



COOPERATION • WIN-WIN • INNOVATION • DEVELOPMENT



APEX SOLAR ENTERPRISE BROCHURE

LET EVERYONE ENJOY
THE WEALTH OF SUNSHINE



APEX SOLAR WECHAT PUBLIC ACCOUNT

GLOBAL OPERATION CENTER : ROOM 2701, BLOCK A, JEWEL INTERNATIONAL CENTER, XISHAN DISTRICT, WUXI CITY
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JIANGSU APEX SOLAR ENERGY GROUP CO., LTD.

APEX SOLAR
**LET EVERYONE ENJOY
THE WEALTH OF SUNSHINE**

Apex Solar Inc. operates with a 100% green production chain to help SMEs realize their carbon-reducing goals by providing:

Highest quality solar panels

A full range of clean energy solutions

Custom designs to meet your specific needs

Excellent and responsive customer service.

We are committed to providing satisfied customers with the highest quality cutting-edge solar

Let us connect your solar plan to our 100% renewable supply chain and dedicated professional team so that we can work together to help you save on energy while protecting our natural environment.

108cells Monocrystalline Bifacial Dual Glass Module



HRAP-108HBD 395-420M10

21.51%

Maximum Module Efficiency

420W

Maximum Power Output

Power Shorting Tolerance:0-3W

1722x1134x30mm

Module Dimensions

IEC 61215 / IEC 61730

Fire safty class:Class C according to UL790

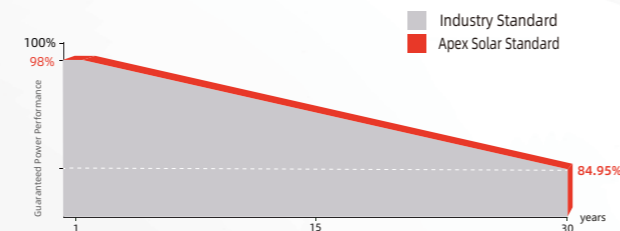
ISO 9001 :Quality Management System

ISO 14001 :Environment Management



Industry Leading Linear Power Warranty

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



12 Process Warranty

30 Power Warranty

High Efficiency Half-cells Solar Panel HRAP-108HBD 395-420M10

ELECTRICAL PARAMETERS AT STC

Rated Maximum Power(Pmax) [W]	395	400	405	410	415	420
Maximum Power Voltage(Vmp) [V]	30.84	31.02	31.23	31.45	31.64	31.82
Maximum Power Current(Impp) [A]	12.81	12.90	12.97	13.04	13.12	13.20
Open Circuit Voltage(Voc) [V]	36.98	37.07	37.19	37.32	37.45	37.58
Short Circuit Current(Isc) [A]	13.70	13.79	13.87	13.95	14.02	14.10
Module Efficiency [%]	20.23	20.48	20.74	21.00	21.25	21.51

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

ELECTRICAL PARAMETERS AT NMOT

Rated Maximum Power(Pmax)[W]	298	302	306	310	314	318
Maximum Power Voltage(Vmp) [V]	34.75	34.88	35.12	35.23	35.37	35.50
Maximum Power Current(Impp) [A]	29.08	29.26	29.47	29.72	29.89	30.09
Open Circuit Voltage(Voc) [V]	10.96	11.03	11.10	11.16	11.22	11.29
Short Circuit Current(Isc) [A]	10.25	10.32	10.38	10.43	10.50	10.57

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

BIFACIAL OUTPUT-REAR SIDE POWER GAIN

5%	Maximum Power (Pmax) [W]	415	420	425	431	436	441
	Module Efficiency STC[%]	21.24	21.51	21.78	22.05	22.31	22.58
10%	Maximum Power (Pmax) [W]	435	440	446	451	457	462
	Module Efficiency STC[%]	22.25	22.53	22.81	23.10	22.38	23.66
20%	Maximum Power (Pmax) [W]	474	480	486	492	498	504
	Module Efficiency STC[%]	24.27	24.58	24.89	25.20	22.50	25.81

MECHANICAL SPECIFICATION

Cell Type	Monocrystalline
Cell Dimensions	182x182mm
Cell Arrangement	108(6x18)
Weight	21.5kg(±3%)
Module Dimensions	1722x1134x30mm
Cable	4.0 mm² positive/negative:300mm(11.8inches),length Can be customized
Front Glass	2.0 mm (0.08 inches), High Transmission, ARCoated Heat Strengthened Glass
Back Glass	2.0 mm (0.08 inches), Heat Strengthened Glass (White Grid Glass)
Frame	Anodized aluminium alloy
Junction Box	Protection class IP68
Connector	Mc4 Compatible
Mechanical Load	Front side 5400Pa/Rear side 2400Pa

