FIMER/ABB;
- D. The specific warranty terms for SolarEdge Inverters and associated SolarEdge products;
- E. The specific warranty terms for GoodWe Inverters and associated GoodWe products;
- F. The specific warranty terms for Solahart Gateway and Energy Management products;
- G. The specific warranty terms for the racking system;
- H. The specific warranty terms for the balance of the system;
- I. The specific warranty terms for the labour; and
- J. General terms which apply to all of the above.

This Limited Warranty is valid in Australia for all Products sold after 1 June 2022. If a subsequent version of this warranty is published, the terms of that warranty will apply to Products manufactured after the date specified in the subsequent version.

Solahart issues the following voluntary warranty to:

- 3. The end-user who purchased the System in Australia for their own use and put the System into use for the first time (the '**Original End-User**'); and
- 4. In the case of the SolarEdge Energy Bank, SolarEdge Products, GoodWe Products and the BYD Battery-Box System only, any owner of the product subsequent to the Original End-User who provides proof of title transfer, provided that the product has never been relocated from its original installation location, or de-installed and re-installed, without the express written consent of Solahart.

This warranty is in addition to any rights and remedies that you may have under the Australian Consumer Law.

Solahart offers national service through its Dealer network. Solahart will repair or replace parts subject to the terms of this Limited Warranty. Solahart, in addition can provide preventative maintenance and advice on the operation of the PV System. You can contact Solahart on 1800 638 011 to arrange a service call or to find out details about this warranty.

Notification of a claim under this Limited Warranty must be given without undue delay after detection of the defect and prior to the expiration of the applicable Warranty Period and in accordance with the procedure set out below.

PART A - MODULES

Defects warranty coverage for Solahart Modules

Subject to the terms of this Limited Warranty, Solahart warrants that the Solahart Modules will not show any material defects or processing defects for a period of:

- for SolahartxxxV1, SolahartxxxV2 and SolahartxxxC1 range modules, 15 years after the date of initial purchase of the Module (being the invoice date);
- for SolahartxxxS2, SolahartxxxS3 and SolahartxxxS4 range modules, 25 years after the date of initial purchase of the Module (being the invoice date);

if used and serviced in accordance with the relevant Module specifications and other product documents (the '**Module Warranty Period**').

If a defect (as described above) occurs during the Module Warranty Period materially affecting the functionality of the Module, Solahart will, at its sole option:

1. Remedy the defect;
2. Supply a replacement Module free of defects; or
3. Repay the purchase price of the Module.

Module Defects Warranty Terms, Limitations and Exclusions

This limited warranty applies to a Module if used, serviced and maintained in accordance with the Solahart Owner's Guide which accompanies the Module.

This warranty does not apply to scratches, marks, mechanical wear, rust, mould, degradation, discoloration, stains, and other changes which occur after the delivery of the Modules but which do not result in any adverse effect on the mechanical stability of the Module or a reduction of performance which exceeds the levels set out in this warranty.

Solahart will pay the costs of a technical inspection and transport of defective or non-performing Modules to its nominated location. If the Module is found by Solahart not to be defective (including for any of the exclusions outlined in this warranty document), you agree to reimburse us for those costs on demand. All dismantling and reinstallation costs are your sole responsibility.

In the event of glass breakage, Solahart will also perform a static calculation to verify the substructure before accepting liability under this warranty.

To make a claim in relation to that module product warranty, please contact your local Solahart dealer on 1800 638 011 for assistance with your claim with the source manufacturer. Warranty claims contact for manufacturer – solahart@solahart.com.au

Performance guarantee

A performance guarantee (as described in the relevant datasheet) is offered on each PV module by the source manufacturer, as identified on the relevant datasheet.

To make a claim in relation to that module performance guarantee, please contact your local Solahart dealer on 1800 638 011 for assistance with your claim with the source manufacturer. Warranty claims contact for manufacturer – solahart@solahart.com.au

PART B – BATTERIES

Warranty coverage for capacity retention – LG Chem Battery

Subject to the terms of this Limited Warranty, Solahart warrants that the LG Chem Battery will retain the capacity levels specified in Exhibit A during the applicable periods identified in the Exhibit (each, an '**LG Chem Capacity Retention Warranty Period**').

Remedies – LG Chem Battery

If Solahart determines that a reported defect in relation to a LG Chem Battery is eligible for coverage under this Limited Warranty, Solahart will, at its sole option:

1. Repair the defective LG Chem Battery;
2. Replace the LG Chem Battery; or
3. Provide a Refund to be calculated in accordance with the formula below.

100% of the purchase price from the initial installation date to 24th month

72% of the purchase price from 25th to 36th month

58% of the purchase price from 37th to 48th month

44% of the purchase price from 49th to 60th month

30% of the purchase price from 61st to 72nd month

16% of the purchase price from 73rd to 84th month

6% of the purchase price from 85th to 96th month

4% of the purchase price from 97th to 108th month

2% of the purchase price from 109th to 120th month

Warranty coverage - Tesla Powerwall Battery

Subject to the terms of this Limited Warranty, Solahart warrants that the Tesla Powerwall Battery will be free from defects for 10 years following its initial installation (**'Tesla Warranty Period'**).

