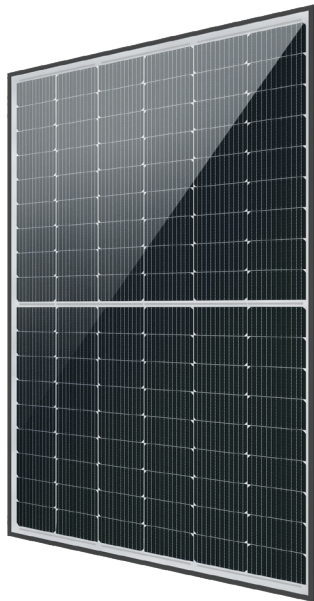


# SOLAR POWER PANELS



## SOLAHART SUNCELL RESIDENTIAL SOLAR PANELS

SOLAHART400V2



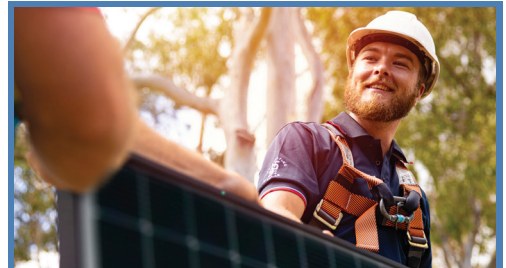
The new high-performance Solahart SunCell panel not only offers great value, but it's also custom-designed and built to Solahart's strict quality specifications. Offering positive tolerance of up to 5W guarantees that each SunCell panel will have a rated maximum power on or above 400W at Standard Test Conditions (STC)<sup>(1)</sup>.

With an attractive black frame design, this panel is easy to install and maintain, and is well suited to Australian roof designs. Solahart SunCell also ticks all the boxes on durability, it has passed endurance testing of up to three times more cycles than the international standard, making it an ideal solution in Australia's harsh conditions. Reliable silicone connections also ensure excellent stability and durability.

Other features include genuine Stäubli MC4 EVO2 connectors to secure a reliable connection and a sealed junction box that offers corrosion protection and water resistance.

Every Solahart system is backed by a trusted Solahart Australia Warranty that offers the advantage of local on-the-ground support to deliver true peace of mind. With almost 70 years of solar experience and over 60 Dealerships across Australia, we're here for the long haul.

### How you benefit:



#### DURABLE DESIGN

Blending state of the art technology and quality construction for excellent performance under real-world conditions.



#### HIGH SOLAR YIELD

Innovative half-cell technology with excellent power efficiency that results in more energy production per square metre.



#### HIGH PERFORMANCE

High energy produced per panel means you pay less for electricity generated.



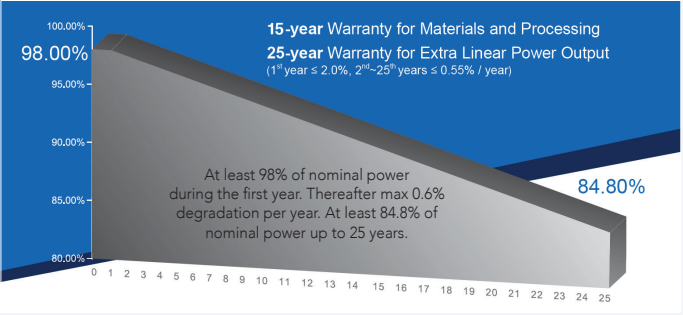
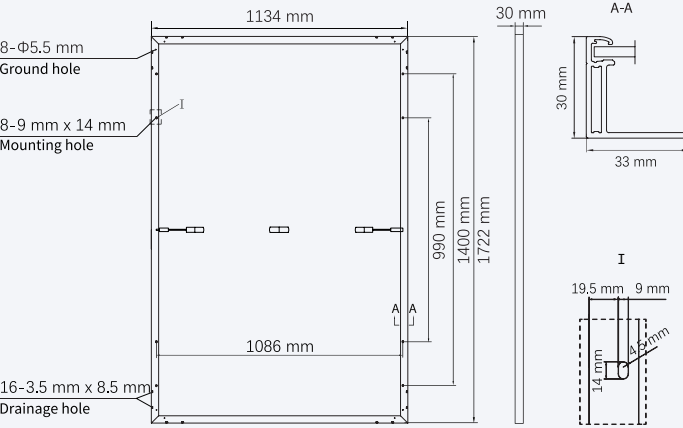
#### VALUE FOR MONEY