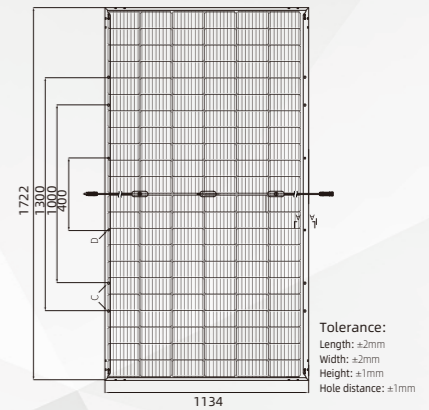
OPERATING CONDITIONS

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	25A

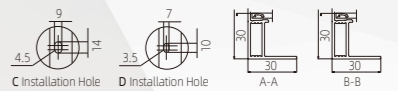
PPACKING CONFIGURATION

Quantity/Pallet	36pcs/pallet
Quantity/Container	936pcs/40HQ

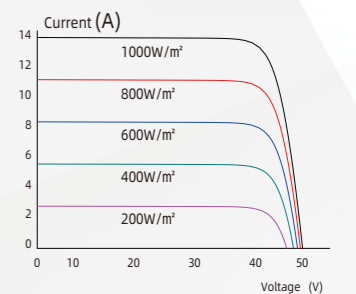
Module Dimension(mm)



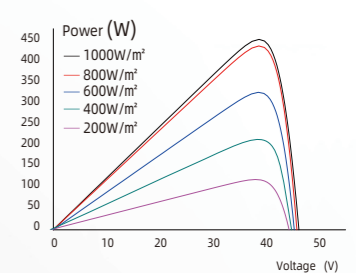
Tolerance:
Length: ±2mm
Width: ±2mm
Height: ±1mm
Hole distance: ±1mm



Current-Voltage Curve (420W)



Power-Voltage Curve (420W)



0-3W

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

144cells Monocrystalline Bifacial Dual Glass Module



HRAP-144HBD 435-455M6

20.93%

Maximum Module Efficiency

455W

Maximum Power Output

Power Shorting Tolerance:0-3W

2094×1038×30mm

Module Dimensions

0-3W

0-3W%
Guaranteed 0-3W positive tolerance ensures the power output reliability

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IEC 61215 / IEC 61730

Fire safty class:Class C according to UL790

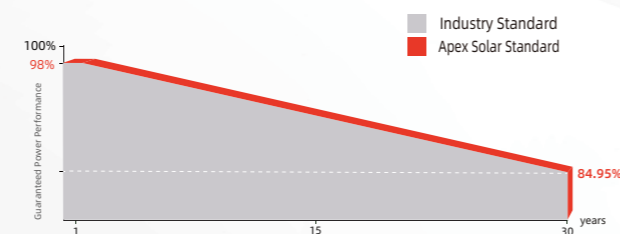
ISO 9001 :Quality Management System

ISO 14001 :Environment Management



Industry Leading Linear Power Warranty

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



12 Process Warranty

30 Power Warranty

High Efficiency Half-cells Solar Panel HRAP-144HBD 435-455M6

ELECTRICAL PARAMETERS AT STC

Rated Maximum Power(Pmax) [W]	435	440	445	450	455
Maximum Power Voltage(Vmp) [V]	40.97	41.2	41.44	41.67	41.9
Maximum Power Current(Impp) [A]	10.62	10.68	10.74	10.8	10.86
Open Circuit Voltage(Voc) [V]	49.05	49.3	49.55	49.8	50.05
Short Circuit Current(Isc) [A]	11.24	11.3	11.36	11.42	11.48
Module Efficiency [%]	20.01	20.24	20.47	20.7	20.93

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

ELECTRICAL PARAMETERS AT NMOT

Rated Maximum Power(Pmax)[W]	331.03	334.76	338.61	342.39	346.19
Maximum Power Voltage(Vmp) [V]	39.07	39.29	39.52	39.74	39.96
Maximum Power Current(Impp) [A]	8.47	8.52	8.57	8.62	8.66
Open Circuit Voltage(Voc) [V]	46.52	46.76	46.99	47.23	47.47
Short Circuit Current(Isc) [A]	9.04	9.09	9.14	9.19	9.24

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

BIFACIAL OUTPUT-REAR SIDE POWER GAIN

5%	Maximum Power (Pmax) [W]	457	462	467	473	478
	Module Efficiency STC[%]	21.01	21.26	21.50	21.74	21.98
10%	Maximum Power (Pmax) [W]	479	484	490	495	501
	Module Efficiency STC[%]	22.01	22.27	22.52	22.77	23.03
20%	Maximum Power (Pmax) [W]	522	528	534	540	546
	Module Efficiency STC[%]	24.02	24.29	24.57	24.84	25.12

MECHANICAL SPECIFICATION

Cell Type	Monocrystalline
Cell Dimensions	166×166mm
Cell Arrangement	144(6×24)
Weight	27kg(±3%)
Module Dimensions	2094×1038×30mm
Cable	4.0 mm ² positive/negative:300mm(11.8inches),length Can be customized
Front Glass	2.0 mm (0.08 inches), High Transmission, ARCoated Heat Strengthened Glass
Back Glass	2.0 mm (0.08 inches), Heat Strengthened Glass (White Grid Glass)
Frame	Anodized aluminium alloy
Junction Box	Protection class IP68
Connector	Mc4 Compatible
Mechanical Load	Front side 5400Pa/Rear side 2400Pa

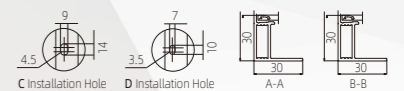
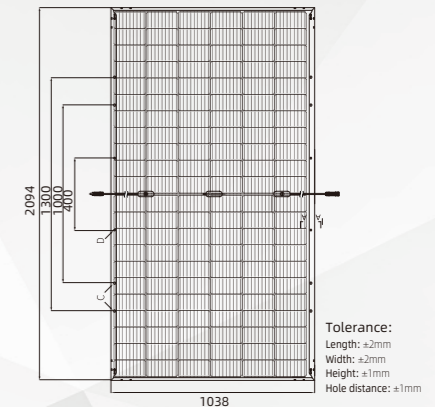
OPERATING CONDITIONS