Remedies – Tesla Powerwall Battery

If your Tesla Powerwall Battery fails to comply with the above warranty during the Tesla Warranty Period, Solahart will, at its sole option:

1. Repair your Tesla Powerwall Battery;
2. Replace your Tesla Powerwall Battery with an equivalent product; or
3. Refund you the market price of an equivalent product at the time of the warrant claim.

Warranty coverage - GoodWe Batteries

Subject to the terms of this Limited Warranty, Solahart warrants that the GoodWe Battery will be free from defects for 10 years following its initial installation (**'GoodWe Warranty Period'**).

Remedies – GoodWe Battery

If your GoodWe Battery fails to comply with the above warranty during the GoodWe Warranty Period, Solahart will, at its sole option:

4. Repair your GoodWe Battery;
5. Replace your GoodWe Battery with an equivalent product; or
6. Refund you the market price of an equivalent product at the time of the warrant claim.

Warranty coverage for defects - SolarEdge Energy Bank

Subject to the terms of this Limited Warranty, Solahart warrants that the SolarEdge Energy Bank will be free from defects in workmanship and materials for 10 years from the SolarEdge Energy Bank's installation date, as recorded by the SolarEdge Monitoring Portal; (**'Solahart Warranty Period'**).

Warranty coverage for capacity retention – SolarEdge Energy Bank

Subject to the terms of this Limited Warranty, Solahart warrants that the SolarEdge Energy Bank will have an energy capacity as follows (**'Energy Capacity'**):

Configuration	Energy Retention	Energy Throughput
SolarEdge Energy Bank	70% at the end of the Solahart Warranty Period	Unlimited cycles

SolarEdge Energy Bank Warranty Terms and Exclusions

This warranty for the SolarEdge Energy Bank applies if the SolarEdge Energy Bank is:

1. Used in accordance with its intended purpose and installed and used in compliance with applicable laws and regulations;
2. Connected to an approved SolarEdge Inverter and the SolarEdge Monitoring Platform for the entire duration of the Warranty Period;
3. Used solely for standard solar use in one of the following modes: solar self-consumption, time of use, backup applications or Solahart-managed Energy Management or Grid Services;
4. Used, installed, and handled in accordance with the provisions of the Solahart Energy Bank Data Sheet and the SolarEdge Energy Bank Installation Manual available on the SolarEdge website ('**SolarEdge Documentation**');
5. Installed in a location where the ambient temperature falls between 0°C to 40°C for no less than 95% of the SolarEdge Warranty Period.

The manufacturer requires the ability, without prior notice, to update the SolarEdge Energy Bank through remote firmware upgrades from time to time, which may temporarily interrupt the operation of the SolarEdge Energy Bank. If the SolarEdge Energy Bank is not connected to the SolarEdge Monitoring Portal, these upgrades will not be able to be made and Solahart will not be able to honour these warranties for the SolarEdge Energy Bank.

Remedies for SolarEdge Energy Bank

If your SolarEdge Energy Bank fails to comply with the above warranties during the Solahart Warranty Period, Solahart will at its sole option:

1. Repair the SolarEdge Energy Bank;
2. Replace the SolarEdge Energy Bank with an equivalent product at the time of the warranty claim; or
3. Issue a credit note for the defective product in an amount up to the actual value of the lost SolarEdge Energy Bank's capacity at the time the owner notifies Solahart of the defect, as determined by Solahart, for use toward the purchase of new product.

Warranty coverage for defects - BYD Battery-Box System

Subject to the terms of this Limited Warranty, Solahart warrants that the BYD Battery-Box System will be free from defects in materials or workmanship for 10 years from the sales date as mentioned in the seller's invoice ('**Warranty Start Date**') to the Original End-User ('**BYD Warranty Period**').

Warranty coverage for capacity retention – BYD Battery-Box System

Subject to the terms of this Limited Warranty, Solahart warrants that the BYD Battery-Box System HVM series will: (i) retain sixty per cent (60%) of its **Usable Energy** (as specified in Exhibit B) for ten (10) years from the Warranty Start Date; or (ii) reach the **Minimum Throughput Energy** (as specified in Exhibit B), whichever comes first, on the condition that the Product is operated under normal use in accordance with Solahart Owner's Manual, (the 'Minimum Throughput Energy' is the total output energy of the Product recorded in the control module of the Product) (each a '**BYD Warranty Period**').

Warranty coverage for capacity retention for additional battery modules after the initial installation (Subsequent Product) – BYD Battery-Box System

Subject to the terms of this Limited Warranty, Solahart warrants that the Subsequent Product will: (i) retain sixty percent (60%) of Usable Energy (as specified in Exhibit B) for ten (10) years from the invoice date of the Subsequent Product; or (ii) reach the Minimum Throughput Energy (as specified in Exhibit B), whichever comes first, on the condition that the Product is operated under normal use in accordance with Solahart Owner's Manual ('**BYD Warranty Period**').

BYD Battery-Box System HVM series Warranty Terms and Exclusions

This warranty for Battery-Box System HVM series does not apply:

1. If access is not granted to the performance data of the Product over the Internet upon request after reporting the warranty claim or
2. To wear and tear in the appearance of the Product (including to any scratches, stains, mechanical wear, rust or mould) which does not impair its function.

