

## HRAP-120H 440-455M10

**21.02%**  
Maximum Module Efficiency

**455W**  
Maximum Power Output

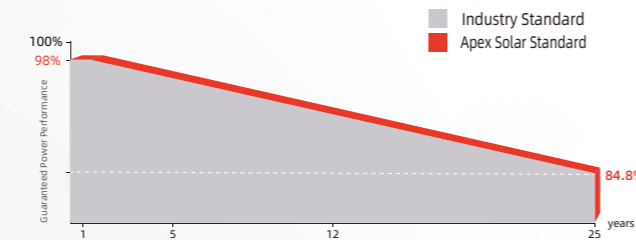
Power Shorting Tolerance:0-3W

**1909×1134×35mm**  
Module Dimensions

IEC 61215 / IEC 61730  
Fire safty class:Class C according to UL790  
ISO 9001 :Quality Management System  
ISO 14001 :Environment Management



**Industry Leading Linear Power Warranty**  
12-year Warranty for Materials and Processing . 25-year Warranty for Extra Linear Power Output



**12** Process Warranty      **25** Power Warranty

## High Efficiency Half-cells Solar Panel HRAP-120H 440-455M10

### ELECTRICAL PARAMETERS AT STC

Rated Maximum Power(Pmax) [W]	440	445	450	455
Maximum Power Voltage(Vmp) [V]	33.91	34.06	34.21	34.36
Maximum Power Current(Imp) [A]	12.98	13.07	13.16	13.25
Open Circuit Voltage(Voc) [V]	40.95	41.1	41.25	41.4
Short Circuit Current(Isc) [A]	13.41	13.52	13.62	13.72
Module Efficiency [%]	20.33	20.56	20.79	21.02

STC: Irradiance 1000 W/m<sup>2</sup> module temperature 25°C AM=1.5

### ELECTRICAL PARAMETERS AT NMOT

Rated Maximum Power(Pmax)[W]	330	334	338	342
Maximum Power Voltage(Vmp) [V]	31.34	31.49	31.64	31.79
Maximum Power Current(Imp) [A]	10.54	10.62	10.69	10.77
Open Circuit Voltage(Voc) [V]	37.76	37.91	38.06	38.21
Short Circuit Current(Isc) [A]	11.19	11.28	11.36	11.45

NMOT: Irradiance 800 W/m<sup>2</sup> ambient temperature 20°C wind speed: 1m/s

### MECHANICAL SPECIFICATION

Cell Type	Monocrystalline
Cell Dimensions	182×182mm
Cell Arrangement	120(6×20)
Weight	23.5kg(±3%)
Module Dimensions	1909×1134×35mm
Cable	4.0 mm <sup>2</sup> positive/negative:300mm(11.8inches ),length Can be customized
Front Glass	3.2 mm high transmittance,AR coating tempered glass
Frame	Anodized aluminium alloy
junction Box	Protection class IP68
Connector	Mc4 Compatible
Mechanical Load	Front side 5400Pa/Rear side 2400Pa

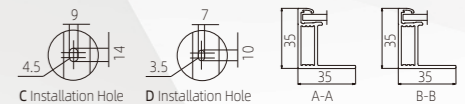
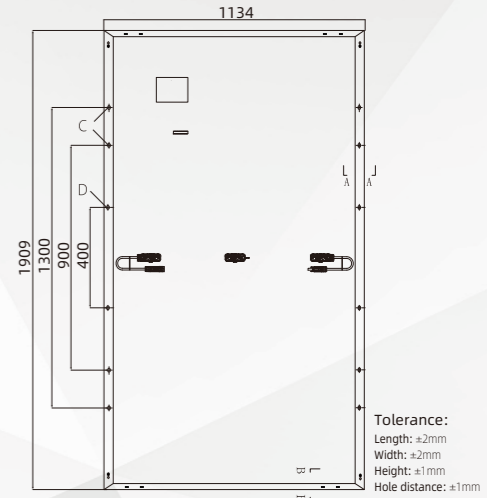
### OPERATING CONDITIONS

Maximum System Voltage (V)	1000/1500VDC (IEC)
Pmax Temperature Coefficient	-0.34%/°C
Voc Temperature Coefficient	-0.28%/°C
ISC Temperature Coefficient	+0.05 %/°C
Nominal Operating Cell Temperature	45±2°C
Operating Temperature	- 40°C-+85°C
Maximum Series Fuse	20A

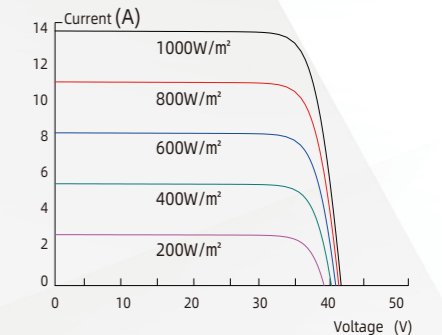
### PACKING CONFIGURATION

Quantity/Pallet	36pcs/pallet
Quantity/Container	864pcs/40HQ

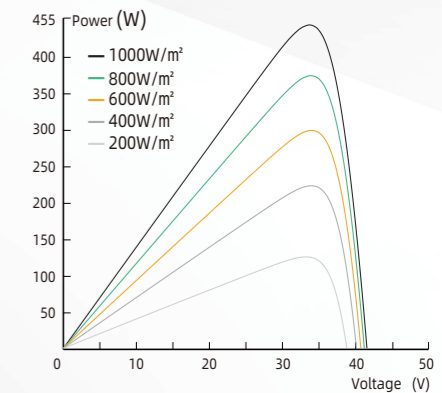
### Module Dimension(mm)



### Current-Voltage Curve (455W)



### Power-Voltage Curve (455W)



- 0-3W**  
Guaranteed 0-3W positive tolerance ensures the power output reliability
- High customer value**  
Lower cost per kilowatt hour.High quality silicon wafer guarantee, high power module output, excellent cost performance advantage, is an ideal choice for solar power stations
- Highly reliable due to stringent quality control**  
Three times strict EL testing beyond certification requirements
- Fusion of MBB and half-cut cells technology**  
The new circuit design, minimizes the impact of shadow on the power generation of solar module.Excellent light utilization and current collection capacity, effectively improve product power output and reliability
- Excellent Anti-PID performance**  
Ensure that the scale production passes the PID test, and greatly reduce the attenuation caused by PID by optimizing the wafer process
- Outstanding low light performance**  
The coated glass with high transmittance and the surface technology of the wafer are used to achieve excellent performance in low light environment