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

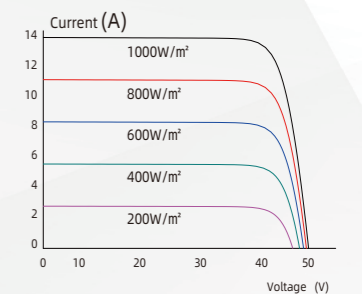
PPACKING CONFIGURATION

Quantity/Pallet	36pcs/pallet
Quantity/Container	825pcs/40HQ

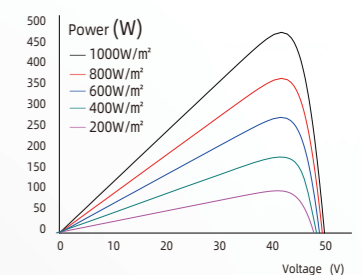
Module Dimension(mm)



Current-Voltage Curve (455W)



Power-Voltage Curve (455W)



120cells Monocrystalline Bifacial Dual Glass Module



HRAP-120HBD 440-455M10

21.08%

Maximum Module Efficiency

455W

Maximum Power Output

Power Shorting Tolerance:0-3W

1909×1134×30mm

Module Dimensions



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

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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

IEC 61215 / IEC 61730

Fire safty class:Class C according to UL790

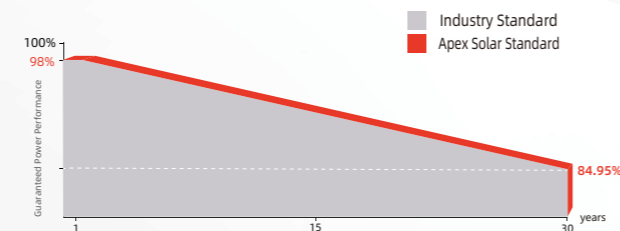
ISO 9001 :Quality Management System

ISO 14001 :Environment Management



Industry Leading Linear Power Warranty

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



12 Process Warranty

30 Power Warranty

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

ELECTRICAL PARAMETERS AT STC

Rated Maximum Power(Pmax) [W]	440	445	450	455
Maximum Power Voltage(Vmp) [V]	34.10	34.30	34.50	34.70
Maximum Power Current(Impp) [A]	12.91	12.98	13.05	13.12
Open Circuit Voltage(Voc) [V]	41.00	41.20	41.40	41.60
Short Circuit Current(Isc) [A]	13.64	13.71	13.78	13.85
Module Efficiency [%]	20.39	20.62	20.85	21.08

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

ELECTRICAL PARAMETERS AT NMOT

Rated Maximum Power(Pmax)[W]	328.90	332.60	336.40	340.10
Maximum Power Voltage(Vmp) [V]	31.70	31.90	32.10	32.30
Maximum Power Current(Impp) [A]	10.37	10.43	10.48	10.54
Open Circuit Voltage(Voc) [V]	38.30	38.50	38.70	38.90
Short Circuit Current(Isc) [A]	11.02	11.07	11.13	11.18

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

BIFACIAL OUTPUT-REAR SIDE POWER GAIN

5%	Maximum Power (Pmax) [W]	462	467	473	478
	Module Efficiency STC[%]	21.34	21.58	21.83	22.07
10%	Maximum Power (Pmax) [W]	484	490	495	501
	Module Efficiency STC[%]	22.36	22.61	22.87	23.12
20%	Maximum Power (Pmax) [W]	528	534	540	546
	Module Efficiency STC[%]	24.39	24.67	24.94	25.22

MECHANICAL SPECIFICATION

Cell Type	Monocrystalline
Cell Dimensions	182×182mm
Cell Arrangement	120(6×20)
Weight	26kg(±3%)
Module Dimensions	1909×1134×30mm
Cable	4.0 mm ² positive/negative:300mm(11.8inches),length Can be customized
Front Glass	2.0 mm (0.08 inches), High Transmission, ARCoated Heat Strengthened Glass
Back Glass	2.0 mm (0.08 inches), Heat Strengthened Glass (White Grid Glass)
Frame	Anodized aluminium alloy
Junction Box	Protection class IP68
Connector	Mc4 Compatible
Mechanical Load	Front side 5400Pa/Rear side 2400Pa

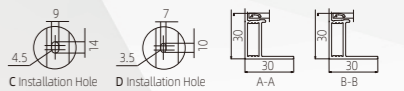
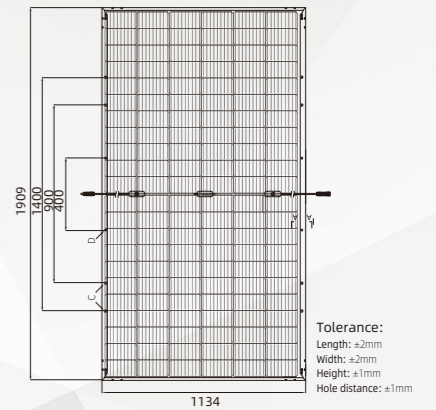
OPERATING CONDITIONS

