



**take charge.**



# Contents



Installed Equipment	P 3
Performance System Estimates	P 5
Solar Panel Suppliers	P 6
Isolate Suppliers	P 12
Racking Certification	P 17
Solar System Warranty	P 23
Start-up & Shutdown Procedures	P 28
Earth Fault Alarm	P 29
System Connection Diagram	P 30
Maintenance Schedule & Requirements	P 31
List of Materials Supplied	P 32
System Maintenance Log	P 33
Installer Declaration	P 33
Contact Us	P 34



# About Solar Battery Group



take charge.

Here at Solar Battery Group, we pride ourselves on being Australia's largest residential solar battery installers and solar (PV) panel specialists. We strive to provide all our customers with the latest technology in solar products and ensure a truly personalised installation experience, whether you're new to solar or expanding an existing system.

We know that solar isn't a one-size-fits-all solution, that's why we take the time with you to better understand how your household uses energy and develop a solar solution that will best suit your needs. Backed by over 30 years' industry experience, our team of dedicated staff are here to take the time with you to get you on your journey to a \$0 energy bill.

As a proud signatory of the Clean Energy Council Approved Solar Retailer Code of Conduct, we are committed to providing a higher standard of quality and service, raising the bar in the solar industry.





# Installed Equipment

## Solar Photovoltaic (PV) Panels

**Function:** Solar cells convert light energy in the form of photons into direct current (DC) electricity.

**Operation:** Solar cells are current limited devices manufactured from semiconductor material. A solar cell generates electricity when enough light energy, in the form of photons, meets its surface. Solar cells are more efficient when operating temperatures are cool. The most common type of solar cells are poly, multi and mono-crystalline.

**Location:** (Roof-mounted – fixed arrays)

Fixed arrays are the most commonly used. The modules are placed on a support structure, ideally facing north in the southern hemisphere\* and south in the northern hemisphere, at an angle determined by the latitude. The angle chosen depends upon the seasonal power requirement. For example, for the most consistent output over the year, an angle of 28 degrees is used, which places the solar array at a right angle to midwinter sunrays.

\*Actual position may vary depending on roof profile and orientation of house to the path of the sun.

## Solar Inverter (String and Micro-Inverters)

**Function:** A solar inverter (or PV inverter) is a critical component in a solar energy system. It performs the conversion of the variable direct current (DC) energy generated by the solar PV modules into an alternate current (AC). This current can be used by the household and fed into the electricity grid.

Micro-inverters are used when it is not possible to electrically form a string of PV panels to a string inverter due to small roof space or an irregular shaped roof. Micro-inverters are also advantageous in situations where light shadowing of a roof space is experienced throughout different parts of the day, as each panel (micro-inverter) work independently of each other.

**Operation:** The AC power converted by the inverter helps power your household appliances. Your electricity retailers will purchase any surplus electricity your solar array feed into the grid (as per your electricity contract). Each micro-inverter takes DC power from the solar panel in which it is connected to and converts it to utility compatible AC power.

**Location:** Inverters are typically located adjacent to the main switchboard/sub-board on the house. These units may be required to be installed in the house. These units may be required to be installed in an alternate location due to the natures of the inverter and/or physical limitations involved in the installation. Micro-inverters are installed on the rooftop either on the underside of each solar panel or secured on the racking system.

# Installed Equipment

## AC and DC Circuit Breakers/Isolators

**Function:** The circuit breaker/isolator (depending on which one is installed) is designed to isolate the PV array output to the inverter for any of the following reasons:

- System maintenance
- Homeowner discretion (if tradespeople are working in or around the house on electrical wiring, for example, for safety of tradespeople and occupants)
- Emergency situations

**Micro-inverter systems:** A rooftop AC isolator is used to isolate the PV Array Output from the solar array to the Solar Supply Main Switch (located: Main Switchboard or Sub-board, depending on installation methodology).

**Operations:** To operate the switch (ON or OFF), turn the switch clockwise/anticlockwise, or where the unit supplied has a lever, by lifting the lever to the OFF position.

**Location:** The isolation switch is mounted next to the inverter and is clearly labelled 'Array Isolator'.

## Solar Racking

**Function:** Designed for residential and commercial applications, the racking system can be used with 35mm-55mm solar panels from any manufacturer. Featuring a low-profile installation, the racking system adapts to tiled and tin roof types and uses minimal roof penetrations for a leak-proof fit.

**Operation:** The racking system is mounted on the roof via the existing structural members, providing a rigid structure to which the solar panels are securely attached.

**Location:** The solar racking system can be attached to various existing roof structures in both domestic and commercial dwellings. Solar Battery Group also supplied and installs ground mount structures. In some geographic locations, array tilt requirements and installer/designer discretion: the structural integrity of the existing roof or point of attachment may require structural engineering certifications and/or along with the relevant building approvals as per the local governing authority.



# Performance System Estimates

## Melbourne

Size	Annual Average kW/h per day
1.5kW	6.09
1.6kW	6.49
1.7kW	6.90
1.8kW	7.31
1.9kW	7.71
2.0kW	8.12
2.1kW	8.52
2.2kW	8.93
2.3kW	9.34
2.4kW	9.74
2.5kW	10.15
2.6kW	10.55
2.7kW	10.96
2.8kW	11.37
2.9kW	11.77
3.0kW	12.18
3.1kW	12.58
3.2kW	12.99
3.3kW	13.40
3.4kW	13.80
3.5kW	14.21
3.6kW	14.61
3.7kW	15.02
3.8kW	15.42
3.9kW	15.83
4.0kW	16.24
4.1kW	16.64
4.2kW	17.05
4.3kW	17.45
4.4kW	17.86
4.5kW	18.27
4.6kW	18.67
4.7kW	19.08
4.8kW	19.48
4.9kW	19.89
5.0kW	20.30

Based on CEC GC DESIGN GUIDELINES and the Australian Solar Radiation Data Handbook at True North 30° Inclination.

For your individual monthly Performance System Estimate, please refer to estimates provided in your Welcome Pack.

## Derating Factors

AZIMUTH	INCLINATION		
	20°	30°	40°
WEST	-13%	-15%	-18%
EAST	-16%	-18%	-22%
NORTH/WEST	-6%	-5%	-5%
NORTH/EAST	-6%	-5%	-5%

### EXAMPLE

10 PANEL SYSTEM INSTALLED ON THE NORTH/WEST FACE AT 20°

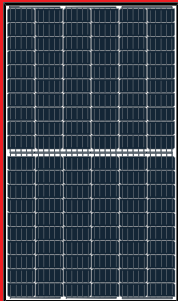
12.99kW/h – 6% = 12.21kW/h

### SITE RESULTS

ANNUAL AVERAGE YEILD (STRING 1)		
DERATING FACTOR		<i>result</i>
ANNUAL AVERAGE YEILD (STRING 2)		
DERATING FACTOR		<i>result</i>
TOTAL ANNUAL AVERAGE YEILD		

Figures based on using modules with 5% manufacturers PV Tolerance and 5% Soiling (Dirt Factor), Inverter efficiency of 93% and cable losses in AC and DC.