Cost-effective panel solution for a high return on your investment.



#### SOLAHART WARRANTY

15-Year Solahart Product Warranty for peace of mind, plus, 25-Year Performance Guarantee for long term returns.\*

Model		SOLAHART400V2	
<b>Electrical Data</b>			
Minimum performance at Standard Test Conditions (STC) <sup>(1)</sup> - Power Tolerance: +5 W/-0 W			
Power at MPP <sup>(2)</sup> - P <sub>MPP</sub>		400 Wp	
Short circuit current <sup>(2)</sup> - I <sub>sc</sub>		13.65 A	
Open circuit voltage <sup>(2)</sup> - V <sub>oc</sub>		37.00 V	
Current at MPP# - I <sub>MPP</sub>		12.86 A	
Voltage at MPP# - V <sub>MPP</sub>		31.09 V	
Efficiency <sup>(1)</sup> - η		20.5%	
Minimum performance at normal operating conditions, NMOT <sup>(3)</sup>			
Power at MPP - P <sub>MPP</sub>		298.9 Wp	
Short circuit current# - I <sub>sc</sub>		11.07 A	
Open circuit voltage# - V <sub>oc</sub>		34.97 V	
Current at MPP# - I <sub>MPP</sub>		10.32 A	
Voltage at MPP# - V <sub>MPP</sub>		28.98 V	
<b>Other Information</b>			
Part Number		SOLAHART400V2	
Solahart Product Warranty*		15 years	
Performance Guarantee*		25 years	
Country of manufacture		China	
<b>Mechanical Data</b>		<b>Performance Guarantee</b>	
Dimensions (H x W x D)	1722 x 1134 x 30 mm (including frame)	 <p>All data within measurement tolerances.</p>	
Weight	21.6 Kg		
Glass thickness	3.2 mm		
Backsheet	White		
Frame	Black		
Cell	6 x 18 monocrystalline solar half-cells		
Number of diodes	3		
Junction box	Protection class IP68, with bypass diodes		
Cable	4 mm <sup>2</sup> solar cable; (+) 1200 mm, (-) 1200 mm		
Connector	Stäubli MC4 EVO2 connectors (PV-KST4 EVO 2 & PV-KBT4 EVO 2)		
<b>Temperature Coefficients</b>		<b>Dimensions - Measurements in mm</b>	
Normal module operating temp (NMOT)	41±2°C		
Temp coefficient of P <sub>MPP</sub> - γ	-0.35%/°C		
Temp coefficient of V <sub>oc</sub> - β	-0.27%/°C		
Temp coefficient of I <sub>sc</sub> - α	+0.045%/°C		
<b>Qualifications and Certificates</b>			
IEC 61215: 2016; IEC 61730: 2016, Application class II.			
<b>Properties for System Design</b>			
Max system voltage - V <sub>sys</sub>	1500 V		
Max reverse current - I <sub>r</sub>	25 A		
Max design load, Push/Pull	3600 / 1600 Pa		
Max test load, Push/Pull	5400 / 2400 Pa		
Fire rating based on IEC/UL	Class C / TYPE 4		

Specifications and designs included in this data sheet are subject to change without notice.