Remedies for BYD Battery-Box System HVM series

If your BYD Battery-Box System fails to comply with the above warranties during the relevant BYD Warranty Period, Solahart will repair or replace the non-conforming Product or parts at no charge (or provide a partial refund) on the following conditions:

3. Whether to repair or replace the Product will be determined by Solahart in its sole discretion.
4. If the manufacture of the BYD Battery-Box System in issue has been discontinued at the time of the warranty claim, withdrawn from the market, or are otherwise unavailable Solahart may, at its discretion, replace it with a similar Product or part (which may include previously used parts that are equivalent to new in performance and reliability).
5. If Solahart does not repair or replace the defective Product or parts, Solahart will refund an amount of money calculated as follows:
 - i. If the Product cannot be operated (that is, the warranty for **defects** applies), the refund will be calculated as follows:
$$\text{Refund} = (\text{Maximum Claim Amount} / 120) \times (120 - \text{number of months since Warranty Start Date});$$
 - ii. If the Product fails to comply with the Limited Performance Warranty for **capacity**, Solahart may calculate the refund using one of the two refund formulas below:
 - i) $\text{Refund} = \text{Maximum Claim Amount} * \times (\text{warranted Minimum Throughput Energy} - \text{output energy of the Product recorded in the control module of the Product}) / \text{warranted Minimum Throughput Energy};$ or
 - ii) $\text{Refund} = \text{Maximum Claim Amount} * \times (\text{warranted remaining Useable Energy} - \text{remaining Useable Energy}) / \text{warranted Usable Energy};$

Where:

- * the Maximum Claim Amount is the market value of the Product (or an equivalent Product) determined by Solahart if it were purchased new with no defects; and
- the Minimum Throughput Energy and the Usable Energy are specified in Exhibit B.

PART C – INVERTERS AND EV CHARGERS –FIMER/ABB

Warranty coverage for FIMER/ABB Inverters

Solahart warrants that a FIMER/ABB Inverter when provided by Solahart or a Solahart certified installer, when located at its original installation, will operate in accordance with its specifications in the Solahart's Owner's Guide and Installation Instructions for a period of: (a) ten (10) years from the date of purchase of the inverter for all UNO-DM Inverters; and (b) five (5) years from the date of purchase of the inverter for all other FIMER/ABB Inverters. If the Inverter fails to operate in accordance with its specifications and this materially affects the usability of the Inverter, Solahart will, at its sole option:

1. Repair the Inverter (either on site or at FIMER/ABB's factory); or
2. Provide a replacement Inverter (which might be new, reconditioned or an equivalent product).
3. Reimbursement.

Warranty coverage for FIMER EV Chargers

Solahart warrants that a FIMER EV Chargers when provided by Solahart or a Solahart certified installer, when located at its original installation, will operate in accordance with its specifications in the Solahart's Owner's

Guide and Installation Instructions for a period of: (a) two (2) years from the date of purchase of the EV Charger for all Fimer EV chargers; and (b) two (2) years from the date of purchase of the EV Charger for all other FIMER EV Chargers. If the EV Charger fails to operate in accordance with its specifications and this materially affects the usability of the EV Charger, Solahart will, at its sole option:

4. Repair the EV Charger (either on site or at FIMERs factory); or
5. Provide a replacement EV Charger (which might be new, reconditioned or an equivalent product).
6. Reimbursement.

Warranty Terms

If Solahart determines in its sole discretion that you do not have a valid warranty claim, Solahart may invoice you for any inspection and transportation costs of the returned Product.

Given the evolution of the technology, a replacement unit or a new device available at the time of the claim may not be compatible with the installed system. The warranty does not cover any expenses and/or costs incurred as part of the configuration, update or adjustment of the system to enable the installation of the Product. Solahart will not be liable under this warranty to pay any financial compensation, including compensation for any energy not supplied to the network by the system during any assistance activities, including preventive and corrective maintenance.

PART D – INVERTERS AND ASSOCIATED COMPONENTS – SOLAREEDGE

(In this Part D, a reference to “Products” is to the SolarEdge Products as described below).

Warranty coverage for SolarEdge Inverter

Subject to the terms of this Limited Warranty, Solahart provides a warranty against defects in workmanship and materials in relation to the SolarEdge Inverter, when located at its original installation, for a period of twelve (12) years commencing on the earlier of:

7. 4 months from the date the Inverter is shipped from the manufacturer; and
8. The date of installation of the Inverter.

Warranty coverage for StorEdge Interface

Subject to the terms of this Limited Warranty, Solahart provides a warranty against defects in workmanship and materials in relation to the StorEdge Interface for a period of ten (10) years commencing on the earlier of:

1. 4 months from the date the Interface is shipped from the manufacturer; and
2. The date of installation of the Interface.

Warranty coverage for Power Optimizers

Subject to the terms of this Limited Warranty, Solahart provides a warranty against defects in workmanship and materials in relation to the Power Optimizers for a period of twelve (12) years commencing on the earlier of:

1. 4 months from the date the Power Optimizers are shipped from the manufacturer; and
2. The date of installation of the Power Optimizers.