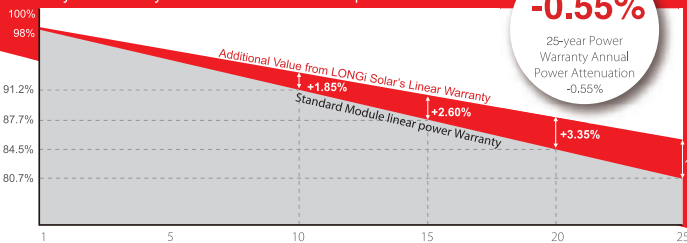
# Solar Panel Suppliers



LR6-60HPH  
**300~320M**

**High Efficiency**  
**Low LID Mono PERC with**  
**Half-cut Technology**

10-year Warranty for Materials and Processing;  
25-year Warranty for Extra Linear Power Output



**-0.55%**

25-year Power  
Warranty Annual  
Power Attenuation  
-0.55%

**+4.10%**

## Complete System and Product Certifications

IEC 61215, IEC61730  
ISO 9001:2008: ISO Quality Management System  
ISO 14001: 2004: ISO Environment Management System  
TS62941: Guideline for module design qualification and type approval  
OHSAS 18001: 2007 Occupational Health and Safety



\* Specifications subject to technical changes and tests. LONGI Solar reserves the right of interpretation.

**Positive power tolerance** (0 ~ +5W) guaranteed

**High module conversion efficiency** (up to 19.3%)

**Slower power degradation** enabled by Low LID Mono PERC technology: first year <2%, 0.55% year 2-25

**Solid PID resistance** ensured by solar cell process optimization and careful module BOM selection

**Adaptable to harsh environment:** passed rigorous salt mist and ammonia tests

**Outstanding low light performance** average relative efficiency 97.5% or better at 200W/m<sup>2</sup>

**Reduced resistive loss** with lower operating current

**Higher energy yield** with lower operating temperature

**Reduced hot spot risk** with optimized electrical design and lower operating current

**LONGI Solar**

Room 201, Building 8, Sandhill Plaza, Lane 2290, Zuchongzhi Road, Pudong District, Shanghai, 201203  
Tel: +86-21-61047332 Fax: +86-21-61047377 E-mail: module@longi-silicon.com  
Facebook: www.facebook.com/LONGI Solar

Note: Due to continuous technical innovation, R&D and improvement, technical data above mentioned may be of modification accordingly. LONGI Solar have the sole right to make such modification at anytime without further notice; Demanding party shall request for the latest datasheet for such as contract need, and make it a consisting and binding part of lawful documentation duly signed by both parties.

20190115



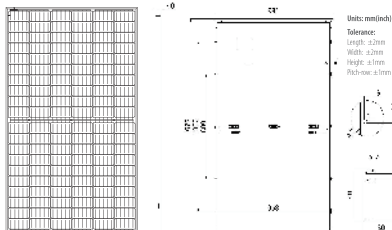
take charge.



# Solar Panel Suppliers

## LR6-60HPH 300~320M

### Design (mm)



### Mechanical Parameters

Cell Orientation: 120 (6×20)  
 Junction Box: IP67, three diodes  
 Output Cable: 4mm<sup>2</sup>, 300mm in length  
 Glass: 3.2mm coated tempered glass  
 Weight: 19kg  
 Dimension: 1672×991×40mm  
 Packaging: 26pcs per pallet  
 156pcs per 20'GP  
 676pcs per 40'HC

### Operating Parameters

Operational Temperature: -40°C ~ +85°C  
 Power Output Tolerance: 0 ~ +5 W  
 Voc and Isc Tolerance: ±3%  
 Maximum System Voltage: DC1500V (IEC)  
 Maximum Series Fuse Rating: 20A  
 Nominal Operating Cell Temperature: 45±2°C  
 Safety Class: Class II

### Electrical Characteristics

Test uncertainty for Pmax: ±3%

Model Number	LR6-60HPH-300M		LR6-60HPH-305M		LR6-60HPH-310M		LR6-60HPH-315M		LR6-60HPH-320M	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax/W)	300	222.2	305	225.9	310	229.6	315	233.4	320	237.1
Open Circuit Voltage (Voc/V)	39.8	37.1	40.1	37.4	40.3	37.7	40.6	37.9	40.9	38.2
Short Circuit Current (Isc/A)	9.70	7.82	9.78	7.88	9.86	7.94	9.94	8.01	10.02	8.08
Voltage at Maximum Power (Vmp/V)	32.9	30.4	33.1	30.6	33.3	30.8	33.7	31.1	33.9	31.3
Current at Maximum Power (Imp/A)	9.13	7.32	9.21	7.38	9.30	7.46	9.36	7.50	9.43	7.56
Module Efficiency(%)	18.1		18.4		18.7		19.0		19.3	

STC (Standard Testing Conditions): Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Spectra at AM1.5

NOCT (Nominal Operating Cell Temperature): Irradiance 800W/m<sup>2</sup>, Ambient Temperature 20°C, Spectra at AM1.5, Wind at 1m/s

### Temperature Ratings ( STC )

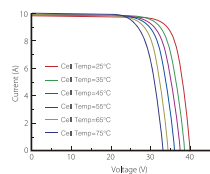
Temperature Coefficient of Isc: +0.057%/°C  
 Temperature Coefficient of Voc: -0.286%/°C  
 Temperature Coefficient of Pmax: -0.370%/°C

### Mechanical Loading

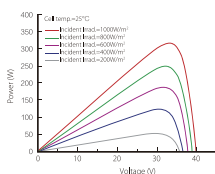
Front Side Maximum Static Loading: 5400Pa  
 Rear Side Maximum Static Loading: 2400Pa  
 Hallstone Test: 25mm Hallstone at the speed of 23m/s

### I-V Curve

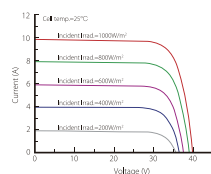
Current-Voltage Curve (LR6-60HPH-310M)



Power-Voltage Curve (LR6-60HPH-310M)



Current-Voltage Curve (LR6-60HPH-310M)



# LONGI Solar

Room 201, Building 8, Sandhill Plaza, Lane 2290, Zuchongzhi Road, Pudong District, Shanghai, 201203  
 Tel: +86-21-61047332 Fax: +86-21-61047377 E-mail: module@longi-silicon.com  
 Facebook: www.facebook.com/LONGI Solar

Note: Due to continuous technical innovation, R&D and improvement, technical data above mentioned may be of modification accordingly. LONGI Solar have the sole right to make such modification at anytime without further notice; Demanding party shall request for the latest datasheet for such as contract need, and make it a consisting and binding part of lawful documentation duly signed by both parties.

20190115

# Solar Panel Suppliers

Harvest the Sunshine



**Mono**

## 320W PERC Module

JAM60S01 300-320/PR Series

### Introduction

Powered by high-efficiency PERCIUM cells, this series of high-performance modules provides the most cost-effective solution for lowering the LCOE of any PV systems large or small.



5 busbar solar cell design



Higher output power



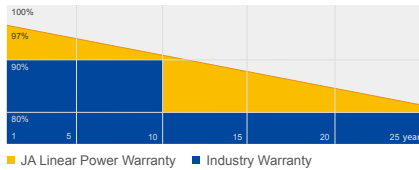
Excellent low-light performance



Lower temperature coefficient

### Superior Warranty

- 12-year product warranty
- 25-year linear power output warranty



### Comprehensive Certificates

- IEC 61215, IEC 61730, UL 1703, IEC TS 62804, IEC 61701, IEC 62716, IEC 60068-2-68
- ISO 9001: 2015 Quality management systems
- ISO 14001: 2015 Environmental management systems
- OHSAS 18001: 2007 Occupational health and safety management systems
- IEC TS 62941: 2016 Terrestrial photovoltaic (PV) modules – Guidelines for increased confidence in PV module design qualification and type approval



**JA SOLAR**

[www.jasolar.com](http://www.jasolar.com)

Specifications subject to technical changes and tests. JA Solar reserves the right of final interpretation.



take charge.