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	25A

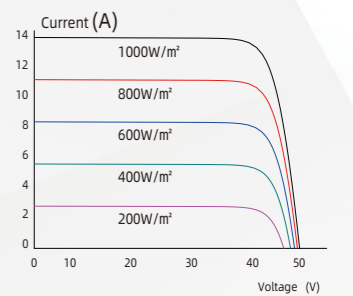
PPACKING CONFIGURATION

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

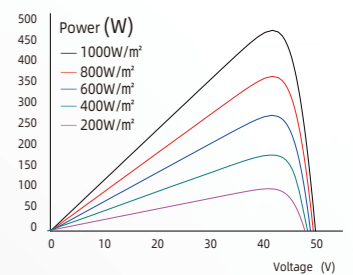
Module Dimension(mm)



Current-Voltage Curve (455W)



Power-Voltage Curve (455W)



144cells Monocrystalline Bifacial Dual Glass Module



HRAP-144HBD 530-550M10

21.3%

Maximum Module Efficiency

550W

Maximum Power Output

Power Shorting Tolerance:0-3W

2279×1134×30mm

Module Dimensions

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

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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

IEC 61215 / IEC 61730

Fire safty class:Class C according to UL790

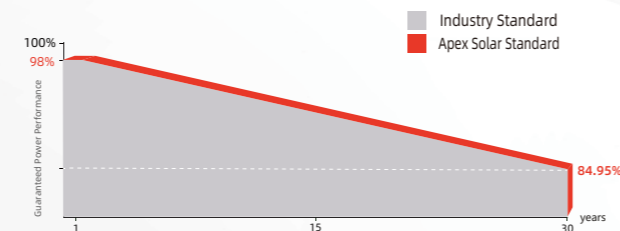
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Industry Leading Linear Power Warranty

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



12 Process Warranty

30 Power Warranty

High Efficiency Half-cells Solar Panel HRAP-144HBD 530-550M10

ELECTRICAL PARAMETERS AT STC

Rated Maximum Power(Pmax) [W]	530	535	540	545	550
Maximum Power Voltage(Vmp) [V]	41.31	41.47	41.64	41.80	41.96
Maximum Power Current(Impp) [A]	12.83	12.90	12.97	13.04	13.11
Open Circuit Voltage(Voc) [V]	49.30	49.45	49.60	49.75	49.90
Short Circuit Current(Isc) [A]	13.72	13.79	13.86	13.93	14.00
Module Efficiency [%]	20.5	20.7	20.9	21.1	21.3

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

ELECTRICAL PARAMETERS AT NMOT

Rated Maximum Power(Pmax)[W]	401	405	408	412	416
Maximum Power Voltage(Vmp) [V]	38.57	38.78	38.99	39.20	39.43
Maximum Power Current(Impp) [A]	10.39	10.43	10.47	10.51	10.55
Open Circuit Voltage(Voc) [V]	46.18	46.31	46.43	46.55	46.68
Short Circuit Current(Isc) [A]	11.01	11.05	11.09	11.13	11.17

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

BIFACIAL OUTPUT-REAR SIDE POWER GAIN

5%	Maximum Power (Pmax) [W]	557	562	567	572	578
	Module Efficiency STC[%]	21.53	21.74	21.94	22.14	22.35
10%	Maximum Power (Pmax) [W]	583	589	594	600	605
	Module Efficiency STC[%]	22.56	22.77	23.98	23.20	23.41
20%	Maximum Power (Pmax) [W]	636	642	648	654	660
	Module Efficiency STC[%]	24.61	24.84	25.07	25.31	25.54

MECHANICAL SPECIFICATION

Cell Type	Monocrystalline
Cell Dimensions	182×182mm
Cell Arrangement	144(6×24)
Weight	32kg(±3%)
Module Dimensions	2279×1134×30mm
Cable	4.0 mm² positive/negative:300mm(11.8inches),length Can be customized
Front Glass	2.0 mm (0.08 inches), High Transmission, ARCoated Heat Strengthened Glass
Back Glass	2.0 mm (0.08 inches), Heat Strengthened Glass (White Grid Glass)
Frame	Anodized aluminium alloy
Junction Box	Protection class IP68
Connector	Mc4 Compatible
Mechanical Load	Front side 5400Pa/Rear side 2400Pa

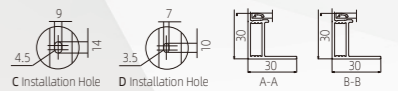
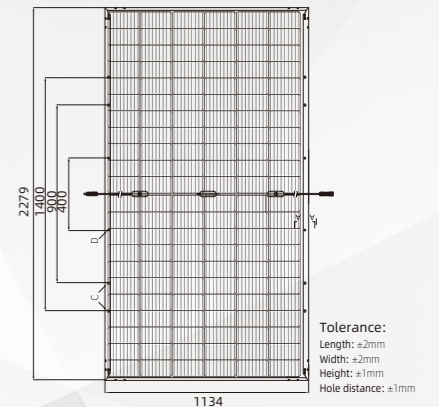
OPERATING CONDITIONS