For all Power Optimizers with a part number ending in C, this warranty does not apply to the input connector.

Warranty coverage for Power Meter

Subject to the terms of this Limited Warranty, Solahart provides a warranty against defects in workmanship and materials in relation to the Power Meter for a period of five (5) years commencing on the earlier of:

1. 4 months from the date the Power Meter is shipped from the manufacturer; and
2. The date of installation of the Power Meter.

Remedies

If Solahart determines that a reported defect in relation to a Product is eligible for coverage under this Limited Warranty (including retention capacity), Solahart will, at its sole option:

1. Repair the defective Product;

-
2. Issue a credit note for the defective Product in an amount up to its actual value at the time buyer notifies Solahart of the defect, as determined by Solahart, for use toward the purchase of a new Product; or
 3. Provide the buyer with replacement units for the Product.

Exclusions

The Limited Warranty does not apply to components which are separate from the Products, ancillary equipment and consumables, such as, for example, cables, fuses, wires and connectors.

Beneficiary of Limited Warranty

The Limited Warranty only applies to the buyer who purchased the Products from Solahart, for use in accordance with their intended purpose (**‘Original Buyer’**). The Limited Warranty may be transferred from the Original Buyer to any assignee, and will remain in effect for the time period remaining under the above Warranty Periods, provided that the Products are not moved outside their original country of installation and any reinstallation is done in accordance with the installation directions and use guidelines accompanying the Products.

PART E – INVERTERS AND ASSOCIATED PRODUCTS – GOODWE

(In this Part E, a reference to “Products” is to the GoodWe Products as described below).

Warranty coverage for GoodWe Inverter

Subject to the terms of this Limited Warranty, Solahart provides a warranty against defects in workmanship and materials in relation to the GoodWe Inverter, when located at its original installation, for a period of 5 (five) years commencing on the first installation date. If the GoodWe Inverter is registered and connected on the GoodWe Smart Energy Management System (SEMS) portal after 1 January 2021, the warranty period is 10 (ten) years commencing on the first installation date.

Warranty coverage for GoodWe Accessories

Subject to the terms of this Limited Warranty, Solahart provides a warranty against defects in workmanship and materials in relation to the GoodWe Accessories for a period of 5 (five) years commencing on the first installation date.

Remedies

If the Product malfunctions or becomes inoperative due to a defect in workmanship or material under normal operation as specified in the Product instructions during the relevant warranty period, Solahart will, at its sole option:

1. fix the issue by changing configurations or updating software;
2. repair the defective Product by replacing with spare parts; or
3. replace the defective Product with a Product that is new, used or refurbished but at least functionally equivalent to the original product, or upgraded model which has at least equivalent or upgraded functionality to the original product.

If a Product is replaced under this Limited Warranty, a warranty of 3 months or the balance of the warranty period on the replaced Product, whichever is the greater, will apply to the replacement Product.

This Limited Warranty covers the cost of labour work and materials to return the Product to working functionally and the transportation costs, including shipments, taxes, customs and duties, of replacements.

If a Product is found not to be covered by this Limited Warranty, Solahart reserves the right to charge a handling fee.

Beneficiary of Limited Warranty

The Limited Warranty only applies to:

1. the buyer who purchased the Product from Solahart and put them into operation for the first time; and
2. the first purchaser who acquires the Product from that buyer in their original installation.

PART F – SOLAHART GATEWAY AND ENERGY MANAGEMENT UNIT PRODUCTS

(In this Part F, a reference to “Products” is to the Solahart Gateway and Energy Management Products as described below).

Warranty coverage for Solahart Gateway and Energy Management Unit Products

Subject to the terms of this Limited Warranty, Solahart provides a warranty against defects in materials and workmanship under normal use for 5 years ('**Solahart Gateway Warranty Period**').

If a defect (as described above) occurs during the Solahart Gateway Warranty Period, Solahart will, at its sole option:

1. repair the defect; or
2. replace the Product with a refurbished or "as new" Product (which includes Products that may have been used for testing or demonstration purposes).

Warranty Terms

For Products capable of retaining user-generated data, repair of the Product may result in loss of the data.

The warranty only covers factory imperfections in materials and workmanship and does not cover normal wear and tear.

PART G – THE RACKING SYSTEM

Warranty coverage for the Racking System

Solahart warrants that the racking system supplied with the PV System shall be free from defects in material and workmanship for a period of five (5) years from the date of installation.

This Warranty shall be void if the racking system has been modified, repaired, or reworked in a manner not previously authorized by Solahart in writing. If within the specified Warranty period the racking system shall be reasonably proven to be defective, then Solahart shall repair or replace the defective component(s) at Solahart's sole discretion. Such repair or replacement shall completely satisfy and discharge all of Solahart's liability with respect to this Limited Warranty.

PART H - BALANCE OF THE SYSTEM

Warranty coverage for the balance of the system

The balance of the PV System (**BOS**) consists of PV module cabling, circuit breakers, isolators, enclosures and labels. Solahart warrants that the BOS supplied by it will operate in accordance with its specifications in the Owner's Guide and Installation Instructions for a period of five (5) years from the date of installation of the BOS. If the BOS fails to operate in accordance with its specifications and this materially affects the usability of the BOS, Solahart will, at its sole option, repair or replace the defective component.