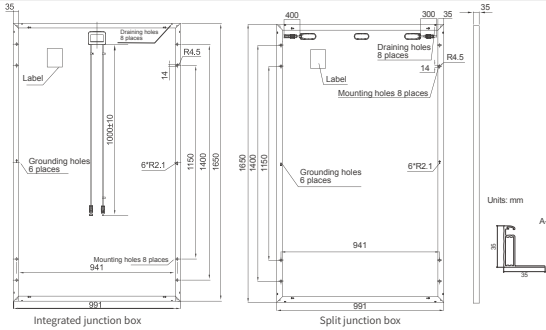


# Solar Panel Suppliers

**JA SOLAR**

**JAM60S01 300-320/PR** Series

## MECHANICAL DIAGRAMS



Remark: customized frame color and cable length available upon request

## SPECIFICATIONS

Cell	Mono
Weight	18.2kg±3%
Dimensions	1650mm×991mm×35mm
Cable Cross Section Size	4mm <sup>2</sup>
No. of cells	60(6x10)
Junction Box	IP67, 3 diodes
Connector	MC4 Compatible(1000V) QC 4.10-35(1500V)
Packaging Configuration	30 Per Pallet

## ELECTRICAL PARAMETERS AT STC

TYPE	JAM60S01 -300/PR	JAM60S01 -305/PR	JAM60S01 -310/PR	JAM60S01 -315/PR	JAM60S01 -320/PR
Rated Maximum Power(Pmax) [W]	300	305	310	315	320
Open Circuit Voltage(Voc) [V]	39.85	40.05	40.30	40.53	40.80
Maximum Power Voltage(Vmp) [V]	32.26	32.57	32.84	33.16	33.48
Short Circuit Current(Isc) [A]	9.75	9.85	9.91	9.98	10.05
Maximum Power Current(Imp) [A]	9.30	9.37	9.44	9.50	9.56
Module Efficiency [%]	18.3	18.7	19.0	19.3	19.6
Power Tolerance	0~+5W				
Temperature Coefficient of Isc(α <sub>Isc</sub> )	+0.060%/°C				
Temperature Coefficient of Voc(β <sub>Voc</sub> )	-0.300%/°C				
Temperature Coefficient of Pmax(γ <sub>Pmp</sub> )	-0.380%/°C				
STC	Irradiance 1000W/m <sup>2</sup> , cell temperature 25°C, AM1.5G				

Remark: Electrical data in this catalog do not refer to a single module and they are not part of the offer.They only serve for comparison among different module types.

## ELECTRICAL PARAMETERS AT NOCT

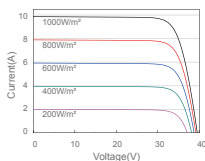
TYPE	JAM60S01 -300/PR	JAM60S01 -305/PR	JAM60S01 -310/PR	JAM60S01 -315/PR	JAM60S01 -320/PR
Rated Max Power(Pmax) [W]	221	224	228	232	235
Open Circuit Voltage(Voc) [V]	36.75	36.95	37.15	37.36	37.61
Max Power Voltage(Vmp) [V]	29.69	29.90	30.18	30.42	30.70
Short Circuit Current(Isc) [A]	7.78	7.86	7.93	7.99	8.05
Max Power Current(Imp) [A]	7.43	7.50	7.55	7.61	7.66
NOCT	Irradiance 800W/m <sup>2</sup> , ambient temperature 20°C, wind speed 1m/s, AM1.5G				

## OPERATING CONDITIONS

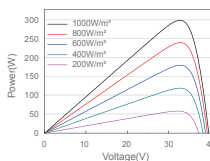
Maximum System Voltage	1000V/1500V DC(IEC)
Operating Temperature	-40°C~+85°C
Maximum Series Fuse	20A
Maximum Static Load,Front	5400Pa
Maximum Static Load,Back	2400Pa
NOCT	45±2°C
Application Class	Class A

## CHARACTERISTICS

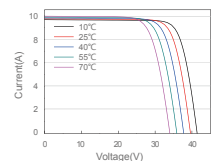
Current-Voltage Curve JAM60S01-300/PR



Power-Voltage Curve JAM60S01-300/PR



Current-Voltage Curve JAM60S01-300/PR



Premium Cells, Premium Modules

Version No. : Global\_EN\_20180824

# Solar Panel Suppliers

## HIGH PERFORMANCE POLYCRYSTALLINE MODULE

RSM60-6-260P-280P/4BB

60 CELL POLYCRYSTALLINE MODULE

260-280Wp POWER OUTPUT RANGE

17.1% MAXIMUM EFFICIENCY



### About Risen Energy

Risen Energy is a leading, global tier 1 manufacturer of high-performance solar photovoltaic products and provider of total business solutions for residential, commercial and utility-scale power generation. The company, founded in 2002, and publicly listed in 2010, compels value generation for its chosen global customers. Techno-commercial innovation, underpinned by consummate quality and support, encircle Risen Energy's total Solar PV business solutions which are among the most powerful and cost-effective in the industry. With local market presence and strong financial bankability status, we are committed, and able, to building strategic, mutually beneficial collaborations with our partners, as together we capitalise on the rising value of green energy.

## KEY SALIENT FEATURES



Global, Tier 1 bankable brand, with independently certified state-of-the-art automated manufacturing



Photon Independent field testing - Ranked in the top 2 of 176 international suppliers



Industry leading lowest thermal co-efficient of Power



Industry leading 12 years product warranty



Excellent low irradiance performance



Excellent PID resistance



Positive tight power tolerance of 3%



Dual stage 100% EL Inspection warranting defect-free product



Module Imp binning radically reduces string mismatch losses



Warranted reliability and stringent quality assurances' well beyond certified requirements



Certified to withstand severe environmental conditions

- ♦ Anti-reflective & anti-soiling surface minimise power loss from dirt and dust
- ♦ Severe salt mist, ammonia & blown sand resistance, for seaside, farm and desert environments
- ♦ Excellent mechanical load 2400Pa & snow load 5400Pa resistance



### Risen Energy (Australia) Pty Ltd

Address: 3/450 Princes Highway,  
Noble Park, VIC 3174, Australia

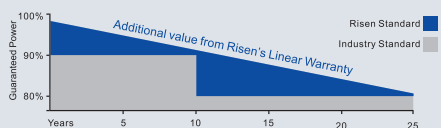
Tel: +61 3 9021 7788

Fax: +61 3 9795 9601

E-mail: info@risenenergyaustralia.com.au

## LINEAR PERFORMANCE WARRANTY

12 year Product Warranty / 25 year Linear Power Warranty



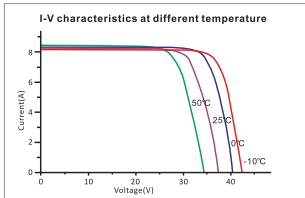
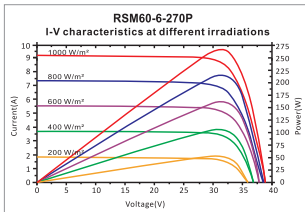
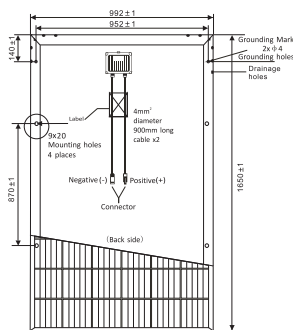
THE POWER OF RISING VALUE



take charge.



### Dimension of PV Modules (Unit: mm)



### Our Partners:

RSM60-4BB-EN-BVC-H1-2017

### ELECTRICAL DATA(STC)

Model Number	RSM60-6-260P	RSM60-6-265P	RSM60-6-270P	RSM60-6-275P	RSM60-6-280P
Rated Power in Watts-Pmax(Wp)	260	265	270	275	280
Open Circuit Voltage-Voc(V)	37.8	38.0	38.2	38.4	38.6
Short Circuit Current-Isc(A)	9.04	9.12	9.20	9.28	9.36
Maximum Power Voltage-Vmpp(V)	30.6	30.9	31.2	31.5	31.8
Maximum Power Current-Imp(A)	8.50	8.58	8.66	8.74	8.82
Module Efficiency (%)	15.9	16.2	16.5	16.8	17.1

STC: Irradiance 1000 W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass AM1.5 according to EN 60904-3.

