



# 166 | Bifacial 144 cells (glass-glass type)

Power Output (STC): **430 - 450 Watt**  
Max. Efficiency (STC): **20.7%**



**High Mechanical Load**  
Certified to withstand high wind and snow loads up to 5400Pa



**Enhanced Performances**  
Bifacial feature allows a power boost up to 20% vs monofacial



**Lower LCOE**  
Higher power output over the long term increases projects ROI



**Excellent Low-Light Performance**  
Tier 1 certified solar cells allows better performance in low-light environments



**Ideal for Large Scale Installations**  
Lower installations time and BOS (Balance of Systems) costs



**Salt Mist and Ammonia Resistant**  
Certified by Bureau Veritas to withstand usage near coastal environments



**PID resistant**  
Designed to minimise cell degradation in extreme environments



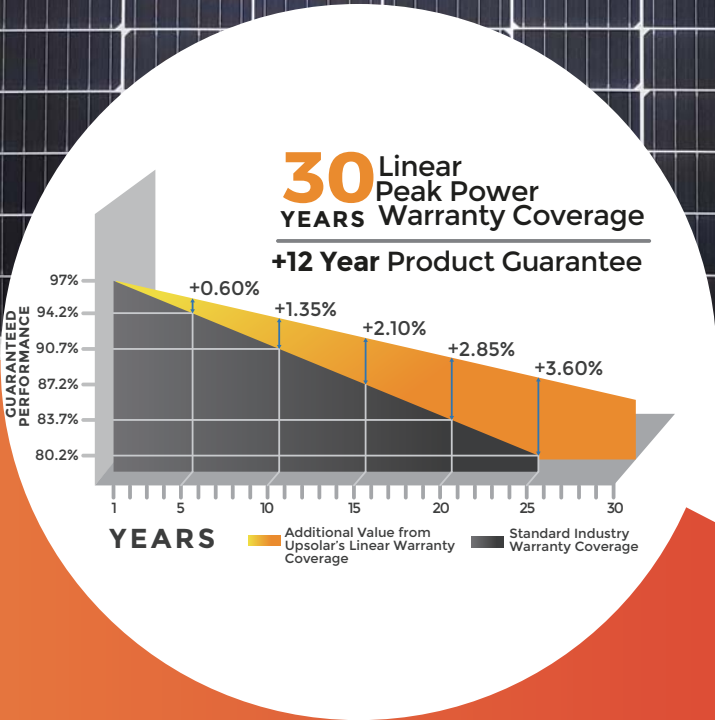
## Secure Investment

Upsolar provides exceptional product coverage for all modules to ensure our customers achieve superior long-term value from their solar installations. To further improve our product warranty, which covers unanticipated module damage, we've recently expanded our terms from a 10-year period to a 12-year period.

In addition, Upsolar offers a 30-year performance guarantee known as the Linear Module Warranty. Whereas traditional policies feature a single trigger point leading to drastic coverage reductions after just 10 years, Upsolar's coverage more accurately corresponds to system performance, providing coverage for over 25-years.

Overall, our goal is to deliver not only top-notch modules, but also peace of mind, for decades to come.

\*Upsolar has expanded its manufacturing operations in Asia, Europe and North America, keeping its modules duty-free in the event of new CVD or AD policies. Please ask about pricing, payment terms and conditions to meet your needs.



# Bifacial Series | 166 PV Module 144 cells

## Electrical Characteristics at STC

STC: Irradiance 1,000 W/m<sup>2</sup>, Module temperature 25°C, AM=1.5

MODEL	UP-B430MH-G	UP-B435MH-G	UP-B440MH-G	UP-B445MH-G	UP-B450MH-G
Max Power P <sub>m</sub> at STC (Wp)	430	435	440	445	450
Max Power Voltage V <sub>m</sub> (V)	41.1	41.3	41.5	41.7	41.9
Max Power Current I <sub>m</sub> (A)	10.46	10.53	10.60	10.67	10.74
Open-Circuit Voltage V <sub>oc</sub> (V)	49.5	49.7	49.9	50.1	50.3
Short-Circuit Current I <sub>sc</sub> (A)	11.12	11.20	11.28	11.36	11.44
Module Efficiency (STC)	19.7%	20.0%	20.2%	20.4%	20.7%
Bifacial Factor	0.70+/-0.05				