PART I - LABOUR WARRANTY

Warranty coverage for labour – PV System and LG Chem Battery

In addition to the above coverage, Solahart provides you with five (5) years of coverage, from the date of installation, for all labour costs involved with inspection by Solahart, removal or installation of warranted parts or components by Solahart of your PV System. Other than this five (5) years coverage, this Warranty does not cover, nor will Solahart reimburse, any on-site labor or other costs incurred in connection with the inspection, de-installation or removal of defective parts or components, or the re-installation of replaced or repaired parts or components for your PV System.

Warranty coverage for labour - SolarEdge Energy Bank and SolarEdge Products

If Solahart determines that a reported defect in relation to a SolarEdge Energy Bank is eligible for coverage under this Limited Warranty and Solahart decides to repair the SolarEdge Energy Bank, all costs, including labour, travel and boarding costs of service personnel that are incurred for labour relating to repairs, uninstalling and reinstalling of SolarEdge Energy Bank on-site, as well as costs related to buyer's employees and contractors repair or replacement activities, are not covered by the Limited Warranty and, unless otherwise agreed in writing in advance by Solahart, will be borne by you.

If Solahart determines that a reported defect in relation to a SolarEdge Product is eligible for coverage under this Limited Warranty and Solahart decides to repair the Product or part(s), warranty coverage includes labour and material costs necessarily incurred to correct the Product defect; and where Solahart decides to replace the Product or part(s) to which the Limited Warranty applies, warranty coverage includes the cost of the replacement of the Product or part(s). All other costs will be borne by you.

PART J - GENERAL TERMS

Back-up if sole or dominant power supply

If the PV System is to be the sole or dominant power supply for your business or application, you should ensure that you have back up redundancy if the PV System were to become inoperable for any reason. We suggest that you seek advice from your electrician or qualified professional about your needs and build backup redundancy into your electricity supply system.

Application of this warranty

This warranty only applies to Products provided by Solahart.

This warranty does not apply to defects, damage, malfunction, power output or service failures which have been caused by:

1. Repair, modifications, alterations, attachments or movement to or of the Product, or (in the case of the LG Chem Battery) opening of the external casing of the LG Chem Battery, performed by someone other than a Solahart Dealer or a Solahart Accredited Service Agent or otherwise without the prior written consent of Solahart;
2. Abuse, malicious acts, misuse or abnormal use, accident, negligent acts, power failures or surges, any external or environmental causes or force majeure events, including, but not limited to, pollution, explosion, lightning, fire, smoke, charring, flood, hail, extreme temperature conditions or cold weather (including frost), high snow loads or any other natural disaster, any other force majeure event, pest damage, accidental breakage, actions of third parties, and any other events or accidents outside Solahart's control and/or not arising under normal operating conditions and/or exceed the specifications set out in the relevant product information and sound structured engineering;
3. Operating the Product in an unintended environment or under incorrect safety or protection conditions;
4. Failure to operate and/or maintain the Product in accordance with the applicable Solahart Owner's Guide and Installation Instructions;
5. Transport damage;
6. Wear and tear from adverse conditions including corrosive atmospheric conditions e.g. salt, ocean spray, dust storm or other weather damage;
7. Cosmetic defects;
8. Any improper attachment, installation or application of the Product, and in respect of the PV System, any insufficient framing if the PV System is a frameless module;
9. Any attempt to extend or reduce the life of the Product, whether by physical means, programming or otherwise, without the prior written consent of Solahart;
10. Removal and reinstallation at a location other than the original installation location, without the prior written consent of Solahart;
11. Insufficient ventilation of the Product;
12. Failure to observe the applicable safety regulations; or any factor identified in the applicable Solahart Owner's Guide and Installation Instructions; or
13. Ignoring safety warnings and instructions contained in all documents relevant to the applicable Product.

If your claim relates to a failure to operate in accordance with the Solahart Owner's Guide as a result of one of the factors listed above, Solahart may charge you at its standard rates for its time and materials related to your claim.

Where a Product covered by this Limited Warranty is added to an existing PV system, this Limited Warranty will only apply to the Product, not the rest of the PV System.

Without limiting the above exclusions:

1. In relation to the SolahartxxxS2, SolahartxxxS3 and SolahartxxxS4 Modules, Solahart may refuse to honour this Warranty where: (a) modules have been used or handled, or modifications made to the modules, not in accordance with the relevant product information or written instructions issued by Solahart; (b) where the modules have been used for purposes or in circumstances not conforming to the product

specifications; (c) the Modules have been damaged due to damage to or defects in the photovoltaic system in which the Modules are installed, due to factors such as voltage fluctuations, power peaks, excess voltage, power failure etc; (d) the Modules have been used in processes involving, or in conjunction with, other products without Solahart's prior written consent; (e) the serial number or product label has been removed, changed, deleted or made unrecognizable, or if the number or label is no longer clearly distinguishable for other reasons beyond Solahart's control and therefore it is not possible to conclusively identify the Modules; or (f) you do not report any visible defect immediately.