### ELECTRICAL DATA(NOCT)

Model Number	RSM60-6-260P	RSM60-6-265P	RSM60-6-270P	RSM60-6-275P	RSM60-6-280P
Maximum Power-Pmax (Wp)	194	197	201	205	208
Open Circuit Voltage-Voc (V)	35.2	35.3	35.5	35.6	35.8
Short Circuit Current-Isc (A)	7.31	7.38	7.44	7.51	7.57
Maximum Power Voltage-Vmpp (V)	28.1	28.3	28.4	28.6	28.7
Maximum Power Current-Imp (A)	6.89	6.98	7.08	7.17	7.25

NOCT: Irradiance at 800 W/m<sup>2</sup>, Ambient Temperature 20°C, Wind Speed 1 m/s.

### MECHANICAL DATA

Solar cells	Polycrystalline 156×156 mm
Cell configuration	60 cells (6×10)
Module dimensions	1650×992×35mm
Weight	18kg
Superstrate	3.2 mm, High Transmission, Low Iron, Tempered ARC Glass
Substrate	White Backsheet
Frame	Silver Anodized Aluminium Alloy type 6063T5, Silver Color
J-Box	Potted, IP67, 1000VDC, 3 Schottky bypass diodes
Cables	4.0mm <sup>2</sup> (12AWG), 900mm length
Connector	IP67 MC4 Compatible

### TEMPERATURE & MAXIMUM RATINGS

Nominal Operating Cell Temperature (NOCT)	45°C±2°C
Temperature Coefficient of Voc	-0.32%/°C
Temperature Coefficient of Isc	0.05%/°C
Temperature Coefficient of Pmax	-0.39%/°C
Operational Temperature	-40~+85°C
Maximum System Voltage	1000VDC
Max Series Fuse Rating	15A
Limiting Reverse Current	15A

### PACKAGING CONFIGURATION

	40ft	20ft
Number of modules per container	840	360
Number of modules per pallet	30	30
Number of pallets per container	28	12
Packaging box dimensions (LxWxH) in mm	1680×1120×1250	1680×1120×1250
Box gross weight[kg]	580	580

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.  
©2017 Risen Energy. All rights reserved. Specifications included in this datasheet are subject to change without notice.

THE POWER OF RISING VALUE



**HPISW120**  
**HPISWL120**  
**HPISWL140**  
**HPISWL163**  
**HPISWL220**  
**HPISWL235**  
**HPISWL263**  
**HPISWL320**  
**HPISWL335**  
**HPISWL363**  
**HPISWL420**  
**HPISWL435**  
**HPISWL463**

\*See current catalogue for further detail

## Page 1 of 2

### Cleaning Guide:

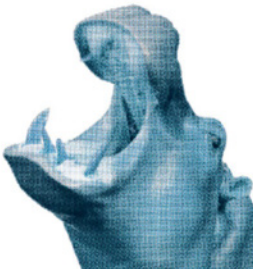
Spraying cleaning products directly on to electrical switches or power points (sockets) is not recommended.

It is important to ensure that switches are turned off before cleaning.

Do not use any cleaning sprays - only wipe down with damp cloth or rub with dry cloth. (Do not use an abrasive cloth as it may scratch the plastic)

Do not use harsh chemical cleaners as these can break down the plastic and cause it to crack.

Do not wash the cover plates in water over 60°C.



## Hippo Range Isolators - Page 1 of 2

- Hippo Isolators are tested to AS/NZS3133 and AS/NZS IEC60947-3
- The Hippo larger enclosures feature twin 25mm threaded entries both top and bottom.
- The internal isolator switch modules are base mounted to provide a stable platform for wiring. Examples of the inner modules are pictured below.
- More detail for switches can be seen in table on following page
- Packaging lid features cutting template for easy marking out.
- Colour: grey

### The switches feature:

- Combination head terminal screws
- Combination head earth and neutral terminal screws
- Alignment sleeves on switch housing guides screwdriver into terminal screws, reduces screwdriver tips jumping out
- Terminal bores have plenty of space for wiring (see table for sizes)



Example of internal HPISW120 switch



Example of internal HPISWL140 switch



Example of internal 1-pole switch



Example of internal 2-pole switch



Example of internal 3-pole switch



Example of internal 4-pole switch

### Certification Number:

HPISW120: GMA-103194-EA-002 / HPISWL120: GMA-103194-EA-001 / HPISWL140: GMA-103194-EA-001  
 HPISWL220, HPISWL320, HPISWL420: GMA-502364-EA  
 HPISWL163, HPISWL335, HPISWL363, HPISWL435, HPISWL463: GSM-502365

### GSM Electrical (Australia) Pty Ltd

Level 2, 142-144 Fullarton Road, Rose Park SA 5067  
 P: 1300 301 838 F: 1300 301 778 E: service@gsm.com.au  
[www.gsm.com.au](http://www.gsm.com.au)



Data Specification Sheet  
February 2017



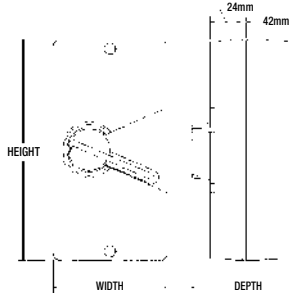


**HPISW120**  
**HPISWL120**  
**HPISWL140**  
**HPISWL163**  
**HPISWL220**  
**HPISWL235**  
**HPISWL263**  
**HPISWL320**  
**HPISWL335**  
**HPISWL363**  
**HPISWL420**  
**HPISWL435**  
**HPISWL463**

