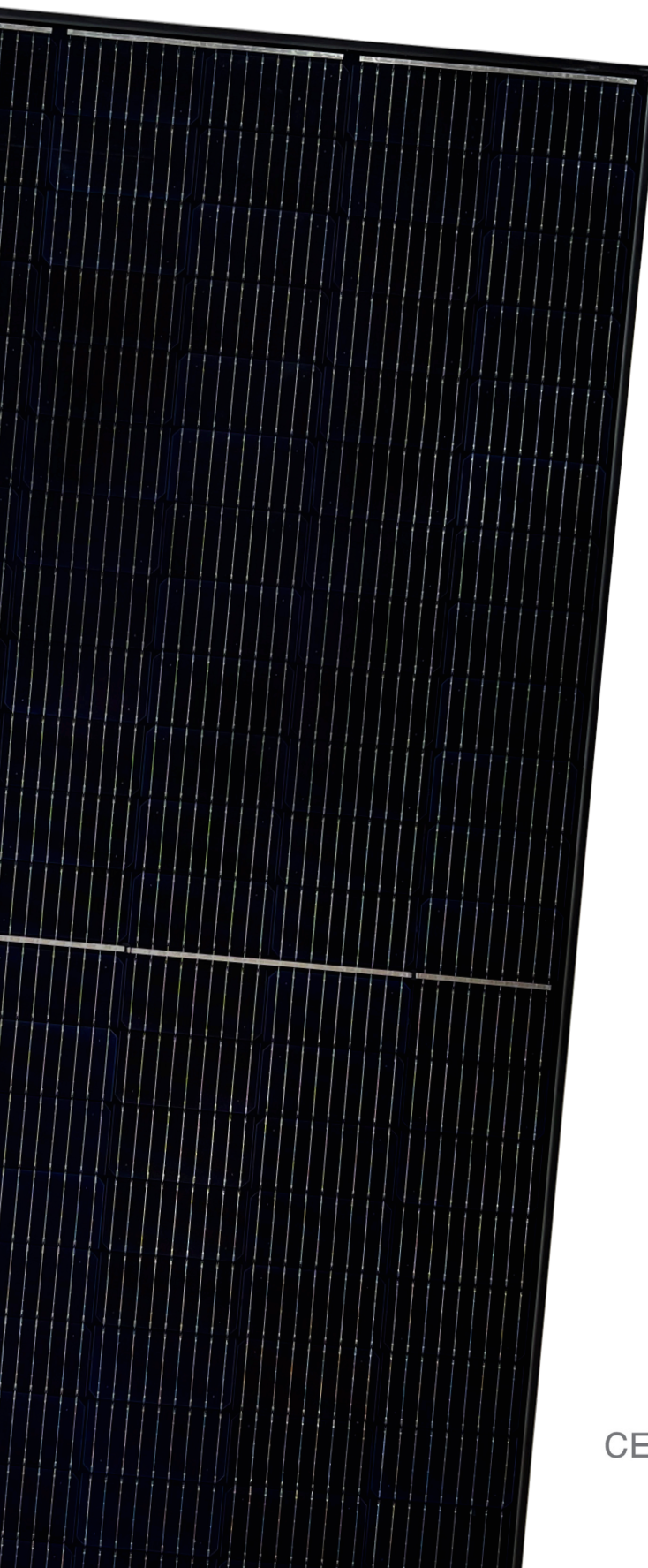




144BB 440W HC Series

mSolar 9BB Half-Cell Black
Monocrystalline PERC PV Module



Excellent efficiency

9 busbar technology increases power by decreasing the distance between busbars and the finger grid line



Improved weak illumination response

More power output even in lower light conditions such as overcast days or off-peak sunlight hours



Anti PID

Panels rigorously tested to limit power degradation caused by 'stray' currents



High wind and snow resistance

5,400Pa Snow Load
2,400Pa Wind Load



25-year warranty

M Solar modules are guaranteed to retain at least 84.3% of the initial power output



Appealing Aesthetics

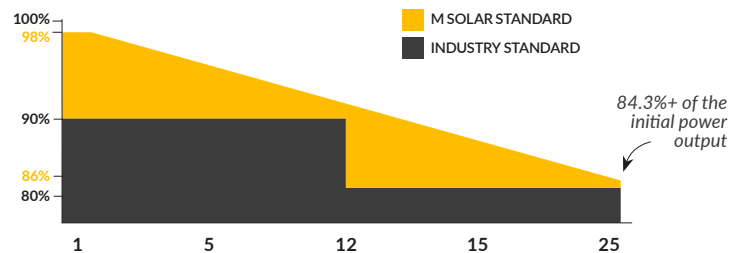
Fully black module creates a sleek, uniform array



25-year product warranty, 25-year output warranty



0.5% annual degradation over 25 years



CEC



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144BB 440W HC Series

msolar 9BB Half-Cell Black
Monocrystalline PERC PV Module

Electrical Characteristics | STC*

Module Type	HC 144BB-435W	HC 144BB-440W	HC 144BB-445W
Nominal Power Watt Pmax (W)*	435	440	445
Power Output Tolerance Pmax (%)	0~+3	0~+3	0~+3
Maximum Power Voltage Vmp (V)	40.8	41.0	41.2
Maximum Power Current Imp (A)	10.67	10.74	10.81
Open Circuit Voltage (V)	49.7	49.9	50.1
Short Circuit Current Isc (A)	11.26	11.33	11.40
Module Efficiency (%)	20.01	20.24	20.47