2. In relation to the SolahartxxxV1, SolahartxxxV2 and SolahartxxxC1 range modules, Solahart may refuse to honour this Warranty where the module has been subjected to: (a) misuse, abuse, neglect or accident; (b) alteration, disassembly, reinstallation, and/or improper application; (b) non-observance of the Solahart Owner's Guide which accompanies the Module; (c) repair or modifications by persons that have not been previously authorized or approved by Solahart; (d) failures caused by equipment surrounding the Module which has not been provided by Solahart; (e) use under conditions or environments that exceed the product specifications and/or deviate from the Solahart Owner's Guide which accompanies the Module; (f) connection with any other manufacturer's PV modules, or modules that are of a different model or have different power output specifications that have not been previously authorized or approved by Solahart; (g) damage or defects caused by power failure surges, flood, fire, accidental breakage or other events caused by force of nature, force majeure, or other unforeseeable circumstances outside the range of influence of Solahart.
3. In relation to LG Chem Batteries, the Warranty does not cover damage from any of the following activities: (a) modification, alteration, disassembly, repair or replacement without authorization from Solahart; (b) external influences including unusual physical or electrical stress (power failure surges, inrush current, lightning, flood, fire, accidental breakage, etc); or (c) use of an incompatible inverter, rectifier or power conditioning system.
4. In relation to the SolarEdge Energy Bank, the Warranty does not apply to any defect or Energy Capacity underperformance that is the result of any: (a) misuse, abuse or negligence; (b) failure to maintain, operate, store, ship, install or handle the SolarEdge Energy Bank in strict conformance with the SolarEdge and Solahart Documentation, including failure to maintain the SolarEdge Energy Bank under proper environmental conditions or in any manner which is contrary to the SolarEdge Documentation; (c) modifications, alterations, repair, attachments, opening or disassembling the SolarEdge Energy Bank, which were not pre-authorized in writing by Solahart; (d) removal and reinstallation of the SolarEdge Energy Bank at a location other than the original installation site, without the express written consent of Solahart; (e) use of the SolarEdge Energy Bank in combination with equipment, items or materials not permitted by the SolarEdge Documentation or in violation of local codes and standards; (f) connecting the SolarEdge Energy Bank to software, interfacing, parts, supplies or other products not supplied by Solahart; (g) improper site preparation or maintenance or improper installation or (h) accidents or other force majeure events including flood, earthquake, fire, power surges, lightning, pest damage, corrosion, actions of third parties, direct exposure to water or other substances or other events beyond Solahart's reasonable control or not arising from normal operating conditions. SolarEdge Energy Bank is not intended for use as a primary or backup power source for life-support systems, medical equipment, or any other use where the SolarEdge Energy Bank's failure could lead to injury to persons or loss of life or catastrophic property damage. This warranty does not cover cosmetic or superficial defects, dents, marks or scratches which do not influence the proper functioning of the SolarEdge Energy Bank.
5. In relation to BYD Battery-Box Products, the Warranty does not apply to any defect or deterioration resulting from: (a) the Product not being maintained or operated in accordance with the Operating Manual and Quick Start Guide; (b) exposure of the Product to movement or shaking following installation, or temperatures of more than 50°C and/or below -10°C; (c) failure to notify Solahart of the defect or deterioration within 30 days of becoming aware of the defect or deterioration; (d) modification or repair of the Product without Solahart's approval; (e) a force majeure event (e.g., natural catastrophes, such as flooding, fires, earthquakes, lightning or other abnormal environmental conditions, war, etc.); (f) changes to national or regional laws, regulations or directives; or (g) the Product not being operated for any period of 6 months or more.
6. In relation to Inverters, the Warranty does not cover: (a) mechanical damage during transportation of the defective unit when the Product is conveyed under the responsibility of a third party; (b) any modification made to the Product that has not been authorized by Solahart; (c) improper installation or commissioning of the Product; (d) improper use of the Product; (e) external event (over-voltage, malfunction of other components of the system causing the Product to break down, etc.); (f) failure to comply with the Product documentation (Product manual, installation instructions, preventive maintenance); (g) force majeure, including lightning, overcurrents, natural disasters and fires; (h) external agents, including acid rain, salt,

vandalism or other pollutants; (i) failure to (properly) implement safety rules; or (j) use in combination with equipment, products or materials not authorised by Solahart.

