APEX SOLAR

144cells Monocrystalline Module

HRAP-144H-N570-N590M10

N-TOPCon Technology

22.82%
Maximum Module Efficiency

590W
Maximum Power Output

Power Shorting Tolerance:0-3W

2278×1134×35mm
Module Dimensions

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

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

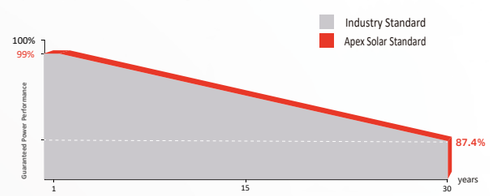
Highly reliable due to stringent quality control
Three times strict EL testing beyond certification requirements

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

Industry Leading Linear Power Warranty
12-year Warranty for Materials and Processing .30-year Warranty for Extra Linear Power Output



12 YEARS Process Warranty 30 YEARS Power Warranty

HRAP-144H-N570-N590M10

ELECTRICAL PARAMETERS AT STC

Rated Maximum Power(Pmax) [W]	570	575	580	585	590
Maximum Power Voltage(Vmp) [V]	42.07	42.22	42.37	42.52	42.67
Maximum Power Current(Imp) [A]	13.55	13.62	13.69	13.76	13.83
Open Circuit Voltage(Voc) [V]	50.74	51.88	51.02	52.16	52.37
Short Circuit Current(Isc) [A]	14.31	14.39	14.47	14.89	14.94
Module Efficiency [%]	22.05	22.24	22.45	22.63	22.82

STC: Irradiance 1000 W/m2 module temperature 25°C AM=1.5

ELECTRICAL PARAMETERS AT NMOT

Rated Maximum Power(Pmax)[W]	429	432	436	441	445
Maximum Power Voltage(Vmp) [V]	39.65	39.78	39.87	41.05	41.21
Maximum Power Current(Imp) [A]	10.81	10.87	10.94	10.74	10.79
Open Circuit Voltage(Voc) [V]	48.51	48.70	48.89	50.06	50.25
Short Circuit Current(Isc) [A]	11.50	11.55	11.60	11.30	11.36

NMOT: Irradiance 800 W/m2 ambient temperature 20°C wind speed: 1m/s

MECHANICAL SPECIFICATION

Cell Type	N-Type Monocrystalline
Cell Dimensions	182×182mm
Cell Arrangement	144(2×72)
Weight	28kg(±3%)
Module Dimensions	2278×1134×35mm
Cable	4.0 mm²positive/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
Type of Connector	PV-XT101.1（Suzhou Xtong Photovoltage Technology Co.，Ltd）
Mechanical Load	Front side 5400Pa/Rear side 2400Pa

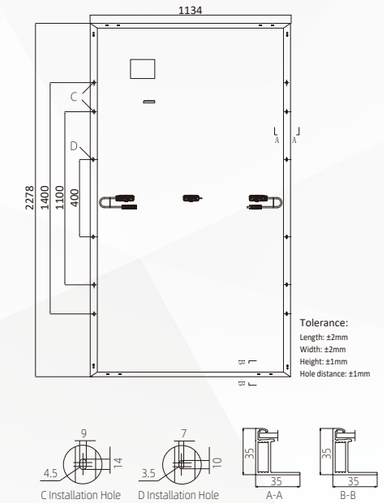
OPERATING CONDITIONS

Maximum System Voltage (V)	1000/1500VDC (IEC)
Pmax Temperature Coefficient	-0.30%/℃
Voc Temperature Coefficient	-0.25%/℃
ISC Temperature Coefficient	0.046%/℃
Nominal Operating Cell Temperature	45±2°C
Operating Temperature	-40℃~+85℃
Maximum Series Fuse	25A

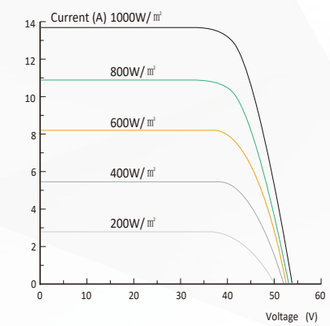
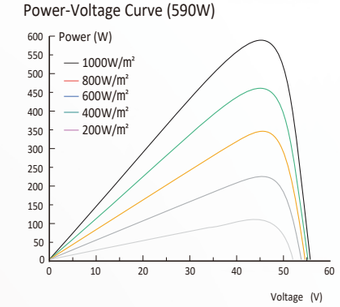
PPACKING CONFIGURATION

Quantity/Pallet	31pcs/pallet
Quantity/Container	620pcs/40HQ

Module Dimension(mm)



Current-Voltage Curve (590W)



Power-Voltage Curve (590W)