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.

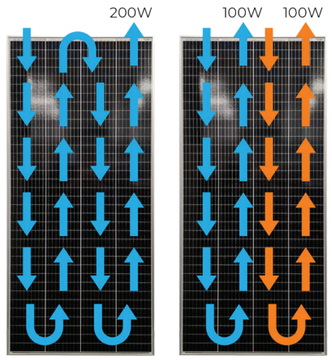
Researched and developed in Australia, Sphere Twin Cell Technology is an innovative solution to the common issue of partial shading that affects caravan and RV solar power applications. Partial shading caused by roof top mounted accessories such as air conditioners, roof vents and satellites can result 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



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%

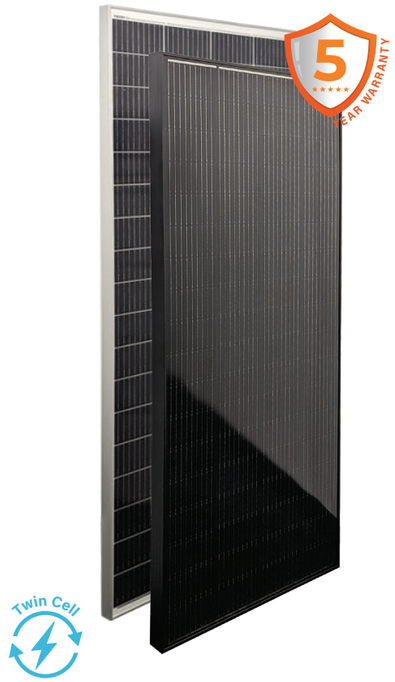
Product Code	Silver Frame 500-06280 Black Frame 500-06284

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

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

High Voltage Mono Crystalline Solar Panel with Twin Cell Technology

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

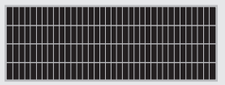
Nothing to do with System Voltage – Most Caravans are 12 Volt DC
The higher the Amps the thicker the gauge of wire required
LOW AMPS = LOWER COST

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

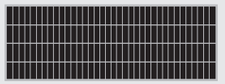


÷ *Voltage Output 40.1V* = *5 AMPS*

40 Volts

Smaller Wire Required

Regular 200 Watt Panel
200 Watt Peak Power



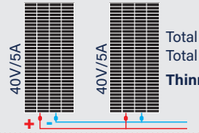
÷ *Voltage Output 20.6V* = *10 AMPS*

20 Volts

Larger Wire Required

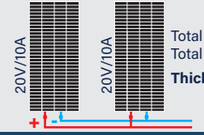
400 WATT SOLAR ARRAY

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 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

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 Effciency 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

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

Product Code 500-06222

Sphere Solar Panel Mounting Bracket Kit

Product Code Black 500-06230
Silver 500-06232

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

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