7. In relation to SolarEdge Products, the Warranty does not cover: (a) Products which are damaged due to failure to observe the applicable safety regulations governing the proper use of the Products; (b) Products which are operated not in strict accordance with the accompanying instruction documentation, including without limitation, not ensuring sufficient ventilation for the Product as described in the applicable installation guide; (c) Products which are opened, modified or disassembled in any way without Solahart's prior written consent; (d) Products which are used in combination with equipment, items or materials not permitted in the instruction documentation or in violation of local codes and standards; (e) cosmetic or superficial defects, dents, marks or scratches which do not influence the proper functioning of the Products; (f) Products damaged or rendered non-functional as a result of power surges, lightning, fire, flood, pest damage, accident, action of third parties, or other events beyond Solahart's reasonable control or not arising from normal operating conditions.
8. In relation to the GoodWe Products, the Warranty does not cover: (a) normal wear and tear (including, without limitation, wear and tear of batteries); (b) faults or damages due to faulty installations, operations, maintenances against manufacturer's instructions by an which was done by anyone other than Solahart or a Solahart certified installer; (c) disassembly, repair or modification by anyone other than Solahart or a Solahart certified installer; (d) faults or damages due to inappropriate handling, misuse, neglect, unpredictability factors, man-made factors, or force majeure (including stormy weather, flooding, lightning, over voltage, pests and fire, water, or other acts of nature; (e) product modified, design change or parts replaced which were not approved by the manufacturer; (f) vandalism, engraving, labels, irreversible marking or contamination or theft; (g) failure to comply with safety regulations (VDE, IEC, etc.); (h) faults or damages caused by other reasons not related to product quality problems; (i) rust appearing on the product's enclosure cause by harsh environment; (h) fault or damages caused by exposure to sea coasts/saltwater or other aggressive atmospheres or environmental conditions; or (i) accidents and external influences.
9. In relation to Tesla Powerwall Batteries, the Warranty does not apply to any defect resulting from any of the following: (a) abuse, misuse or negligence; (b) accidents or force majeure events, including but not limited to lightning, flood, earthquake, fire or other events outside the reasonable control of Solahart; (c) storage, installation, commissioning, modification or repair of your Tesla Powerwall Battery, or opening of the external casing of your Tesla Powerwall Battery, that is performed by anyone other than Solahart or a Solahart certified installer; (d) failure to operate or maintain your Tesla Powerwall Battery in accordance with the Owner's Manual provided by Tesla; (e) any attempt to modify your Tesla Powerwall Battery, whether by physical means, programming or otherwise, without the express written consent of Solahart; or (f) removal and reinstallation of your Tesla Powerwall Battery at a location other than the original installation location, without the express written consent of Solahart. In order to provide this Warranty for the full five (5) year warranty period, Solahart requires the ability to update your Tesla Powerwall Battery through remote firmware upgrades. Installation of these remote upgrades may interrupt the operation of your Tesla Powerwall Battery for a short period. By installing your Tesla Powerwall Battery and connecting it to the internet, you consent to Solahart or its partners updating your Tesla Powerwall Battery through these remote upgrades from time to time, without further notice to you. If your Tesla Powerwall Battery is not connected to the Internet for an extended period, we may not be able to provide important remote firmware upgrades. In these circumstances, we may not be able to honour the full five (5) year Warranty. The Warranty for Tesla Powerwall Batteries will not apply to (a) normal wear and tear or deterioration, or superficial defects, dents or marks that do not impact the performance of your Tesla Powerwall Battery; or (b) noise or vibration that is not excessive or uncharacteristic and does not impact your Tesla Powerwall Battery's performance.
10. In relation to Solahart Gateway and Energy Management Unit Products, the Warranty does not apply to: (a) damage or fault caused by operating the Solahart Gateway or Energy Management Unit Product outside the permitted or intended uses described in the applicable installation guide or arising from failure to follow instructions on use of the Solahart Gateway or Energy Management Unit Product; (b) consumable parts, unless damage has occurred due to a defect in materials or workmanship; (c) cosmetic damage, including scratches, dents and broken plastic on ports, that does not otherwise affect the Solahart Gateway / Energy Management Unit Product's functionality or materially impair its use; (d) any abuse, misuse, neglect, mishandling or misapplication (including opening up, modifying or tampering with the hardware); (e) damage or fault caused by a fault with a third-party product not provided by Solahart; (f) any unusual hazards affecting the Solahart Gateway / Energy Management Unit Product or failure to provide an environment within the specifications of the Solahart Gateway / Energy Management Unit Product (including exposure to excessive humidity, heat, cold, dust, liquids, magnetic or electromagnetic interference, or incorrect supply voltage or current); (g) damage, malfunction or failure resulting from alterations, accident, misuse, abuse, fire, liquid spillage, use on an incorrect voltage, power surges and

dips, thunderstorm activity, acts of God, voltage supply problems, tampering, unauthorised repairs or other acts by any persons (including any repairs by persons other than Solahart authorised service personnel) or entry by any insect, vermin or foreign object in the Solahart Gateway / Energy Management Unit Product; or (h) cases where the factory applied UID has been altered or removed from the Solahart Gateway / Energy Management Unit Product.

Location and positioning

Where the Product is installed outside the boundaries of a metropolitan area (as defined by Solahart) or further than 25 km from a regional Solahart Dealer, the cost of transport, insurance and travelling costs to the nearest Solahart Dealer shall be the owner's responsibility.

Replacements

Solahart may use new, used, remanufactured or refurbished parts or products when repairing or replacing any Product under this Limited Warranty. Any exchanged or replaced parts or Products will become the property of Solahart. Goods presented for repair may be replaced by refurbished goods of the same type rather than being repaired.

If the Product is repaired or replaced under this Warranty, the remainder of the applicable Warranty Period will apply to the repaired or replaced Product and the repaired or replaced Product or parts will not carry a new Solahart Warranty. The Warranty Periods set out above will not be extended in any way in the event of a replacement or repair of a Product, but this does not affect any rights you may have under the Australian Consumer Law in relation to the replaced or repaired Product (see the section below entitled "The Australian Consumer Law" for further details).