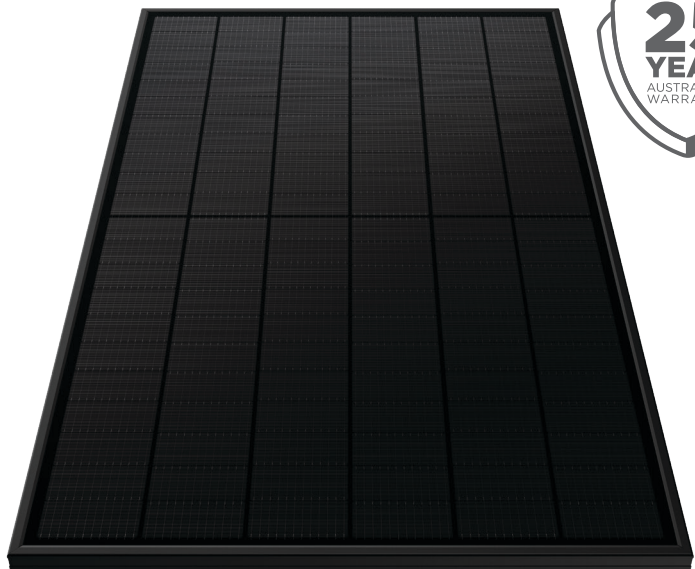
<sup>(1)</sup>1000 W/m<sup>2</sup>, 25±2°C, AM 1.5 G. <sup>(2)</sup>Measurement tolerances P<sub>MPP</sub> ±3%; I<sub>sc</sub>, V<sub>oc</sub> ±5% at STC. <sup>(3)</sup>800 W/m<sup>2</sup>, NMOT, spectrum AM 1.5 G. # Typical values, actual values may differ.

\* 15-year Solahart Product Warranty covers certain defects with the Solahart SunCell solar panels. Please refer to the 'Solahart PV Systems Owner's Guide' for full details, available on Solahart's website [www.solahart.com.au](http://www.solahart.com.au). 25-year Performance Guarantee is provided by the manufacturer of the Solahart SunCell solar panels and guarantees the maximum reduction in power output performance of the panels over a 25-year period. Neither the Solahart Product Warranty nor the Performance Guarantee are intended to exclude, restrict or modify your rights under the Australian Consumer Law.

# SOLAR POWER PANELS



## SILHOUETTE 400W SOLAR POWER PANELS



The new ultimate-performance Solahart Silhouette panel, with stylish all-black appearance, is the ideal solution for Australian homes thanks to its innovative and premium cell technology.

The state-of-the-art PERC monocrystalline half-cell and 12-busbar design was developed to achieve excellent performance under real conditions, even with low radiation intensity and on clear, hot summer days. The new zero-gap layout boosts panel efficiency to up to 20.4%.

The black anodised aluminium frame has been built to withstand extreme weather conditions, including high winds, and reliable silicone connections ensure excellent stability and durability. Other features include optimally positioned drainage holes to protect against frost damage, premium MC4 connecting plugs to secure a reliable connection, and a sealed junction box that offers corrosion protection and water resistance.

The exceptional 25-Year Solahart Product Warranty provides ultimate confidence and peace of mind. Solahart Silhouette is designed in Germany, manufactured in Korea and only available through Solahart.

### How you benefit:



#### MODERN DESIGN

Combining premium technology with a contemporary design and a striking all-black finish



#### HIGH SOLAR YIELD

Innovative gapless technology with excellent low-light and temperature behaviour results in more energy production per square metre.



#### HIGH PERFORMANCE

Long-term yield security with anti-LID technology, anti-PID Technology<sup>^</sup>, Hot-Spot Protect and Solahart Quality Auditing.