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

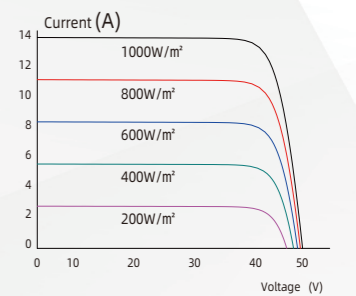
PPACKING CONFIGURATION

Quantity/Pallet	36pcs/pallet
Quantity/Container	720pcs/40HQ

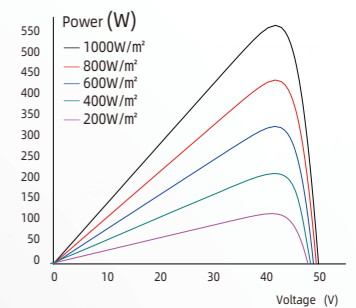
Module Dimension(mm)



Current-Voltage Curve (550W)



Power-Voltage Curve (550W)



120cells Monocrystalline Bifacial Dual Glass Module



HRAP-120HBD 590-605M12

21.4%

Maximum Module Efficiency

605W

Maximum Power Output

Power Shorting Tolerance:0-3W

2172×1303×30mm

Module Dimensions



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



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IEC 61215 / IEC 61730

Fire safty class:Class C according to UL790

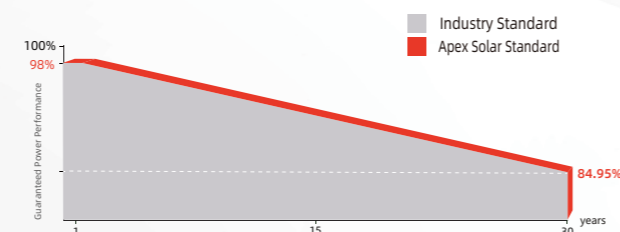
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Industry Leading Linear Power Warranty

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



12 Process Warranty

30 Power Warranty

High Efficiency Half-cells Solar Panel HRAP-120HBD 590-605M12

ELECTRICAL PARAMETERS AT STC

Rated Maximum Power(Pmax) [W]	590	595	600	605
Maximum Power Voltage(Vmp) [V]	34	34.2	34.4	34.6
Maximum Power Current(Impp) [A]	17.35	17.4	17.44	17.49
Open Circuit Voltage(Voc) [V]	41.1	41.3	41.5	41.7
Short Circuit Current(Isc) [A]	18.42	18.47	18.52	18.57
Module Efficiency [%]	20.8	21	21.2	21.4

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

ELECTRICAL PARAMETERS AT NMOT

Rated Maximum Power(Pmax)[W]	447	451	454	458
Maximum Power Voltage(Vmp) [V]	31.7	31.9	32	32.2
Maximum Power Current(Impp) [A]	14.09	14.13	14.18	14.22
Open Circuit Voltage(Voc) [V]	38.7	38.9	39.1	39.3
Short Circuit Current(Isc) [A]	14.85	14.88	14.92	14.96

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

BIFACIAL OUTPUT-REAR SIDE POWER GAIN

5%	Maximum Power (Pmax) [W]	620	625	630	635
	Module Efficiency STC[%]	21.89	22.08	22.26	22.45
10%	Maximum Power (Pmax) [W]	649	655	660	666
	Module Efficiency STC[%]	22.93	23.13	23.32	23.51
20%	Maximum Power (Pmax) [W]	708	714	720	726
	Module Efficiency STC[%]	25.02	25.23	25.44	25.65

MECHANICAL SPECIFICATION

Cell Type	Monocrystalline
Cell Dimensions	210×210mm
Cell Arrangement	120(6×20)
Weight	30.9kg(±3%)
Module Dimensions	2172×1303×30mm
Cable	4.0 mm ² positive/negative:300mm(11.8inches),length Can be customized
Front Glass	2.0 mm (0.08 inches), High Transmission, ARCoated Heat Strengthened Glass
Back Glass	2.0 mm (0.08 inches), Heat Strengthened Glass (White Grid Glass)
Frame	Anodized aluminium alloy
Junction Box	Protection class IP68
Connector	Mc4 Compatible
Mechanical Load	Front side 5400Pa/Rear side 2400Pa

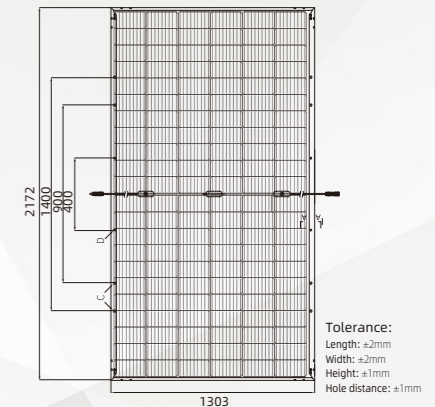
OPERATING CONDITIONS

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	30A

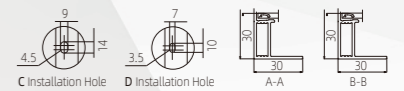
PPACKING CONFIGURATION

Quantity/Pallet	36pcs/pallet
Quantity/Container	648pcs/40HQ

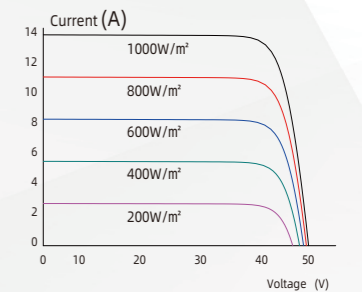
Module Dimension(mm)