Limitation of this warranty

This Limited Warranty is provided voluntarily and free of charge and does not constitute an independent guarantee promise. Therefore, if any defect materially affects the functionality of any Product, the remedies under this Warranty are limited exclusively to the remedies set out above in the warranty cases specified herein.

Subject to any statutory provisions to the contrary, Solahart assumes no warranties, express or implied, written or oral, other than the warranties made herein and specifically disclaims all other warranties, merchantability or fitness for a particular purpose and Solahart excludes all liabilities for any special, incidental, indirect, consequential or punitive damages arising from or in connection with the use or loss of use of the Product to perform as warranted, regardless of the form of action and regardless of whether a party has been informed of or otherwise might have anticipated the possibility of such damages; including but not limited to damages for loss of power, loss in income or revenue, lost profits or savings nor expenses arising from third-party claims. This does not apply to the extent Solahart is liable under applicable mandatory laws.

If you require a call out and we find that the fault is not covered by Solahart's warranty, you are responsible for our standard call out charge. If you wish to have the relevant component repaired or replaced by Solahart that service will be at your cost.

Entitlement to claim under this warranty

To be entitled to make a claim under this warranty you need to:

1. Provide proof of purchase documentation and be the owner of the Product or have the consent of the owner to act on their behalf.
2. Contact your Solahart dealer without undue delay after detection of the defect (or in the case of BYD Battery-Box System, within 2 weeks of appearance of the defect, or in the case of a SolahartxxxV1, SolahartxxxV2 or SolahartxxxC1 range module, within 30 days after discovering the defect) and, in any event, within the applicable Warranty Period.

You are not entitled to make a claim under this warranty if the relevant Product:

1. Does not have its original product labels, serial numbers and type plate or the labels or numbers are illegible; or
2. Is not installed in Australia.

Warranty claim procedure

If you wish to make a claim under this warranty, you need to:

1. Contact your Solahart dealer, provide proof of purchase (your invoice) and owner's details, address of the Product, a contact number and date of installation of the Product.

-
2. Solahart will arrange for the Product to be tested and assessed. Solahart will inform you whether this will occur on-site or whether the Product must be sent elsewhere for testing and assessment.
 3. If Solahart determines in its sole discretion that you have a valid warranty claim, Solahart will organise for the repair or replacement of the Product or any component in accordance with this warranty.

Any expenses incurred in the making of a claim under this Warranty will be borne by you.

The Australian Consumer Law

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Exhibit A

LG CHEM CAPACITY RETENTION LEVELS

References in this Exhibit to the “Product” are to a LG Chem Battery.

The Product will retain at least 60% of Nominal Energy* when the Product is operated under normal use, consistent with the specification and the Installation Manual provided by LG Chem is followed until the earliest to occur of:

- (a) 10 years after the date of the initial installation; or
- (b) the Product has had a minimum Energy Throughput as per the table below:

Product Name	Nominal Energy	Energy Throughput
RESU10H	9.8kWh	27.4MWh

* Nominal Energy means the initially rated capacity of the Products as printed on the label of the Products.

During measurement of the Product’s capacity:

- The ambient temperature will be 25~30°C
- The initial battery temperature from BMS: 25~30°C
- Charging/discharging method:
 - Charge: 0.2CC/CV (Constant voltage: RESU7H_BPI126V/
RESU10H_BPI 176.4V, Cut-off current 0.05C)
 - Discharge: 0.2CC (Cut-off voltage: RESU7H_BPI 90V/
RESU10H_BPI 126V)
 - Current at 0.2C: 12.6A
- Current and voltage measurement at battery DC side

Exhibit B
BYD BATTERY-BOX SYSTEM RETENTION LEVELS

References in this Exhibit to the “Product” are to a BYD Battery-Box.

In respect of the **HVM series**, the Usable Energy and Minimum Throughput Energy for each Product Model are set out in the table below:

Product Type	Usable Energy(kWh)1 *	Minimum Through Output Energy (MWh)
HVM 8.3	8.28	25.62
HVM 11.0	11.04	34.15
HVM 13.8	13.8	42.69
HVM 16.6	16.56	51.23
HVM 19.3	19.32	59.77
HVM 22.1	22.08	68.31

* For the purposes of this Limited Warranty, the remaining Usable Energy is as measured and calculated using the following testing method and values, while the ambient temperature is between 25~28°C:

- Discharge the battery with constant current until the battery reaches end of discharge voltage ('**EODV**') or its self-protective voltage.
- Wait for 10 minutes
- Charge the battery with constant current and constant charge voltage to its full capacity.
- Wait for 10 minutes.
- Discharge the battery with constant current until it reaches EODV or self-protection voltage. Calculate discharged capacity. Record the current, voltage and time/
- The remaining Usable Energy is the integral of discharge time, current and voltage.

Test value list:

Product Type	End of discharge voltage(V)	Constant charge voltage(V)	Constant current(A)
HVM 8.3	120	180	10
HVM 11.0	160	240	10
HVM 13.8	200	300	10
HVM 16.6	240	360	10
HVM 19.3	280	420	10
HVM 22.1	320	480	10

Website: www.solahart.com.au

Email: solahart@solahart.com.au

Revision Date: 2023 January

122293 A