#### EXTREME WEATHER RATED

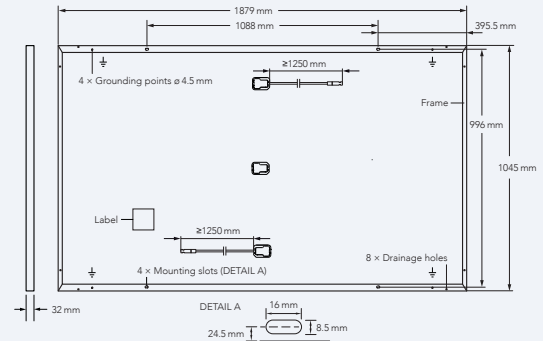
High-tech aluminium alloy frame, certified for high wind loads and snow loads.



#### SOLAHART WARRANTY

25-Year Solahart Product Warranty for peace of mind, plus, 25-Year Manufacturer's Performance Guarantee.\*

Model	SOLAHART400S3	
<b>Mechanical Data</b>		
Dimensions (H x W x D)	1879 x 1045 x 32 mm (including frame)	
Weight	22.0 Kg	
Front Cover	3.2 mm thermally pre-stressed glass with anti-reflection technology	
Back Cover	Composite film	
Frame	Black Anodised Aluminium	
Cell	6 x 22 monocrystalline solar half-cells	
Junction Box	Protection class $\geq$ IP67, with bypass diodes	
Cable	4 mm <sup>2</sup> solar cable; (+) 1250 mm, (-) 1250 mm	
Connector	Stäubli MC4 connectors (PV-KST4 & PV-KSB4), IP68	

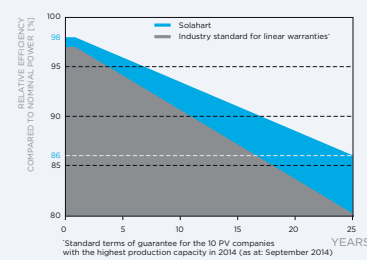


<b>Electrical Data</b>		
Minimum performance at standard test conditions, STC <sup>(1)</sup> (Power Tolerance +5 W / -0 W)		
Power at MPP <sup>(2)</sup> - PMPP		400 Wp
Short circuit current <sup>(2)</sup> - I <sub>sc</sub>		11.14 A
Open circuit voltage <sup>(2)</sup> - V <sub>oc</sub>		45.30 V
Current at MPP <sup>#</sup> - IMPP		10.77 A
Voltage at MPP <sup>#</sup> - VMPP		37.13 V
Efficiency <sup>(1)</sup> - $\eta$		$\geq$ 20.4 %
Minimum performance at normal operating conditions, NMOT <sup>(3)</sup>		
Power at MPP - PMPP		300.1 Wp
Short circuit current <sup>#</sup> - I <sub>sc</sub>		8.97 A
Open circuit voltage <sup>#</sup> - V <sub>oc</sub>		42.72 V
Current at MPP <sup>#</sup> - IMPP		8.51 A
Voltage at MPP <sup>#</sup> - VMPP		35.25 V

<b>Other information</b>	
Part Number	SOLAHART400S3
Solahart Product Warranty*	25 years
Manufacturer's Performance Guarantee*	25 years
Country of Manufacture	Korea

<b>Temperature Coefficients</b>	
Normal module operating temperature (NMOT)	43 $\pm$ 3 °C
Temperature coefficient of PMPP - $\gamma$	-0.34 % / °C
Temperature coefficient of V <sub>oc</sub> - $\beta$	-0.27 % / °C
Temperature coefficient of I <sub>sc</sub> - $\alpha$	+0.04 % / °C

### Performance Guarantee



At least 98% of nominal power during the first year. Thereafter max 0.5% degradation per year.

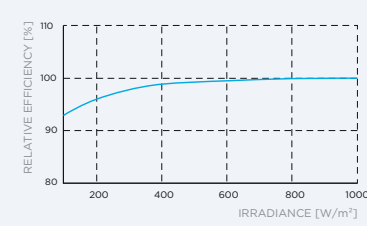
At least 93.5% of nominal power up to 10 years.

At least 86% of nominal power up to 25 years.

All data within measurement tolerances.