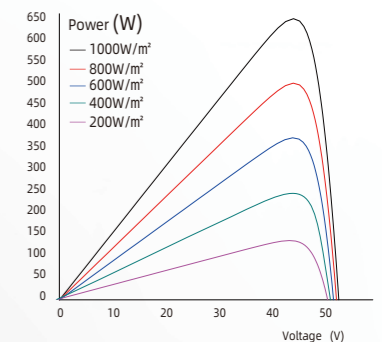
Tolerance:
Length: ±2mm
Width: ±2mm
Height: ±1mm
Hole distance: ±1mm



Current-Voltage Curve (605W)



Power-Voltage Curve (605W)



132cells Monocrystalline Bifacial Dual Glass Module



HRAP-132HBD 655-670M12

21.57%

Maximum Module Efficiency

670W

Maximum Power Output

Power Shorting Tolerance:0-3W

2384×1303×30mm

Module Dimensions

IEC 61215 / IEC 61730

Fire safty class:Class C according to UL790

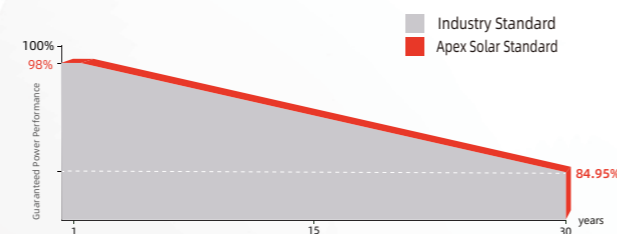
ISO 9001 :Quality Management System

ISO 14001 :Environment Management



Industry Leading Linear Power Warranty

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



12 Process Warranty

30 Power Warranty

High Efficiency Half-cells Solar Panel HRAP-132HBD 655-670M12

ELECTRICAL PARAMETERS AT STC

Rated Maximum Power(Pmax) [W]	655	660	665	670
Maximum Power Voltage(Vmp) [V]	37.59	37.79	37.99	38.19
Maximum Power Current(Impp) [A]	17.43	17.47	17.51	17.55
Open Circuit Voltage(Voc) [V]	45.49	45.69	45.89	46.09
Short Circuit Current(Isc) [A]	18.49	18.52	18.55	18.61
Module Efficiency [%]	21.09	21.25	21.41	21.57

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

ELECTRICAL PARAMETERS AT NMOT

Rated Maximum Power(Pmax)[W]	496	500	504	508
Maximum Power Voltage(Vmp) [V]	35.09	35.29	35.49	35.69
Maximum Power Current(Impp) [A]	14.14	14.17	14.20	14.23
Open Circuit Voltage(Voc) [V]	42.79	42.99	43.19	43.39
Short Circuit Current(Isc) [A]	14.88	14.93	14.98	15.03

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

BIFACIAL OUTPUT-REAR SIDE POWER GAIN

5%	Maximum Power (Pmax) [W]	688	693	698	704
	Module Efficiency STC[%]	22.14	22.31	22.48	22.65
10%	Maximum Power (Pmax) [W]	721	726	732	737
	Module Efficiency STC[%]	23.19	23.37	23.55	23.73
20%	Maximum Power (Pmax) [W]	786	792	798	804
	Module Efficiency STC[%]	25.30	25.50	25.69	25.88

MECHANICAL SPECIFICATION

Cell Type	Monocrystalline
Cell Dimensions	210×210mm
Cell Arrangement	132(6×22)
Weight	38.1kg(±3%)
Module Dimensions	2384×1303×30mm
Cable	4.0 mm ² positive/negative:300mm(11.8inches),length Can be customized
Front Glass	2.0 mm (0.08 inches), High Transmission, ARCoated Heat Strengthened Glass
Back Glass	2.0 mm (0.08 inches), Heat Strengthened Glass (White Grid Glass)
Frame	Anodized aluminium alloy
Junction Box	Protection class IP68
Connector	Mc4 Compatible
Mechanical Load	Front side 5400Pa/Rear side 2400Pa

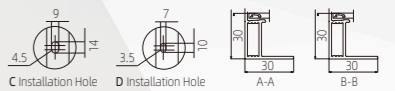
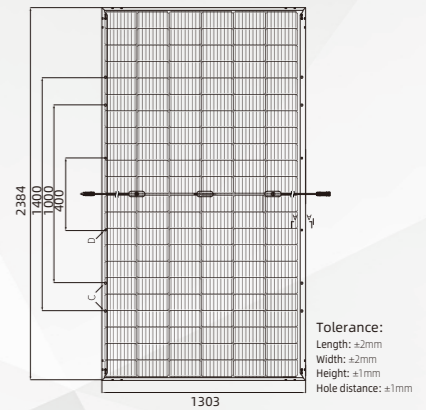
OPERATING CONDITIONS

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	35A

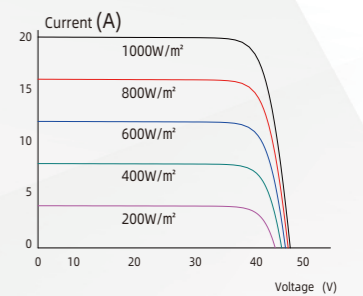
PPACKING CONFIGURATION

Quantity/Pallet	36pcs/pallet
Quantity/Container	648pcs/40HQ

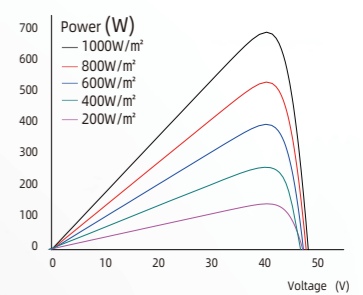
Module Dimension(mm)



