



SPHERE[™]

SOLAR PANEL RANGE

Unplug & Power UP

Mono Crystalline Solar Panel with Twin Cell Technology



Sphere Twin Cell Solar Technology is the future of solar power generation for the Caravanning and RV Market.

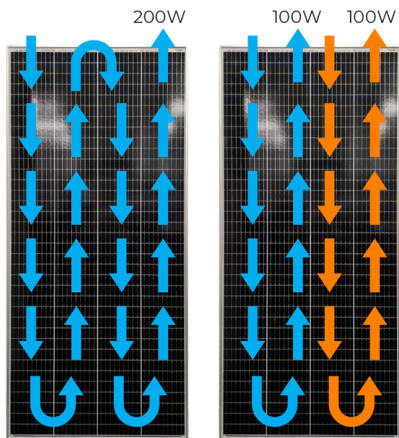
Researched and developed in Australia, Sphere Twin Cell Technology is an innovative solution to the common issue of partial shading that affects caravan and RV solar power applications. Partial shading caused by roof top mounted accessories such as air conditioners, roof vents and satellites can result in severe bottlenecks for conventional solar panels. When even a small section of a traditional panel is covered by shade, a blockage is created that drastically reduces overall output.

Sphere Twin Cell Technology helps reduce the impact of partial shading by allowing a single large solar panel to operate as if it were two smaller panels with isolated circuit paths. This unique parallel design allows each side of the panel to function independently from the other. When one half of a panel is covered by shade, the other will still perform at full capacity. Where partial shading will have already stopped traditional mono-crystalline panels from providing vital power, Sphere Solar Panels with Twin Cell Technology will keep on charging.

Features

- Sphere Twin Cell Solar Technology for improved performance in partial shade.
- Improved cell efficiency enabling 200W from a 180W footprint.
- By-passed diodes to improve reliability and further minimize power drops caused by shade.
- An anodized aluminium frame to withstand rust with pre drilled mounting holes for a versatile range of applications.
- Antireflective, high transparency tempered glass for durability
- IP65 rated junction box provides complete protection against dust and water.

Twin Cell Technology vs Standard Cell Panels



Generic 200w solar panel Sphere 200w solar panel



SPHERE 100W Mono Crystalline Solar Panel with Twin Cell Technology

670 x 780 x 35mm

Electrical Performance

Standard Test Conditions	1000W/M2,1.5AM,25
Peak Power Output (W)	100W
Power Output Tolerance (%)	3%
Maximum Power Voltage (V)	20.9
Maximum Power Current (A)	4.79
Short Circuit Current (A)	4.95
Open Circuit Voltage (V)	24.7
Maximum System Voltage	1000V/DC

Mechanical Performance

Junction Box Type	0.9 m 4mm 2 solar cable fitted with MC 4 IP65
Number of Cells	4*18 72pcs
Module Size (mm)	670*780*35*30*1.2
Module Net Weight	6.27kg

Temperature Coefficient

Working Temperature	-40 ~ 85°C
Power TK	-0.45%/°C
Open Circuit Voltage T	-0.33%/°C
Short Circuit Current T	0.045%/°C
Test temperature	25±2°C

Guarantee of power output

≤10 Years	≥90%
≤25 Years	≥80%

Product Code Silver Frame 500-06278
 Black Frame 500-06282

Sphere Twin Cell panels feature improved cell efficiency, enabling enhanced performance while occupying a smaller footprint.

This advancement not only optimises power generation but also provides more versatile mounting options for installations in various configurations.

The panels are complemented by by-passed diodes, which enhance reliability and further mitigate power drops caused by shade.



SPHERE 130W

Mono Crystalline Solar Panel with Twin Cell Technology

670 x 1012 x 35mm

Electrical Performance	
Standard Test Conditions	1000W/M2,1.5AM,25
Peak Power Output (W)	130W
Power Output Tolerance (%)	3%
Maximum Power Voltage (V)	20.9
Maximum Power Current (A)	6.22
Short Circuit Current (A)	6.56
Open Circuit Voltage (V)	24.7
Maximum System Voltage	1000V/DC
Mechanical Performance	
Junction Box Type	0.9 m 4mm 2 solar cable fitted with MC 4 IP65
Number of Cells	4*18 72pcs
Module Size (mm)	670*1012*35*30*1.2
Module Net Weight	8.15kg
Temperature Coefficient	
Working Temperature	-40 ~ 85°C
Power TK	-0.45%/°C
Open Circuit Voltage T	-0.33%/°C
Short Circuit Current T	0.045%/°C
Test temperature	25±2°C
Guarantee of power output	
≤10 Years	≥90%
≤25 Years	≥80%