\*See current catalogue for further detail

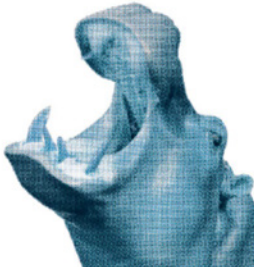
**Page 2 of 2**

## Hippo Range Isolators - Page 2 of 2



\*\*Refer to chart below for product dimensions\*\*

Hippo Isolator part number	No. of poles	Current rating	Voltage	Utilization category	Motor Rating	IP Rating	Top Entries	Bottom Entries	Terminal screw drive	Terminal hole size	Padlock hole	Width	Height	Depth
HPISW120	1	20A	250V ac	-	M100	IP65	2 x 25mm Plain	2 x 20mm Plain	#1 Phillips/Flat combo	Dia 4.5mm	8.4mm	84mm	84mm	83mm
HPISWL120	1	20A	250V ac	-	M220	IP65	2 x 25mm Threaded	2 x 25mm Threaded	#2 Phillips/Flat combo	Dia 6.5mm	8.4mm	84mm	164mm	84mm
HPISWL140	1	40A	250V ac	-	M220	IP66	2 x 25mm Threaded	2 x 25mm Threaded	#2 Phillips/Flat combo	Dia 6.5mm	8.4mm	84mm	164mm	84mm
HPISWL163	1	63A	250V ac	AC-22A	M180	IP66	2 x 25mm Threaded	2 x 25mm Threaded	#2 Phillips/Flat combo	Dia 7.7mm	Dia 9.4mm	82mm	168.5mm	86.5mm
HPISWL220	2	20A	440V ac	AC-22A	M180	IP66	2 x 25mm Threaded	2 x 25mm Threaded	#2 Phillips/Flat combo	Dia 7.7mm	Dia 9.4mm	82mm	168.5mm	86.5mm
HPISWL235	2	35A	440V ac	AC-22A	M180	IP66	2 x 25mm Threaded	2 x 25mm Threaded	#2 Phillips/Flat combo	Dia 7.7mm	Dia 9.4mm	82mm	168.5mm	86.5mm
HPISWL263	2	63A	440V ac	AC-22A	M180	IP66	2 x 25mm Threaded	2 x 25mm Threaded	#2 Phillips/Flat combo	Dia 7.7mm	Dia 9.4mm	82mm	168.5mm	86.5mm
HPISWL320	3	20A	440V ac	AC-22A	M180	IP66	2 x 25mm Threaded	2 x 25mm Threaded	#2 Phillips/Flat combo	Dia 7.7mm	Dia 9.4mm	82mm	168.5mm	86.5mm
HPISWL335	3	35A	440V ac	AC-22A	M180	IP66	2 x 25mm Threaded	2 x 25mm Threaded	#2 Phillips/Flat combo	Dia 7.7mm	Dia 9.4mm	82mm	168.5mm	86.5mm
HPISWL363	3	63A	440V ac	AC-22A	M180	IP66	2 x 25mm Threaded	2 x 25mm Threaded	#2 Phillips/Flat combo	Dia 7.7mm	Dia 9.4mm	82mm	168.5mm	86.5mm
HPISWL420	4	20A	440V ac	AC-22A	M180	IP66	2 x 25mm Threaded	2 x 25mm Threaded	#2 Phillips/Flat combo	Dia 7.7mm	Dia 9.4mm	82mm	168.5mm	86.5mm
HPISWL435	4	35A	440V ac	AC-22A	M180	IP66	2 x 25mm Threaded	2 x 25mm Threaded	#2 Phillips/Flat combo	Dia 7.7mm	Dia 9.4mm	82mm	168.5mm	86.5mm
HPISWL463	4	63A	440V ac	AC-22A	M180	IP66	2 x 25mm Threaded	2 x 25mm Threaded	#2 Phillips/Flat combo	Dia 7.7mm	Dia 9.4mm	82mm	168.5mm	86.5mm



### Certification Number:

HPISW120: GMA-103194-EA-002 / HPISWL120: GMA-501266-EA / HPISWL140: GMA-103194-EA-001  
 HPISWL220, HPISWL320, HPISWL420: GMA-502364-EA  
 HPISWL163, HPISWL335, HPISWL363, HPISWL435, HPISWL463: GSM-502365

### GSM Electrical (Australia) Pty Ltd

Level 2, 142-144 Fullarton Road, Rose Park SA 5067  
 P: 1300 301 838 F: 1300 301 778 E: service@gsm.com.au  
[www.gsm.com.au](http://www.gsm.com.au)



Data Specification Sheet  
 February 2017

# Isolator Suppliers

## BYH Series DC Isolator Switches



- 1 Waterproof Plug
- 2 IP66 Ingress Protection
- 3 Sealed Plug
- 4 Knob
- 5 Brand
- 6 ON
- 7 OFF



BYH-32



Accessories

### Application

**ZJ-BENY** BYH Series DC Isolator Switch in plastic enclosure is applied 1~20KW Residential or Commercial Photovoltaic system, placed between photovoltaic modules and inverters. Arcing time less than 3ms, that keep solar system more safe. To ensure its stability and long service life, our products are made by components with optimum quality. Max voltage up to 1000V DC It holds a safe lead among similar products.

### Feature

- IP66 , UV Resistance
- Arcing Time < 3ms
- Earth Terminal
- IEC/EN60947-3
- 2 Pole, 4 Poles Available(Single | Double String)
- DC-21B: 16A,25A,32A up to 1000VDC

### Appearance Introduction



### Parameter

Electrical Characteristics		
Type		BYH 32
Function		Isolator, Control
Comply with		IEC60947-3
Pole		4P
Max Rated Current		32A
Rated Working Voltage	U <sub>e</sub>	1000V DC
Rated Current	I <sub>n</sub>	32A
Rated Insulated Voltage	U <sub>i</sub>	1000V DC
Rated Impulsed Voltage	U <sub>imp</sub>	8KV
Service Life/Cycle Operation		
Mechanical		20000
Electrical		2000
Installation Environment		
Ingress Protection		IP66
Storage Temperature		-5℃~+85℃

ZJ-BENY PV SOLUTIONS

# Isolator Suppliers



## BYH Series PV DC Isolator Switches

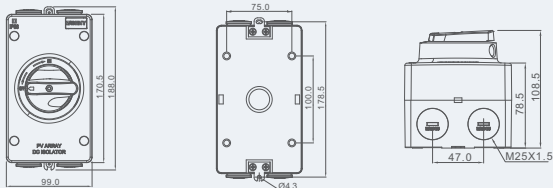
### Wiring Diagram

Contacts wiring diagram	500V	600V	800V	1000V	Poles in series	Number of Strings	Type Number	Weight kg/PCS
	32A	32A	23A	13A	2	1	BYH-32PE2	0.70
	50A	50A	23A	13A	2	1	BYH-32PE2H	0.70
	32A	32A	23A	13A	2	2	BYH-32PE4	0.70
	32A	32A	32A	32A	4	1	BYH-32PE4S	0.70
	32A	32A	32A	32A	4	1	BYH-32PE4B	0.70
	32A	32A	32A	32A	4	1	BYH-32PE4T	0.70

### Switching Configurations

Type	2-pole	2-pole 4 Paralleled Poles	4-pole	4-pole with Input on top Output bottom	4-pole with Input and Output bottom	4-pole with Input and Output on top
BYH-32	2	2H	4	4S	4B	4T
Contacts Wiring graph						
Switching example						

### Dimensions(mm)



ZJ-BENY PV SOLUTIONS

# Isolator Suppliers



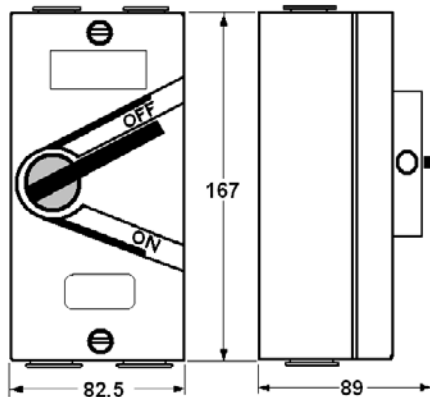
## Spec Sheet: IPW35

- **Description:** IPW weatherproof isolators are ideal for motor safety isolation with 4 threaded gland entries and a degree of protection to IP66. IPW isolators are ideally suited for outdoor applications such as isolation of air conditioning units and the AC isolators of PV inverters.
- The IPW35 is available in 1P **IPW351**, 2P **IPW352** and 3P **IPW353**
- **Application:** Motor isolator safety switches, motor disconnectors, air conditioning isolators and the AC isolators of PV inverters
- **Certification:** IEC EN 60947.3, AC22B, AS3133 "M" Rated 160/180A
- **Features:**
  - High visibility ON/OFF indication
  - High strength locking screws
  - Made from UV Resistant Polycarbonate, IP66
  - Phase connections up to 25mm<sup>2</sup> cable, E and N 16mm<sup>2</sup> cable
  - Pad-lockable handle with front and rear entries
  - Ample cable space for the large cables