Current-Voltage Curve (605W)



Power-Voltage Curve (605W)



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

108cells Monocrystalline Bifacial Dual Glass Module

HRAP-108HBD-N410-N425M10

N-TOPCon Technology

21.76%

Maximum Module Efficiency

425W

Maximum Power Output

Power Shorting Tolerance:0-3W

1724x1134x30mm

Module Dimensions

IEC 61215 / IEC 61730

Fire safty class:Class C according to UL790

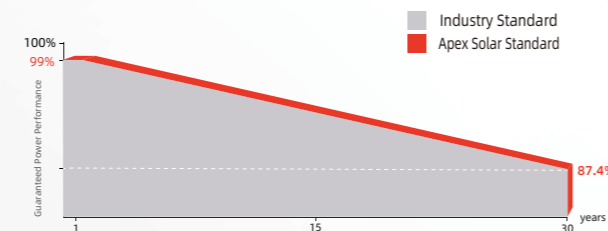
ISO 9001 :Quality Management System

ISO 14001 :Environment Management



Industry Leading Linear Power Warranty

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



12 Process Warranty

30 Power Warranty

HRAP-108HBD-N410-N425M10

ELECTRICAL PARAMETERS AT STC

Rated Maximum Power(Pmax) [W]	410	415	420	425
Maximum Power Voltage(Vmp) [V]	31.13	31.32	31.51	31.70
Maximum Power Current(Impp) [A]	13.17	13.25	13.33	13.41
Open Circuit Voltage(Voc) [V]	37.73	37.92	38.11	38.30
Short Circuit Current(Isc) [A]	13.91	13.99	14.07	14.15
Module Efficiency [%]	21.00	21.25	21.51	21.76

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

ELECTRICAL PARAMETERS AT NMOT

Rated Maximum Power(Pmax)[W]	308	312	316	320
Maximum Power Voltage(Vmp) [V]	29.06	29.21	29.34	29.50
Maximum Power Current(Impp) [A]	10.61	10.68	10.76	10.83
Open Circuit Voltage(Voc) [V]	35.84	36.02	36.20	36.38
Short Circuit Current(Isc) [A]	11.23	11.29	11.36	11.42

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

BIFACIAL OUTPUT-REAR SIDE POWER GAIN

5%	Maximum Power (Pmax) [W]	431	436	441	446
	Module Efficiency STC[%]	22.02	22.29	22.56	22.83
10%	Maximum Power (Pmax) [W]	451	457	462	468
	Module Efficiency STC[%]	23.07	23.35	23.63	23.91
20%	Maximum Power (Pmax) [W]	492	498	504	510
	Module Efficiency STC[%]	25.17	25.47	25.78	26.09

MECHANICAL SPECIFICATION

Cell Type	N-Type Monocrystalline
Cell Dimensions	182x182mm
Cell Arrangement	108(6x18)
Weight	23kg(±3%)
Module Dimensions	1724x1134x30mm
Cable	4.0 mm² positive/negative:300mm(11.8inches),length Can be customized
Front Glass	2.0 mm (0.08 inches), High Transmission, ARCoated Heat Strengthened Glass
Back Glass	2.0 mm (0.08 inches), Heat Strengthened Glass (White Grid Glass)
Frame	Anodized aluminium alloy
Junction Box	Protection class IP68
Connector	Mc4 Compatible
Mechanical Load	Front side 5400Pa/Rear side 2400Pa

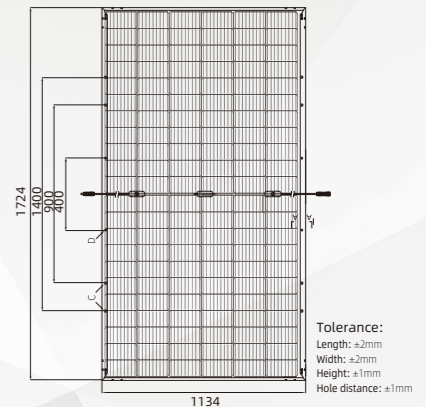
OPERATING CONDITIONS

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	25A

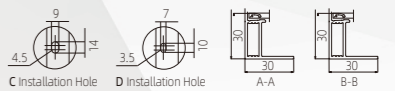
PPACKING CONFIGURATION

Quantity/Pallet	36pcs/pallet
Quantity/Container	936pcs/40HQ

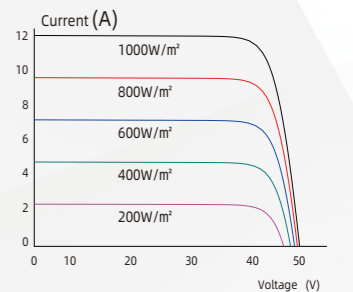
Module Dimension(mm)



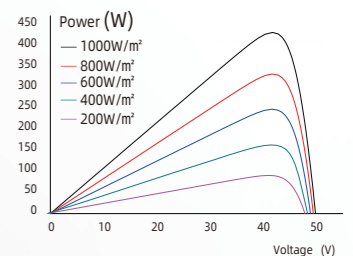
Tolerance:
Length: ±2mm
Width: ±2mm
Height: ±1mm
Hole distance: ±1mm