Product Code Silver Frame 500-06280
 Black Frame 500-06284



SPHERE 200W

Mono Crystalline Solar Panel with Twin Cell Technology

670 x 1480 x 35mm

Electrical Performance	
Standard Test Conditions	1000W/M2,1.5AM,25
Peak Power Output (W)	200W
Power Output Tolerance (%)	3%
Maximum Power Voltage (V)	20.6
Maximum Power Current (A)	9.71
Short Circuit Current (A)	9.85
Open Circuit Voltage (V)	24.1
Maximum System Voltage	1000V/DC
Mechanical Performance	
Junction Box Type	0.9 m 4mm 2 solar cable fitted with MC 4 IP65
Number of Cells	4*18 72pcs
Module Size (mm)	670*1480*35*30*1.2
Module Net Weight	11kg
Temperature Coefficient	
Working Temperature	-40 ~ 85°C
Power TK	-0.45%/°C
Open Circuit Voltage T	-0.33%/°C
Short Circuit Current T	0.045%/°C
Test temperature	25±2°C
Guarantee of power output	
≤10 Years	≥90%
≤25 Years	≥80%

Product Code Silver Frame 500-06250
 Black Frame 500-06270



SPHERE 250W
Mono Crystalline Solar Panel with Twin Cell Technology

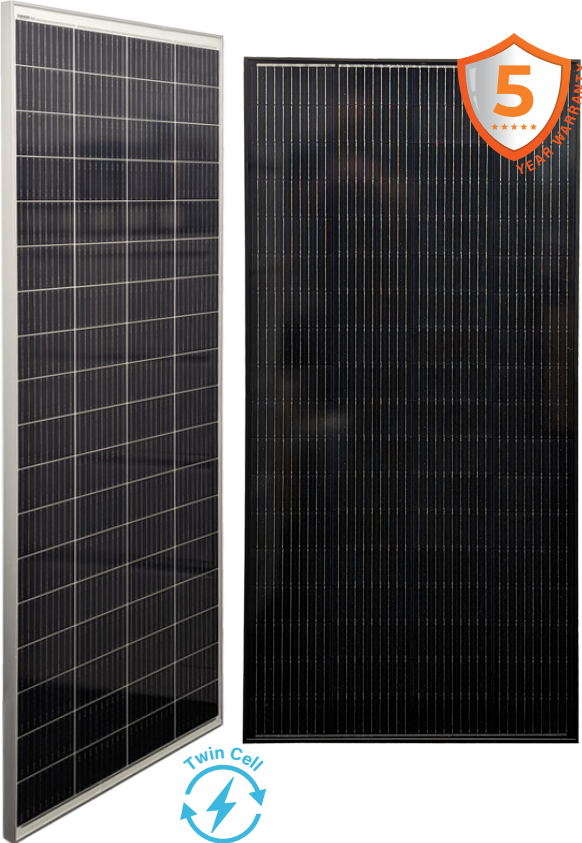
670 x 1850 x 35mm

**HIGH VOLTAGE MONO CRYSTALLINE SOLAR PANEL
WITH TWIN CELL TECHNOLOGY**



Electrical Performance	
Standard Test Conditions	1000W/M2,1.5AM,25
Peak Power Output (W)	250W
Power Output Tolerance (%)	3%
Maximum Power Voltage (V)	20.61
Maximum Power Current (A)	12.13
Short Circuit Current (A)	12.35
Open Circuit Voltage (V)	24.1
Maximum System Voltage	1000V/DC
Mechanical Performance	
Junction Box Type	0.9 m 4mm 2 solar cable fitted with MC 4 IP65
Number of Cells	4*18 72pcs
Module Size (mm)	670*1850*35*30*1.2
Module Net Weight	14kg
Temperature Coefficient	
Working Temperature	-40 ~ 85°C
Power TK	-0.45/°C
Open Circuit Voltage T	-0.33/°C
Short Circuit Current T	0.045%/°C
Test temperature	25±2°C
Guarantee of power output	
≤10 Years	≥90%
≤25 Years	≥80%

Product Code Silver Frame 500-06252
Black Frame 500-06272



Sphere High Voltage panels allow for the installation of additional panels in each string without exceeding the maximum current rating of the down cable to the system's charge controller, offering more flexibility in system design and a more efficient and cost-effective solution. This allows thinner gauge wire to be used over longer distances without sacrificing power or efficiency resulting in significant cost savings for installation.