## Dimensions & Ratings

<i>Free air thermal current (I<sub>th</sub>)</i>	35A
<i>Enclosed thermal current (I<sub>the</sub>)</i>	35A
<i>Rated insulation voltage (U<sub>i</sub>)</i>	500V
<i>Rated operational voltage (U<sub>e</sub>)</i>	415V
<i>Dielectric properties</i>	1kV
<b>IEC947.3</b>	
<i>Rated operational current</i>	
at 415V AC-21A	35A
at 415V AC-22A	35A
<b>AS3133</b>	
<i>Rated operational current</i>	
Locked rotor 3 Ø, "M" rating	160A
Locked rotor 1 Ø, "M" rating	180A
<i>Short time withstand current (I<sub>sw</sub>)</i>	0.76kA
<i>Short-circuit making capacity (I<sub>sm</sub>)</i>	1.5kA
<i>Mechanical Endurance with current</i>	1,500
<i>Mechanical Endurance without current</i>	8,500
<i>Degree of Protection</i>	IP66
<i>Conduit Entries</i>	4 x M25
<i>Padlock max diameter</i>	6mm
<i>Max. Cable Size mm<sup>2</sup> (Mains)</i>	25
<i>Max. Cable Size mm<sup>2</sup> (N/E)</i>	16
<i>Weight 1P</i>	0.48kg
<i>Weight 2P</i>	0.56kg
<i>Weight 3P</i>	0.56kg



Sep 2015

# Racking Certification



Gamcorp (Melbourne) Pty Ltd A.C.N 141 076 904 A.B.N 73 015 060 240  
[www.gamcorp.com.au](http://www.gamcorp.com.au) Email: melbourne@gamcorp.com.au  
Suite 4, 346 Ferntree Gully Rd, Notting Hill VIC 3149. Tel: 03 9543 2211 Fax: 03 9543 4046

Our Ref: 2242/K.Z

28 July 2016

Xiamen Hopergy Photovoltaic Technology Co. Ltd.  
No.630, Tonghong Road  
Tongan District, Xiamen 361100  
China

## **PV Array Frame Engineering Certification**

### **Installation of Hopergy Tin Roof Flush Mount Solar System with HOP-SLR02 Rails**

Gamcorp (Melbourne) Pty Ltd, being Structural Engineers within the meaning of Australian and New Zealand Building Regulations, have carried out a structural design check of Hopergy Tin Roof Flush Mount Solar System installation within Australia and New Zealand. The design check has been based on the information in the schematic drawings of the system components provided by Hopergy Australia (IMSOLAR).

We find the Installation of Hopergy Tin Roof Flush Mount Solar System for Australian and New Zealand use to be structurally sufficient based on the following conditions:

- Wind loads to AS/NZ1170.2:2011 Admt 3-2013
- Wind region A, B, C, D, W
- Wind terrain category 2 & 3
- Wind average recurrence interval of 500 years
- Maximum building height 20m
- The PV panel dimensions to be 1640mm x 992mm and 2000mm x 1000mm
- Maximum weight of the PV panel and array frame to be 15 kg/m<sup>2</sup>
- Rails to be HOP-SLR02
- The tin roof interface to be L-feet bracket or T-feet bracket as per drawing HOP-TRB01-38
- The assessment is based on an assumption that the interface brackets meet the industrial standard requirements
- Each PV panel to be installed using 2 rails minimum in all circumstances
- Installation of PV array to be done in accordance with the PV installation manual
- The certification **excludes** assessment of roof structure and PV panels

***Refer to attached summary table for interface spacing***

#### **NOTES:**

- **The recommended spacing nominated in this certification is based on the capacity of the array frame, not the roof structure and PV panel. It is the responsibility of the installer to adopt the most critical spacing.**
- **This is the up-to-date certification. All previous certifications for Hopergy**

Page 1 of 2  
ISO 9001:2008 Registered Firm  
Certificate No: AU1222

# Racking Certification



Gamcorp (Melbourne) Pty Ltd A.C.N 141 076 904 A.B.N 73 015 060 240  
[www.gamcorp.com.au](http://www.gamcorp.com.au) Email: melbourne@gamcorp.com.au  
Suite 4, 346 Ferntree Gully Rd, Notting Hill VIC 3149. Tel: 03 9543 2211 Fax: 03 9543 4046

**products issued by Gamcorp Pty Ltd are no longer valid.**

- **If any of the above conditions cannot be met, the structural engineer must be notified immediately.**

Construction is to be carried out strictly in accordance with the manufacturers instructions. This work was designed in accordance with the provisions of Australian and New Zealand Building Regulations and in accordance with sound, widely accepted engineering principles.

Yours faithfully,  
Gamcorp (Melbourne) Pty Ltd

A handwritten signature in blue ink, appearing to read 'Martin Gamble'.

Martin Gamble  
Managing Director  
MAICD

A handwritten signature in blue ink, appearing to read 'Mudi Ariyaratna'.

Mudi Ariyaratna  
B.Eng(Civil)(Hons)Monash, M.Eng&Mgt, MIEAust,  
CPEng, NPER, RBP EC-39699, RPEQ- 15899

# Racking Certification



Gamcorp (Melbourne) Pty Ltd A.C.N 141 076 904 A.B.N 73 015 060 240  
[www.gamcorp.com.au](http://www.gamcorp.com.au) Email: melbourne@gamcorp.com.au  
Suite 4, 346 Ferntree Gully Rd, Notting Hill VIC 3149. Tel: 03 9543 2211 Fax: 03 9543 4046

Our Ref: 2242/K.Z

28 July 2016

Xiamen Hopergy Photovoltaic Technology Co. Ltd.  
No.630, Tonghong Road  
Tongan District, Xiamen 361100  
China

## **PV Array Frame Engineering Certification**

### **Installation of Hopergy Tile Roof Flush Mount Solar System with HOP-SLR02 Rails**

Gamcorp (Melbourne) Pty Ltd, being Structural Engineers within the meaning of Australian and New Zealand Building Regulations, have carried out a structural design check of Hopergy Tile Roof Flush Mount Solar System installation within Australia and New Zealand. The design check has been based on the information in the schematic drawings of the system components and test report provided by Hopergy Australia (IMSOLAR).

We find the Installation of Hopergy Tile Roof Flush Mount Solar System for Australian and New Zealand use to be structurally sufficient based on the following conditions:

- Wind loads to AS/NZ1170.2:2011 Admt 3-2013
- Wind region A, B, C, D, W
- Wind terrain category 2 & 3
- Wind average recurrence interval of 500 years
- Maximum building height 20m
- The PV panel dimensions to be 1640mm x 992mm and 2000mm x 1000mm
- Maximum weight of the PV panel and array frame to be 15 kg/m<sup>2</sup>
- Rails to be HOP-SLR02
- Tile roof interface to be #1 Tile Interface Bracket as per drawing HOP-TRH-1 and test report No.XMIN1603001560ML
- Each PV panel to be installed using 2 rails minimum in all circumstances
- Installation of PV array to be done in accordance with the PV installation manual
- The certification **excludes** assessment of roof structure and PV panels

***Refer to attached summary table for interface spacing***

#### **NOTES:**

- **The recommended spacing nominated in this certification is based on the capacity of the array frame, not the roof structure and PV panel. It is the responsibility of the installer to adopt the most critical spacing.**
- **This is the up-to-date certification. All previous certifications for Hopergy products issued by Gamcorp Pty Ltd are no longer valid.**

Page 1 of 2  
ISO 9001:2008 Registered Firm  
Certificate No: AU1222

# Racking Certification



Gamcorp (Melbourne) Pty Ltd A.C.N 141 076 904 A.B.N 73 015 060 240  
[www.gamcorp.com.au](http://www.gamcorp.com.au) Email: melbourne@gamcorp.com.au  
Suite 4, 346 Ferntree Gully Rd, Notting Hill VIC 3149. Tel: 03 9543 2211 Fax: 03 9543 4046

- **If any of the above conditions cannot be met, the structural engineer must be notified immediately.**

Construction is to be carried out strictly in accordance with the manufacturers instructions. This work was designed in accordance with the provisions of Australian and New Zealand Building Regulations and in accordance with sound, widely accepted engineering principles.