<b>Qualifications and Certificates</b>	
IEC 61215: 2016; IEC 61730: 2016, Application class II.	

<b>Properties for System Design</b>	
Permitted module temp on continuous duty	-40°C up to +85°C
Maximum system voltage - V <sub>SYS</sub>	1000 V
Maximum reverse current - I <sub>R</sub>	20 A
Maximum design load, Push / Pull	3600 / 2660 Pa
Maximum test load, Push / Pull	5400 / 4000 Pa
Safety class	II
Fire rating based on ANSI / UL 61730	C / TYPE 2



Typical panel performance under low irradiance conditions in comparison to STC conditions (25°C, 1000 W/m<sup>2</sup>).

Specifications and designs included in this data sheet are subject to change without notice.

<sup>(1)</sup>1000 W/m<sup>2</sup>, 25 $\pm$ 2°C, AM 1.5 G.  
<sup>(2)</sup>Measurement tolerances PMPP  $\pm$ 3 %; I<sub>sc</sub>, V<sub>oc</sub>  $\pm$ 5 % at STC.  
<sup>(3)</sup>800 W/m<sup>2</sup>, NMOT, spectrum AM 1.5 G. # Typical values, actual values may differ.  
 \*For full details see Solahart Owner's Guide & Installation Instructions.  
 ^APT test conditions according to IEC/TS 62804-1:2015, method B (-1500 V, 168 h).

# SOLAR POWER PANELS



## SUNCELL PLUS COMMERCIAL SOLAR PANELS

SOLAHART450C1



The new high-performance Solahart SunCell-Plus panel is not only great value, it's also custom-designed and built to Solahart's strict quality specifications.

With a high efficiency rating of 20.7%, proven durability and easy-to-install design, Solahart SunCell-Plus is the ideal solution for commercial applications.

Reliable silicone connections ensure excellent stability and durability.

Other features include genuine Stäubli MC4 EVO2 connectors to maintain a reliable connection and a sealed junction box that offers protection from water and corrosion.

The 15-Year Solahart Product Warranty provides ultimate confidence and peace of mind.

### How you benefit:



#### DURABLE DESIGN

Blending state of the art technology and quality construction for excellent performance under real-world conditions.



#### HIGH SOLAR YIELD

Innovative half-cell technology with excellent power efficiency that results in more energy production per square metre.



#### HIGH PERFORMANCE

High energy produced per panel means you pay less for electricity generated.



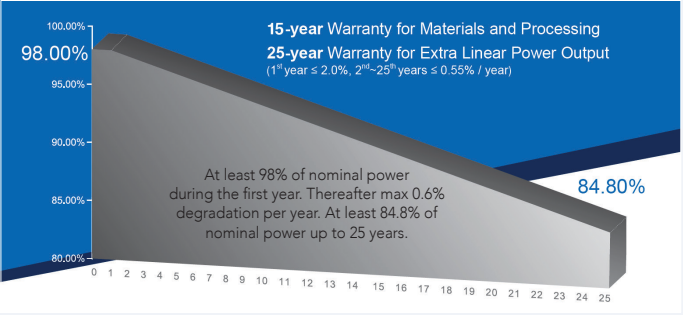
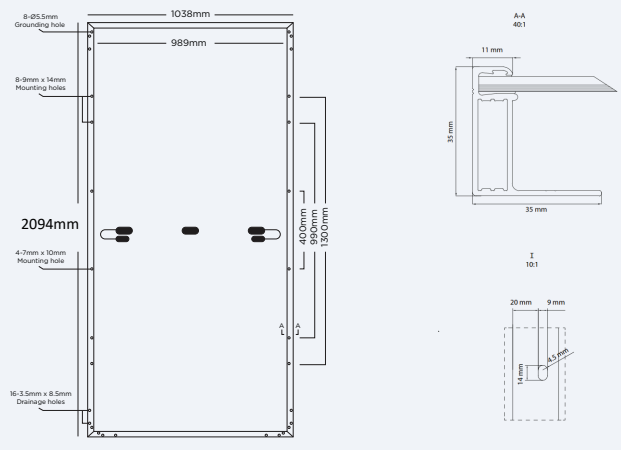
#### VALUE FOR MONEY

Cost-effective panel solution for a high return on your investment.