Sphere High Voltage panels provide existing RV solar panel systems an easy upgrade path to multi-panel configurations without having to make costly upgrades to wiring. In all cases, Sphere High Voltage panels require an MPPT style solar charger to operate correctly when charging a 12V DC battery bank.

ADVANTAGE OF HIGH VOLTAGE PANELS

Nothing to do with System Voltage – Most Caravans are 12 Volt DC
The higher the Amps the thicker the gauge of wire required
LOW AMPS = LOWER COST

Features

- Sphere Twin Cell Solar Technology for improved performance in partial shade
- Saves money on installation costs and provides more installation options
- Allows you to install multiple panels on existing builds without having to upgrade wiring
- Provides a more efficient and cost-effective solar power system for all users
- Ensures consistent power output even when there is partial shading

WATTS ÷ VOLTS = AMPS

High Voltage 200 Watt Panel
200 Watt Peak Power

÷ =

40 Volts 5 AMPS Smaller Wire Required

Regular 200 Watt Panel
200 Watt Peak Power

÷ =

20 Volts 10 AMPS Larger Wire Required

400 WATT SOLAR ARRAY

HIGH VOLTAGE PANEL 200W PARALLEL

Total Volts = 40V
Total Current = 10AMPS (5+5)
Thinner Wire Gauge Required

NORMAL PANEL 200W PARALLEL

Total Volts = 20V
Total Current = 20AMPS (10+10)
Thicker Wire Gauge Required

SPHERE 200W
High Voltage Mono Crystalline Solar Panel with Twin Cell Technology

670 x 1480 x 35mm

 Electrical Performance

Standard Test Conditions	1000W/M2,1.5AM,25
Peak Power Output (W)	200W
Power Output Tolerance (%)	3%
Maximum Power Voltage (V)	41.2
Maximum Power Current (A)	4.86
Short Circuit Current (A)	4.95
Open Circuit Voltage (V)	48.2
Maximum System Voltage	1000V/DC

 Mechanical Performance

Junction Box Type	0.9 m 4mm 2 solar cable fitted with MC 4 IP65
Number of Cells	4*36 144pcs
Module Size (mm)	670*1480*35*30*1.2
Module Net Weight	11kg

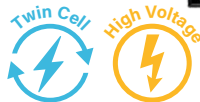
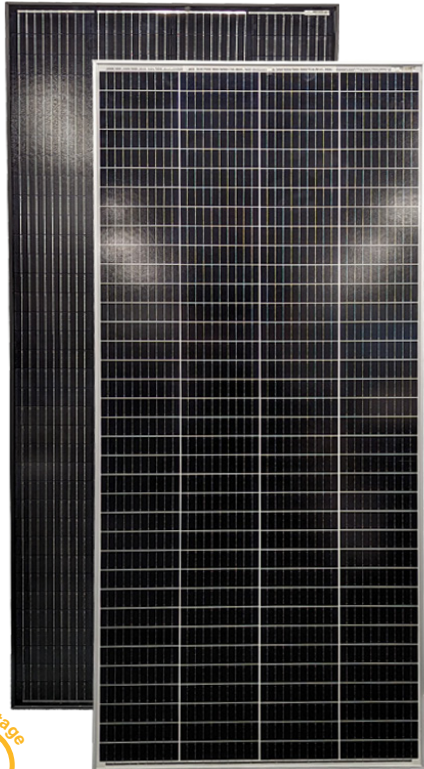
 Temperature Coefficient

Working Temperature	-40 ~ 85°C
Power TK	-0.45/°C
Open Circuit Voltage T	-0.33/°C
Short Circuit Current T	0.045%/°C
Test temperature	25±2°C

 Guarantee of power output

≤10 Years	≥90%
≤25 Years	≥80%

Product Code Silver Frame 500-06254
Black Frame 500-06274



SPHERE 250W
High Voltage Mono Crystalline Solar Panel with Twin Cell Technology

670 x 1850 x 35mm

 Electrical Performance

Standard Test Conditions	1000W/M2,1.5AM,25
Peak Power Output (W)	250W
Power Output Tolerance (%)	3%
Maximum Power Voltage (V)	41.2
Maximum Power Current (A)	6.07
Short Circuit Current (A)	6.15
Open Circuit Voltage (V)	48.2
Maximum System Voltage	1000V/DC

 Mechanical Performance

Junction Box Type	0.9 m 4mm 2 solar cable fitted with MC 4 IP65
Number of Cells	4*36 144pcs
Module Size (mm)	670*1850*35*30*1.2
Module Net Weight	14kg