Yours faithfully,  
Gamcorp (Melbourne) Pty Ltd

A handwritten signature in blue ink, appearing to read 'Martin Gamble'.

Martin Gamble  
Managing Director  
MAICD

A handwritten signature in blue ink, appearing to read 'Mudi Ariyaratna'.

Mudi Ariyaratna  
B.Eng(Civil)(Hons)Monash, M.Eng&Mgt, MIEAust,  
CPEng, NPER, RBP EC-39699, RPEQ- 15899



# Racking Certification



Gamcorp (Melbourne) Pty Ltd A.C.N 141 076 904 A.B.N 73 015 060 240  
[www.gamcorp.com.au](http://www.gamcorp.com.au) Email: melbourne@gamcorp.com.au  
Suite 4, 346 Ferntree Gully Rd, Notting Hill VIC 3149. Tel: 03 9543 2211 Fax: 03 9543 4046

Our Ref: 2242/K.Z

28 July 2016

Xiamen Hopergy Photovoltaic Technology Co. Ltd.  
No.630, Tonghong Road  
Tongan District, Xiamen 361100  
China

## **PV Array Frame Engineering Certification**

### **Installation of Hopergy Adjustable Tilt Leg Roof Mount Solar System with HOP-SLR02 Rails**

Gamcorp (Melbourne) Pty Ltd, being Structural Engineers within the meaning of Australian and New Zealand Building Regulations, have carried out a structural design check of Hopergy Adjustable Tilt Leg Roof Mount Solar System installation within Australia and New Zealand. The design check has been based on the information in the schematic drawings of the system components and test report provided by Hopergy Australia (IMSOLAR).

We find the Installation of Hopergy Adjustable Tilt Leg Roof Mount Solar System for Australian and New Zealand use to be structurally sufficient based on the following conditions:

- Wind loads to AS/NZ1170.2:2011 Admt 3-2013
- Wind region A, B, C, D, W
- Wind terrain category 2 & 3
- Wind average recurrence interval of 500 years
- Maximum building height 20m
- The PV panel dimensions to be 1640mm x 992mm and 2000mm x 1000mm
- Maximum weight of the PV panel and array frame to be 15 kg/m<sup>2</sup>
- Rails to be HOP-SLR02
- The assessment of the rail is based on a deflection limit of 20mm specified by Hopergy Australia (IMSOLAR) as per the test report provided
- The roof interface to be Hopergy adjustable tilt leg as per drawing HOP-ARL01-15/30/60 and front leg as per drawing HOP-FB002-30
- The assessment is based on an assumption that the front leg and tilt leg meet the industrial standard requirements
- Each PV panel to be installed using 2 rails minimum in all circumstances
- Installation of PV array to be done in accordance with the PV installation manual
- The certification **excludes** assessment of roof structure and PV panels

**Refer to attached summary table for interface spacing**

#### **NOTES:**

- **The recommended spacing nominated in this certification is based on the capacity of the array frame, not the roof structure and PV panel. It is the responsibility of the installer to adopt the most critical spacing.**

Page 1 of 2  
ISO 9001:2008 Registered Firm  
Certificate No: AU1222

# Racking Certification



Gamcorp (Melbourne) Pty Ltd A.C.N 141 076 904 A.B.N 73 015 060 240  
[www.gamcorp.com.au](http://www.gamcorp.com.au) Email: melbourne@gamcorp.com.au  
Suite 4, 346 Ferntree Gully Rd, Notting Hill VIC 3149. Tel: 03 9543 2211 Fax: 03 9543 4046

- **This is the up-to-date certification. All previous certifications for Hopergy products issued by Gamcorp Pty Ltd are no longer valid.**
- **If any of the above conditions cannot be met, the structural engineer must be notified immediately.**

Construction is to be carried out strictly in accordance with the manufacturers instructions. This work was designed in accordance with the provisions of Australian and New Zealand Building Regulations and in accordance with sound, widely accepted engineering principles.

Yours faithfully,  
Gamcorp (Melbourne) Pty Ltd

Martin Gamble  
Managing Director  
MAICD

Mudi Ariyaratna  
B.Eng(Civil)(Hons)Monash, M.Eng&Mgt, MIEAust,  
CPEng, NPER, RBP EC-39699, RPEQ- 15899



take charge.

# Solar System Warranty

Solar SG Pty Ltd  
Trading as Solar Battery Group  
Ground Floor 1/990 Whitehorse Road  
Box Hill VIC 3128  
**1300 223 224**  
ABN 86 61097 2686



# Warranty Policy

## Limited Warranty Notice (English)

This warranty will be provided by Solar SG Pty Ltd. Trading as Solar Battery Group. Solar Battery Group provides the warranty set out in this document, in respect of an installed product and/or accessory purchased and installed in Australia to the consumer (the “Warranty”), if the Product is purchased and installed in the country listed above, this Warranty is valid and enforceable.

The Warranty is voluntarily offered by Solar Battery Group and is separate and in addition to the legal rights of consumers under Australian Consumer Law governing the sale of consumer goods and to any rights of the consumer against the original retail seller of the Product and, therefore, does not affect, change or replace such rights.

## What is covered by this Warranty

1. Solar Battery Group warrants that the Products are free from defects in materials and workmanship under normal use and use in accordance with the respective Product user manual, during the Warranty Period (defined below).
2. The Warranty is provided for a period of: five (5) years in respect of the device from the date of the original installation of the Product (“Warranty Period”).
3. The Warranty covers workmanship that has been carried out to install or service the Product and any additional accessories which may be included in carrying out the installation.

## What Sunbank Solar will do in the event of a Warranty claim

4. During the Warranty Period, Solar Battery Group will repair or replace the Product or any of the relevant parts thereof in the event of any defect in the materials and workmanship.
5. The repaired Product or part of, the Product or part provided as a replacement for a defective Product or part, shall be free from defect in

## Warranty Policy

materials and workmanship. Repair or replacement of a Product or part may involve the use of a functionally equivalent reconditioned unit.

6. The consumer shall not be charged (whether for parts, labour or otherwise) for the repair or replacement of a defective Product during the Warranty Period as installed by Solar Battery Group. All replaced defective Product, accessories or equipment shall become the property of Solar Battery Group.

7. The Warranty in respect of a repaired or replaced Product or part shall continue for the remainder of the Warranty Period of the Product which was repaired or replaced or, for five (5) years from the date of repair, whichever is longer.

8. The consumer will be required to provide the original retail purchase receipt or other documentation, or information requested or required by applicable legislation in respect of the date of purchase and installation. In the event that such information is not presented or if it is incomplete, illegible or cannot be sourced by Solar Battery Group, Solar Battery Group reserves the right to refuse providing the above service in respect of the Warranty claim.

9. If it is identified that Solar Battery Group have caused the fault, either as a result of workmanship or a remote identification, Solar Battery Group will surrender the charge of a call out fee to attend the property at which the Product is installed and correct the fault to expected working condition.

10. In the event of the call out fee of \$280.00 being charged to the customer and upon further investigation Solar Battery Group or their installers caused this fault to occur, the customer will be reimbursed \$280.00 in its entirety within seven (7) business days.

11. Reimbursement of the call out fee of \$280.00 shall be processed through the same means as was charged unless otherwise deliberated with Solar Battery Group and the primary customer.

12. In the event of Solar Battery Group causing damage on the property at which the installation occurred during the course of the installation, Solar Battery Group will make every endeavour to remedy and restore any damage to its original condition.

13. If Solar Battery Group are not equipped to restore the damage to original condition, Solar Battery Group will consult a third-party to complete such work.

