



## HMB144B12R

**620W - 650W**

**Bifacial**

30-year linear power output warranty

15-years product warranty



### SUPERIOR QUALITY

With BACK CONTACT technology and half cell design, Helius Sunlink PV panels reduce conversion of cell by busbars and improve current collection ability on cloudy days.



### HIGH EFFICIENCY AND POWER DENSITY

High conversion efficiency and up to 650 W. More gain power per square meter.



### PERFORMANCE WARRANTY

With up to 30 years of solar generation, Helius Energy warranty can guarantee the longevity of your project.



### FIRE-PROOF PERFORMANCE

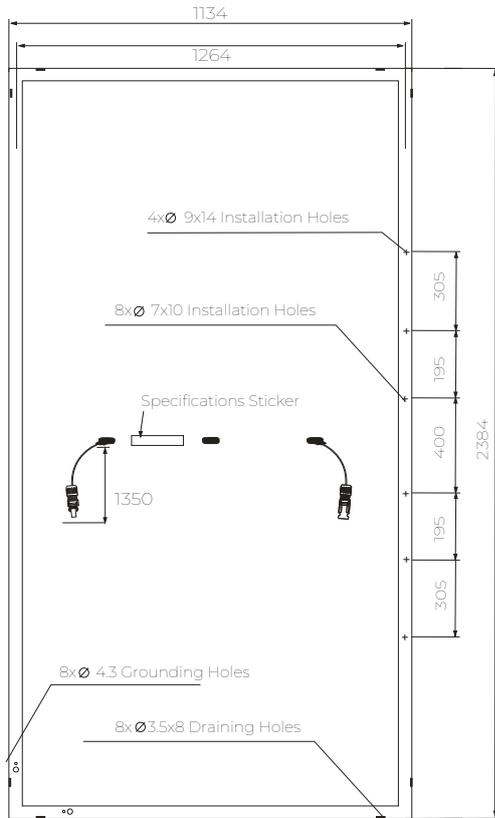
Modules are approved and tested under IEC 61730 and Class C Fire Test.



### LIGHT AND RELIABLE

Much lighter modules with thicker frames to ensure module resilience. Modules could be applied under ammonia, salt mist, high temperature, high humidity condition.

### TECHNICAL DIMENSIONS (MM)

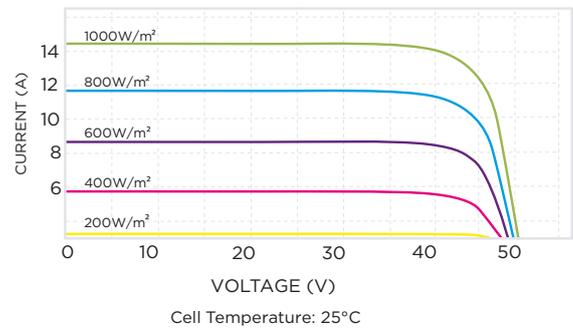


### MECHANICAL CHARACTERISTICS

Dimensions	2384 x 1134 x 30mm
Solar Cells	144 N-type Back Contact Cells
Weight	33,5 kg
Frame	Anodized Aluminium Alloy
Frontal Glass	2mm High Transmission, Low Iron Tempered
Back Glass	2mm High Transmission, Low Iron Tempered
J-Box	IP68 / 3 bypass diodes
Cables	4mm / Length 1350mm or Customized

### TEMPERATURE CHARACTERISTICS

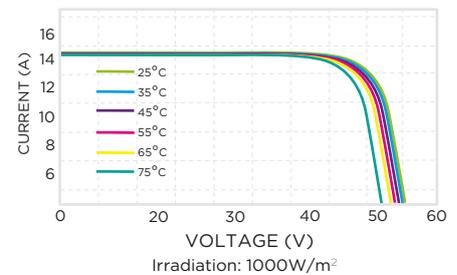
Temperature Coefficient I <sub>sc</sub>	0.05% / °C
Temperature Coefficient V <sub>oc</sub>	-0.22% / °C
Temperature Coefficient P <sub>max</sub>	-0.26% / °C
Operational Temperature	-40°C - +85°C



### ELECTRICAL CHARACTERISTICS

HMB144BT12R	620HL	625HL	630HL	635HL	640HL	645HL	650HL
Maximum Power P <sub>Max</sub> (W)	620	625	630	635	640	645	650
Maximum Power Voltage V <sub>mp</sub> (V)	44.70	44.80	44.90	44.90	45.00	45.10	45.20
Maximum Power Current I <sub>mp</sub> (A)	13.88	13.96	14.04	14.12	14.20	14.27	14.35
Open Circuit Voltage V <sub>oc</sub> (V)	53.40	53.50	53.60	53.70	53.80	53.90	54.00
Short Circuit Current I <sub>sc</sub> (A)	14.70	14.76	14.82	14.88	14.94	15	15.06
Module Efficiency	23%	23.1%	23.3%	23.5%	23.7%	23.9%	24.1%
Maximum System Voltage	1500VCC						
Maximum Series Fuse	30A						

Test Conditions: 1000W/m<sup>2</sup>, 25°C, AM =1.5



### ELECTRICAL CHARACTERISTICS WITH REAR POWER GAIN (650W)

P <sub>max</sub> Gain (%)	10%	20%
Maximum Power P <sub>Max</sub> (W)	715	780
Maximum Power Voltage V <sub>mp</sub> (V)	45.20	45.20
Maximum Power Current I <sub>mp</sub> (A)	15.78	17.22

### PACKAGING CONFIGURATION

Modules per Container 40HQ	720 pcs
Pallets per Container 40HQ	20
Modules per Pallet	36
Pallet Dimensions	2405 X 1260 X 1120mm
Gross Weight per Pallet (kg)	1177

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