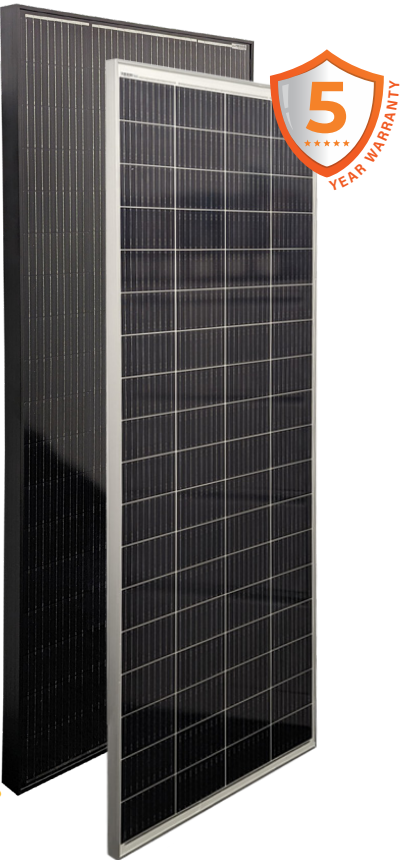
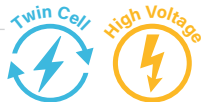
 Temperature Coefficient

Working Temperature	-40 ~ 85°C
Power TK	-0.45/°C
Open Circuit Voltage T	-0.33/°C
Short Circuit Current T	0.045%/°C
Test temperature	25±2°C

 Guarantee of power output

≤10 Years	≥90%
≤25 Years	≥80%

Product Code Silver Frame 500-06256
Black Frame 500-06276



SPHERE SOLAR BLANKET

SPHERE 200w Solar Blanket
1900 x 730 x 5mm

Material	A-Grade Monocrystalline
Color	Black
Product Dimension(Opened)	1895x740x3mm
Product Dimension (Closed)	475x370x60mm
Gross Weight	7.7kg
Maximum Power	200w
Open Circuit Voltage (VOC)	22.5V
Open Circuit Voltage (VOC)	12.05A
Voltage at Pmax (VMP)	18.3V
Current at Pmax (IMP)	10.93A
Temperature Range	-40°C(-40°F) ~ +85°C (185°F)
Warranty	12 Months



Product Code 500-06262

SPHERE 300w Solar Blanket
1665 x 1090 x 5mm



Material	A-Grade Monocrystalline
Color	Black
Product Dimension(Opened)	1665x1090x3mm
Product Dimension (Closed)	555x545x50mm
Gross Weight	10.36Kg
Maximum Power	300w
Open Circuit Voltage (VOC)	21.05V
Open Circuit Voltage (VOC)	19.67A
Voltage at Pmax (VMP)	18.3V
Current at Pmax (IMP)	16.39A
Temperature Range	-40°C(-40°F) ~ +85°C (185°F)
Warranty	12 Months

Product Code 500-06264

SOLAR CHARGE CONTROLLER

SPHERE MPPT 12V/24V 20A
Solar Charge Controller



Rated Charge Current	20A
Rated Discharge Current	20A
Rated Voltage	12V/24
Max. Solar Input Voltage	50V
MPPT Efficiency Max	99%
Over Load, Short Circuit Protection	≥1.5 rated current
No Load Current	<10mA
USB Output	5V 1A
Working Temperature	-35°C~ +55°C
Dimension of Controller	131x99.5x29.5
Weight	300g

Product Code 500-06221

SPHERE PWM
Solar Charge Controller



Rated Current	40A
Max PV Input	600W/12V
Max. Solar Energy Input Voltage	<55V
Max. Voltage at Battery End	<34V

- Advanced 3-stage PWM charging algorithm
- Overload, overcharge, & over-discharge protection
- Dot Matrix Graphic LCD Screen
- Multiple charging options for various battery types
- Automatically recognises 12V/24V system voltages
- User-friendly design with intuitive operation

Product Code 500-06220

SPHERE MPPT
Solar Charge Controller



Rated Charge Current	40A
Max PV Input	550W/12V
System Voltage	12V/24V Auto
Max. Solar Input Voltage	100V,90V

- Dual/multi-peak tech
- MPPT efficiency up to 99.9%
- High conversion efficiency (up to 98%)
- Flexible charging options
- Auto battery voltage recognition
- LED/LCD fault indicators
- Overheating protection

Product Code 500-06222

Solar MC4 Connector Plug & Socket Set

The MC4 connector provides a safe, secure and reliable connection between solar panels and other electrical components of the solar system.