*STC (Standard Test Condition): Irradiance 1000W/m², Module Temperature 25°C, AM 1.5

Electrical Characteristics | NMOT*

Maximum Power Watt Pmax (Wp)	325.2	328.9	332.7
Maximum Power Voltage Vmpp (V)	38.1	38.2	38.4
Maximum Power Current Imp (A)	8.54	8.60	8.66
Open Circuit Voltage Voc (V)	46.4	46.6	46.7
Short Circuit Current Isc (A)	9.09	9.15	9.21

*NMOT (Nominal module operating temperature): Irradiance 800W/m², Ambient Temperature 20°C, AM 1.5, Wind Speed 1m/s

Mechanical Data

Solar Cells	Mono PERC
Cells orientation	144 (6x24)
Module dimension	2094x1038x35mm (with frame)
Weight	24kg
Glass	3.2mm, High Transmission, AR Coated Tempered Glass
Junction Box	IP 68, 3 Diodes
Cables	4mm ² , 350mm
Connectors	MC4-compatible

Temperature Ratings

NMOT	44°C±2°C
Temperature coefficient of Pmax	-0.36%/°C
Temperature coefficient of Voc	-0.29%/°C
Temperature coefficient of Isc	0.05%/°C

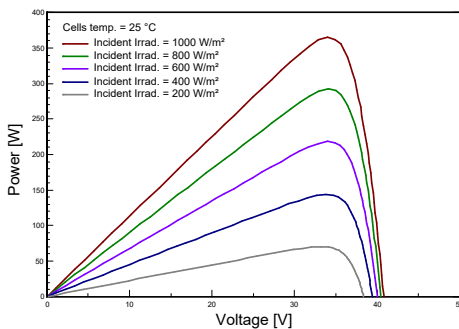
Working Conditions

Maximum System Voltage	1500 V DC
Operating Temperature	-40°C ~+85°C
Maximum Series Fuse	20 A
Maximum Load (Snow/Wind)	5400Pa / 2400Pa

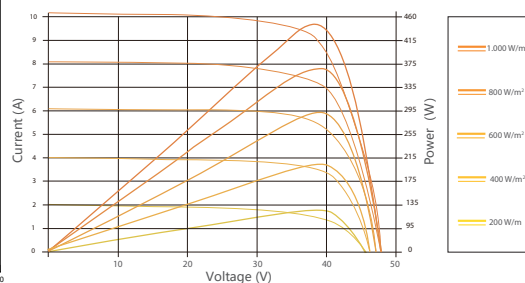
*Do not connect Fuse in Combiner Box with two or more strings in parallel connection

*Remark: Electrical data in this catalog do not refer to a single module and they are not part of the offer. They only serve for comparison among different module types.

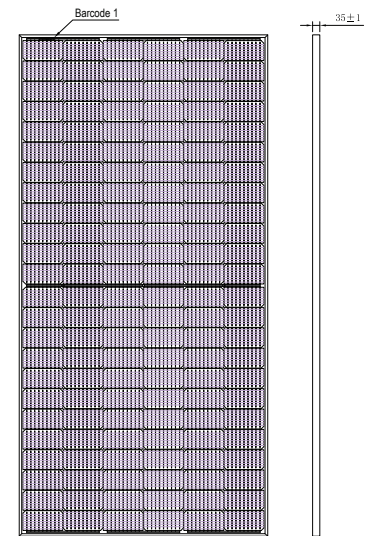
P-V Curves of PV Module (365W)



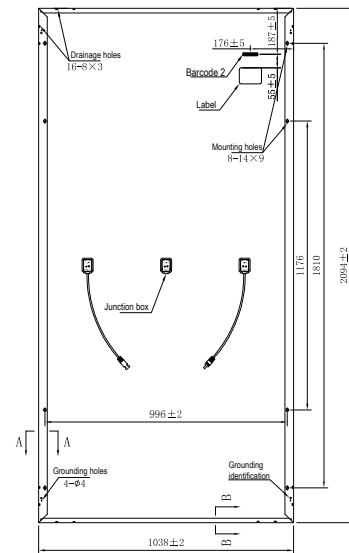
I-V Curves of PV Module (365W)



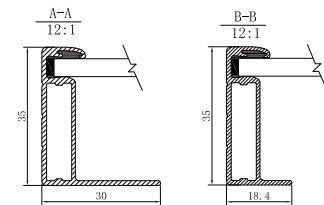
Dimensions (MM)



Front View



Back View



Packaging Details

30 Panels per pallet	Pallet Weight 1,650 lbs. (748 kg)	Truck Weight 36,300 lbs. (16,465 kg)
22 Pallets per truck		

Note: please read safety and installation instructions before using this product. Subject to change without prior notice.

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