#### SOLAHART WARRANTY

15-Year Solahart Product Warranty for peace of mind, plus, 25-Year Manufacturer's Performance Guarantee.\*

Model		SOLAHART450C1	
<b>Electrical Data</b>			
Minimum performance at standard test conditions, STC <sup>(1)</sup> (Power Tolerance +5 W / -0 W)			
Power at MPP <sup>(2)</sup> - P <sub>MPP</sub>			450 Wp
Short circuit current - I <sub>sc</sub>			11.37 A
Open circuit voltage - V <sub>oc</sub>			49.05 V
Current at MPP - I <sub>MPP</sub>			10.89 A
Voltage at MPP - V <sub>MPP</sub>			41.32 V
Efficiency <sup>(1)</sup> - η			20.7%
Minimum performance at normal operating conditions, NMOT <sup>(3)</sup>			
Power at MPP - P <sub>MPP</sub>			334.5 Wp
Short circuit current - I <sub>sc</sub>			9.16 A
Open circuit voltage - V <sub>oc</sub>			45.94 V
Current at MPP - I <sub>MPP</sub>			8.72 A
Voltage at MPP - V <sub>MPP</sub>			38.37 V
<b>Other Information</b>			
Part Number			SOLAHART450C1
Solahart Product Warranty*			15 years
Manufacturer's Performance Guarantee*			25 years
Country of Manufacture			China
<b>Mechanical Data</b>		<b>Manufacturer's Performance Guarantee</b>	
Dimensions (H x W x D)	2094 x 1038 x 35 mm (including frame)		
Weight	23.5 Kg		
Glass thickness	3.2 mm		
Backsheet	White		
Frame	Silver Anodised Aluminium		
Cell	6 x 24 monocrystalline solar half-cells		
Number of diodes	3		
Junction box	Protection class IP68, with bypass diodes		
Cable	4 mm <sup>2</sup> solar cable; (+) 1300 mm, (-) 1300 mm		
Connector	Stäubli MC4 EVO2 connectors (PV-KST4 EVO 2 & PV-KBT4 EVO 2)		
<b>Temperature Coefficients</b>		<b>Dimensions - Measurements in mm</b>	
Normal module operating temp (NMOT)	41±2°C		
Temp coefficient of P <sub>MPP</sub> - γ	-0.35%/°C		
Temp coefficient of V <sub>oc</sub> - β	-0.28%/°C		
Temp coefficient of I <sub>sc</sub> - α	+0.035%/°C		
<b>Qualifications and Certificates</b>			
IEC 61215: 2016; IEC 61730: 2016, Application class II.			
<b>Properties for System Design</b>			
Max system voltage - V <sub>sys</sub>	1500 V		
Max reverse current - I <sub>r</sub>	20 A		
Max design load, Push/Pull	3600 / 1600 Pa		
Max test load, Push/Pull	5400 / 2400 Pa		
Fire rating based on IEC/UL	Class C / TYPE 4		
			
			

Specifications and designs included in this data sheet are subject to change without notice.

<sup>(1)</sup>1000 W/m<sup>2</sup>, 25±2°C, AM 1.5 G. <sup>(2)</sup>Measurement tolerances P<sub>MPP</sub> ±3%; I<sub>sc</sub>, V<sub>oc</sub> ±5% at STC. <sup>(3)</sup>800 W/m<sup>2</sup>, NMOT, spectrum AM 1.5 G. \* Typical values, actual values may differ.

\*For full details see Solahart Owner's Guide & Installation Instructions.