Product Code 500-06224

SPHERE MC4 Solar Fuse 10A - 30A



500-06236	10A
500-06238	15A
500-06240	20A
Product Code 500-06242	30A

SPHERE Solar Panel Mounting Bracket Kit

Crafted with durability and efficiency in mind, these mounting brackets are built to withstand the test of time. The sleek build not only adds a touch of elegance to your solar setup but also ensures resistance against harsh weather conditions, making them perfect for both residential and commercial applications.

Kit includes four brackets for strong solar panel support, along with M6 nuts/bolts for a hassle-free, secure installation.



Black 500-06230
Product Code Silver 500-06232

SPHERE MC4 Solar Cable 5m Twin 6mm²



Product Code 500-06226

SPHERE Multiple Cable Entry Cover Plate Black



Product Code 500-06228



Easily link multiple panels with our MC4 branch connectors. Designed for up to 30 Amps total, each set includes: Connectors for both negative and positive panel wires. Simplify your solar setup today!

SPHERE MC4 Solar 1 to 2 Branch



Product Code 500-06244

SPHERE MC4 Solar 1 to 3 Branch



Product Code 500-06246

SPHERE MC4 Solar 1 to 4 Branch



Product Code 500-06248

SPHERE EVO LITHIUM BATTERIES

SPHERE EVO Lithium Batteries

Sphere lithium batteries are the future of mobile power storage. Lithium batteries are much lighter than traditional lead acid and AGM batteries and deliver unrivalled cycle life, more than four times more cycles compared to lead acid and AGM batteries.

Perfect for use in caravans, marine, camping and home storage applications, Sphere Lithium batteries are fully sealed and feature a built-in battery management system for safety. If you are replacing an existing deep cycle lead acid or AGM battery you can continue to use your same battery charging system and the built-in battery management system will do the rest for you. You will also notice that lithium batteries charge more efficiently than lead acid and AGM batteries so the recovery will be much quicker.

Sphere lithium batteries use active cell balancing technology to balance the internal battery cells not only whilst charging but also whilst discharging. This assist's in getting the battery as close to 100% charge levels as possible.

Features

- 100AH & 120AH Lithium Iron
- 2000+Cycles
- Built in advanced BMS with Dynamic cell balancing
- Lightweight
- 5 Year Warranty
- Can be connected in series or parallel. Maximum in series voltage of 30.4V

* Note: These batteries can't be used to start motor vehicles

Sphere's New EVO Lithium battery range now feature a class leading 5 year warranty along with an IP67 Waterproof ratings & wireless Bluetooth battery monitoring. Using the new Sphere Battery App (available for Apple and Android), you can monitor:





- Battery Capacity Percentage
- Remaining Capacity in Amp Hours
- State of charge or discharge
- Estimated charge time or Discharge
- Sum of Volts
- Power in Watts

SPHERE EVO LITHIUM BATTERIES

SPHERE 12V - 100AH LiFePO4 EVO Lithium Iron Phosphate Battery



Capacity	100A
Voltage	12.8DC
Discharge Rate Max	100A
Maximum Pulse Rate(3 sec)	250A
Nominal Charge Rate	30A
Max Charge Rate	60A
Cycles@ 100% DOD	2000
Operating Range	-20°C to +60°C
Dimension	334 x 175 x 21

Product Code 500-00850

SPHERE 12V - 120AH LiFePO4 EVO Lithium Iron Phosphate Battery



Capacity	120A
Voltage	12.8DC
Discharge Rate Max	100A
Maximum Pulse Rate(3 sec)	250A
Nominal Charge Rate	30A
Max Charge Rate	60A
Cycles@ 100% DOD	2000
Operating Range	-20°C to +60°C
Dimension	334 x 175 x 21

Product Code 500-00852

SPHERE 12V - 200AH LiFePO4 EVO Lithium Iron Phosphate Battery



Capacity	200A
Voltage	12.8DC
Discharge Rate Max	100A
Maximum Pulse Rate(3 sec)	250A
Nominal Charge Rate	40A
Max Charge Rate	60A
Cycles@ 100% DOD	2000
Operating Range	-20°C to +60°C
Dimension	365 x 187 x 249

Product Code 500-00854



100W
670mm x 780mm

130W
670mm x 1020mm

200W
670mm x 1480mm

250W
670mm x 1850mm

SPHERE® Proudly Distributed in
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COAST TO COAST

