



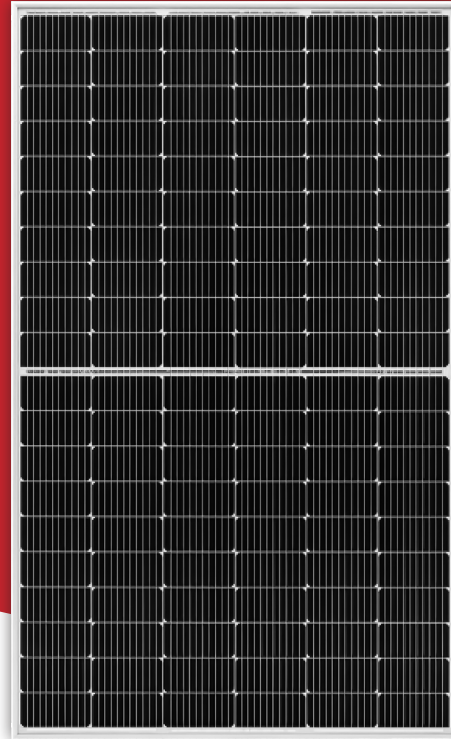
SUNOVA SOLAR

Leading one-stop PV Supplier

HI-KILO

445-460W

High Efficiency Half-Cell Mono PERC Module



Excellent low irradiance performance.



Better light trapping and current collection to improve module power output and reliability.



Industry leading lowest thermal co-efficient of power.



Optimized electrical design and lower operating current for reduced hot spot loss and better temperature coefficient.

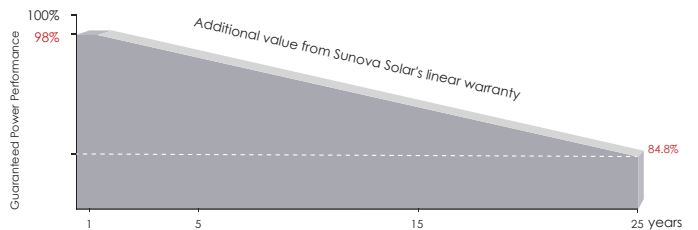


Certified to withstand: wind load (2400 Pa) and snow load (5400 Pa).



100% triple EL test enabling remarkable reduction of hidden crack rate of modules

LINEAR PERFORMANCE WARRANTY



15 years

Product quality & process guarantee

25 years

Linear power guarantee

0.55 %

Annual Degradation Over 25 years

COMPREHENSIVE CERTIFICATES



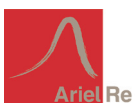
ISO 9001: Quality Management System

ISO 14001: Environmental Management System Standard

ISO 45001: International Occupational Health and Safety Assessment System Standard

* Different markets have different certification requirements. Also, the products are under rapid innovation. Please confirm the certification status with regional sales representatives.

PERFORMANCE INSURANCE



中国平安

PING AN P & C INSURANCE CO CN SZN

ELECTRIC CHARACTERISTICS

Model of modules	SS-445-60MDH		SS-450-60MDH		SS-455-60MDH		SS-460-60MDH	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum power — P_{mp} (W)	445	332	450	335	455	339	460	343
Open-circuit voltage — V_{oc} (V)	41.27	38.79	41.46	38.97	41.65	39.15	41.78	39.34
Short-circuit current — I_{sc} (A)	13.42	10.88	13.47	10.91	13.54	10.97	13.63	11.01
Maximum power voltage — V_{mp} (V)	34.46	32.05	34.62	32.19	34.78	32.35	34.89	32.52
Maximum power current — I_{mp} (A)	12.92	10.36	13.01	10.41	13.09	10.48	13.19	10.55
Module efficiency — η_m (%)	20.6%		20.9%		21.1%		21.3%	
Power tolerance (W)	(0,+5)							
Maximum system voltage (V)	1500							
Maximum rated fuse current (A)	25							
Current operating temperature (°C)	-40~+85°C							

STC (Standard Testing Conditions): Irradiance 1000W/m², Cell Temperature 25 °C, Spectra at AM1.5

NOCT (Nominal Operating Cell Temperature): Irradiance 800W/m², Ambient Temperature 20°C, Spectra at AM1.5, Wind at 1m/s

STRUCTURAL CHARACTERISTICS

Module dimensions (L*W*H)	1903 x 1134 x 30 mm (74.92 x 44.65 x 1.18 inch)
Weight	24 kg (52.91 lbs)
Number of cells	120 cells
Cell	PERC Monocrystalline 182x91 mm (7.17 x 3.58 inch)
Glass	Tempered, 3.2 mm AR, High transmittance, Low iron
Frame	Anodized aluminum alloy
Junction box	IP68
Output wire	4.0 mm ² , wire length: 300mm/customized
Connector	MC4 Compatible
Mechanical load	Snow load: 5400 Pa / Wind load: 2400 Pa

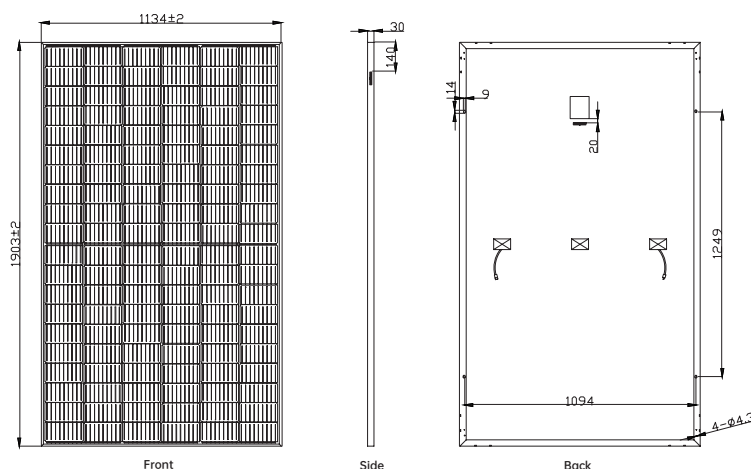
TEMPERFORMANCE RATINGS

Temperature coefficient (P_{max})	-0.35 %/°C
Temperature coefficient (V_{oc})	-0.28 %/°C
Temperature coefficient (I_{sc})	+0.045 %/°C
Nominal operating cell temperature	45±2 °C

PACKAGING CONFIGURATION

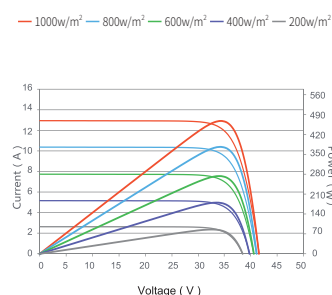
Container	40HQ
Quantity/pallet	36
Pallets/container	24
Quantity/container	864

MODULE DIMENSIONS (MM)



* The unmarked tolerance is ±1 mm
Length shown in mm

Current-Voltage & Power-Voltage Curves (460W)



Temperature Dependence of I_{sc} , V_{oc} , P_{max}