# Warranty Policy

## What is not covered by the Warranty

14. This Warranty does not cover defects and damage resulting from:
- a) Normal wear and tear of the equipment or otherwise due to the normal aging of the equipment.
  - b) The Product being used other than in a normal and customary manner
  - c) Any disassembly, repair, or alteration or modifications carried out by anyone other than Solar Battery Group.
  - d) Misuse, abuse, negligence or an accident howsoever caused.
  - e) Improper testing, operation, maintenance, installation, or any alteration or modification of the Product that has not been carried out by Solar Battery Group.
  - f) Corrosion, rust or the incorrect re-wiring of mechanics that has not been carried out by Solar Battery Group.
  - g) Use outside of use permitted under the Product's user manual.
15. This Warranty will not be available: a) if the serial number or warranty seal on the Product is illegible, has been defaced or removed; or b) without any proof of purchase.
16. The Warranty applies to the Product as originally supplied. The Warranty does not apply to any software or other equipment installed or altered by third parties.
17. In the event that a site-specific fault cannot be identified remotely, or it is unclear that Solar Battery Group were directly responsible for the fault, a call out fee (COF) of \$280.00 may be charged to cover costs involved in re-attending property site.

## Your responsibilities

18. It is the user's responsibility to ensure that the Product is free from any debris, artificial interference and consistent internet connectivity. If the user experiences issues in the up keep of the Product, they may contact Solar Battery Group for site-specific support and guidance.
19. It is the user's responsibility to report any faults of the Product that may cause physical damage to the property or result in damage to the Product.

# Warranty Policy

## Limitation of Sunbank Solar's liability

20. Except for the express warranties set forth above, Solar Battery Group grants no other warranties, express or implied, by statute or otherwise, regarding the Product, fitness for any purpose or otherwise.

21. To the extent permitted by local laws, Solar Battery Group shall not be liable for any loss which is not a reasonably foreseeable consequence of a breach by Solar Battery Group of this Warranty. As a consumer your use of the Product shall be non-commercial. Solar Battery Group shall therefore not be liable to you for any loss of profits, revenue, anticipated savings or time arising out of your use of or inability to use the Product.

22. Solar Battery Group shall not be liable for any loss of anticipated savings or time arising out of your use of or inability to use the Product.

23. In any event, Solar Battery Group's liability under this limited warranty shall be limited to the amount actually paid by the consumer for the Product or the current replacement value, whichever is greater.

24. Nothing in this warranty shall exclude or limit Solar Battery Group's liability for death or personal injury caused by its negligence, fraud, fraudulent misrepresentation or any other liability that cannot be limited or excluded by law.

25. If you experience any difficulty please contact the **Solar Battery Group Head Office** on 1300 223 224 or alternatively contact via email on [support@solarbatterygroup.com.au](mailto:support@solarbatterygroup.com.au)

26. This Warranty shall be updated by Solar Battery Group from time to time. Please refer to the Solar Battery Group website to obtain the latest version of the Warranty for the Product.

# Startup & Shutdown Procedures

## Start-up Procedure (String Inverter)

To start-up your solar system:

1. Turn ON the D.C. “PV Array Main Switch” located next to the inverter
2. Turn ON the A.C. “Solar Supply Main Switch’ located in either:
  - Switchboard
  - Sub-board
  - Listed location: .....

### **WARNING!**

DO NOT UNCLIP THE D.C. PLUG AND SOCKET CONNECTORS WHILE UNDER LOAD

## Shut down/Isolation Procedure (String Inverter)

To shut down your solar system:

1. Turn OFF the AC “Solar Supply Main Switch” located in either:
  - Switchboard
  - Sub-board
  - Listed location: .....
2. Turn OFF the D.C. “PV Array Main Switch” located next to the inverter

### **WARNING!**

DO NOT UNCLIP THE D.C. PLUG AND SOCKET CONNECTORS WHILE UNDER LOAD

## Start-up Procedure (Micro-Inverter)

To start-up your solar system:

1. Turn ON the AC “Roof AC Isolator” located on the roof adjacent to the PV array (qualified service technicians only)
2. Turn ON the AC “Solar Supply Main Switch” located in either:
  - Switchboard
  - Sub-board
  - Listed location: .....

### **WARNING!**

DO NOT UNCLIP THE D.C. PLUG AND SOCKET CONNECTORS WHILE UNDER LOAD



# Startup & Shutdown Procedures

## Shut down/Isolation Procedure (Micro-Inverter)

To shut down your solar system:

1. Turn OFF the AC “Solar Supply Main Switch” located in either:
  - Switchboard
  - Sub-board
  - Listed location: .....
2. Turn OFF the D.C. “Roof AC Isolator” located next to the inverter (qualified service technicians only)

### **WARNING!**

DO NOT UNCLIP THE D.C. PLUG AND SOCKET CONNECTORS WHILE UNDER LOAD

## Earth Fault Alarm

If an inverter displays “Earth Fault Alarm” or any other fault, please refer to the Inverter Operation Manual.

If the Inverter Operation Manual cannot provide a resolution, please contact **Solar Battery Group** on **1300 223 224**.

# System Connection Diagram



## Solar Array

Open Circuit Volatage \_\_\_\_\_ V

Short Circuit Current \_\_\_\_\_ A

## PV Array DC Isolator

\_\_\_\_\_ V

\_\_\_\_\_ A



## Solar Supply Main Switch

\_\_\_\_\_ A



## PV Array DC Isolator

\_\_\_\_\_ V

\_\_\_\_\_ A

## Inverter AC Isolator

\_\_\_\_\_ A

## Smart Meter

# Maintenance Schedule and Requirements

## PV Solar Maintenance

Thank you for choosing Solar Battery Group to service your solar PV installation. We recognise that your system represents a significant investment in your future energy requirements and the importance for that investment to operate at its maximum efficiency. Regular maintenance of your solar PV system and its components is vital to protect your warranties and ensure that all components meet required safety and performance standards.

As a valued customer you can expect a high level of professionalism, quality and service from Solar Battery Group. If any deficiencies in your system are discovered, you will be notified, and the issue will be addressed immediately. Your options will be outlined regarding rectification.

1.  Site inspection to ensure cleanliness of panels
2.  Check PV modules for signs of defects or deterioration
3.  Verify integrity of wiring
4.  Check and verify correct operation of switches
5.  Inverter anti-islanding testing
6.  Identification of recalled or damaged components

# List of Materials Supplied

See list of materials supplied as unique to your order. Exact quantities can vary depending on final system configuration.

If you did not receive a list of materials, please contact:  
[support@solarbatterygroup.com.au](mailto:support@solarbatterygroup.com.au)

# System Maintenance Log

Company Name	Date	Licence No.

## Installer Declaration

All Solar Battery Group installations are conducted by Clean Energy Council Accredited Electricians. This installation is compliant to the guidelines specified in the AS/NZS:5033-2012 Clause 2.2.

Installer Name: \_\_\_\_\_

Installer Signature: \_\_\_\_\_





**solar  
battery  
group**



**take charge.**



CLEAN ENERGY COUNCIL

**APPROVED  
SOLAR  
RETAILER**



SUSTAINABLE  
CERTIFICATION

✓ **ISO 9001**

SOLAR SG PTY LTD | ABN: 86 610 972 686 | 1/990 Whitehorse Road, Box Hill, VIC 3128

[www.solarbatterygroup.com.au](http://www.solarbatterygroup.com.au)

**1300 223 224**

REC VIC: A14493 | REC QLD: 82349 | NSW Electrical Lic: 305871C | SA Electrical Lic: PGE 279139 | WA Electrical Lic: EC 011374 | TAS Lic: 15606612