## Bifacial Output-rearside Power Gain

5%	Max Power P <sub>m</sub> (STC)	452	457	462	467	473
	Module Efficiency (STC)	20.7%	21.0%	21.2%	21.5%	21.7%
15%	Max Power P <sub>m</sub> (STC)	495	500	506	512	518
	Module Efficiency (STC)	22.7%	23.0%	23.2%	23.5%	23.8%
25%	Max Power P <sub>m</sub> (STC)	538	544	550	556	563
	Module Efficiency (STC)	24.7%	25.0%	25.3%	25.5%	25.8%

## Components & Additional Data

Power tolerance	0/+3%
Front Glass	High Transparency Tempered Glass 0.078" // 2.0 mm
Junction Box	IP 67 or above
Output Cables	0.3m // IEC/ UL approved (4 mm <sup>2</sup> , 12AWG) (PV Wire Type)
Connectors	MC4 compatible (IP67, IEC and UL approved)
Frame	Anodized aluminium alloy type 6063-T5
Encapsulation Material	EVA
Back Sheet	High Transparency Tempered Glass 0.078" // 2.0 mm
Temperature Range	-40°F to +194°F // -40°C to +90°C
Series fuse rating	20A
Maximum system voltage	1,500V (IEC/UL)

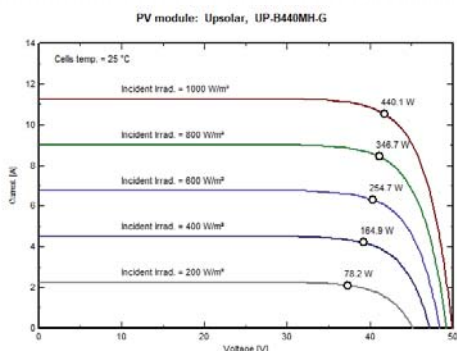
## Specifications

Cells	Monocrystalline bifacial solar cells 166 x 83
Number of Cells	144 (6 x 24)
Dimensions (in // mm)	82.56 x 40.92 x 1.38 // 2094 x 1038 x 35
Weight (lb // kg)	61.5 // 28.0

## Temperature Coefficients

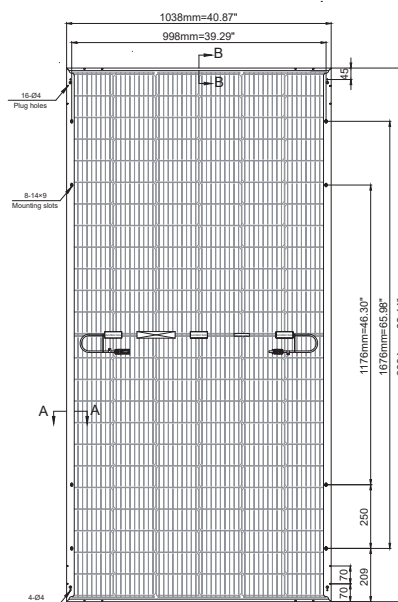
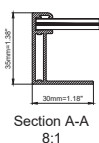
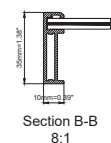
NOCT (°C)	45 ± 2
Temperature Coefficients of I <sub>sc</sub> (% / °C)	0.06 ± 0.01
Temperature Coefficients of V <sub>oc</sub> (% / °C)	-0.30 ± 0.02
Temperature Coefficients of I <sub>m</sub> (% / °C)	-0.02 ± 0.02
Temperature Coefficients of V <sub>m</sub> (% / °C)	-0.42 ± 0.03
Temperature Coefficients of P <sub>m</sub> (% / °C)	-0.37 ± 0.05

## IV Curves



## Options Available

- Frameless option available
- Transparent backsheet option available



Backview