Current-Voltage Curve (425W)



Power-Voltage Curve (425W)



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

120cells Monocrystalline Bifacial Dual Glass Module



HRAP-120HBD-N460-N475M10

N-TOPCon Technology

22.01%

Maximum Module Efficiency

475W

Maximum Power Output

Power Shorting Tolerance:0-3W

1909x1134x30mm

Module Dimensions

IEC 61215 / IEC 61730

Fire safty class:Class C according to UL790

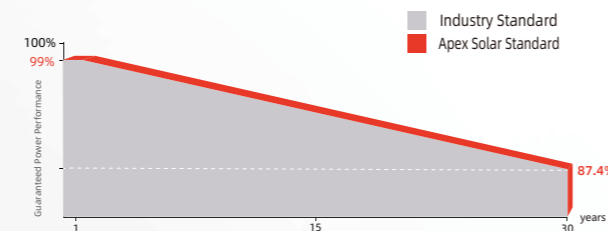
ISO 9001 :Quality Management System

ISO 14001 :Environment Management



Industry Leading Linear Power Warranty

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



12 Process Warranty

30 Power Warranty

HRAP-120HBD-N460-N475M10

ELECTRICAL PARAMETERS AT STC

Rated Maximum Power(Pmax) [W]	460	465	470	475
Maximum Power Voltage(Vmp) [V]	34.72	34.89	35.05	35.21
Maximum Power Current(Impp) [A]	13.25	13.33	13.41	13.49
Open Circuit Voltage(Voc) [V]	42.05	42.22	42.38	42.54
Short Circuit Current(Isc) [A]	13.99	14.07	14.15	14.23
Module Efficiency [%]	21.32	21.55	21.78	22.01

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

ELECTRICAL PARAMETERS AT NMOT

Rated Maximum Power(Pmax)[W]	346	350	353	357
Maximum Power Voltage(Vmp) [V]	32.60	32.77	32.94	33.10
Maximum Power Current(Impp) [A]	10.61	10.67	10.73	10.79
Open Circuit Voltage(Voc) [V]	39.94	40.10	40.25	40.41
Short Circuit Current(Isc) [A]	11.29	11.36	11.42	11.49

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

BIFACIAL OUTPUT-REAR SIDE POWER GAIN

5%	Maximum Power (Pmax) [W]	483	488	494	499
	Module Efficiency STC[%]	22.31	22.55	22.80	23.04
10%	Maximum Power (Pmax) [W]	506	512	517	523
	Module Efficiency STC[%]	23.37	23.63	23.88	24.14
20%	Maximum Power (Pmax) [W]	552	558	564	570
	Module Efficiency STC[%]	25.50	25.78	26.05	26.33

MECHANICAL SPECIFICATION

Cell Type	N-Type Monocrystalline
Cell Dimensions	182x182mm
Cell Arrangement	120(6x20)
Weight	24.2kg(±3%)
Module Dimensions	1909x1134x30mm
Cable	4.0 mm ² positive/negative:300mm(11.8inches),length Can be customized
Front Glass	2.0 mm (0.08 inches), High Transmission, ARCoated Heat Strengthened Glass
Back Glass	2.0 mm (0.08 inches), Heat Strengthened Glass (White Grid Glass)
Frame	Anodized aluminium alloy
Junction Box	Protection class IP68
Connector	Mc4 Compatible
Mechanical Load	Front side 5400Pa/Rear side 2400Pa

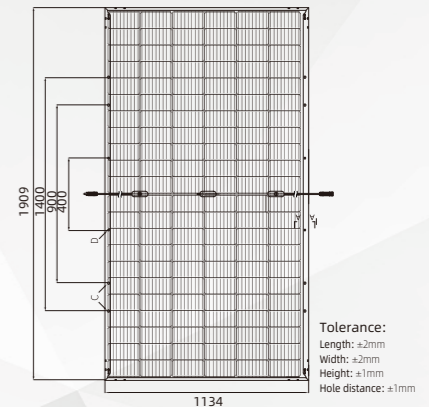
OPERATING CONDITIONS

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	25A

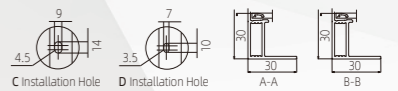
PPACKING CONFIGURATION

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

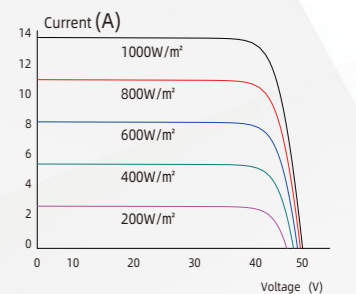
Module Dimension(mm)



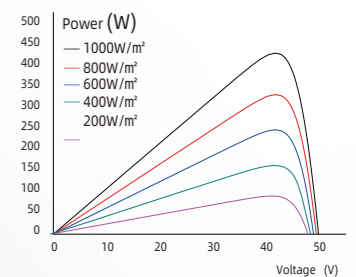
Tolerance:
Length: ±2mm
Width: ±2mm
Height: ±1mm
Hole distance: ±1mm



Current-Voltage Curve (475W)



Power-Voltage Curve (475W)



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

144cells Monocrystalline Bifacial Dual Glass Module



HRAP-144HBD-N560-N580M10

N-TOPCon Technology

22.45%

Maximum Module Efficiency

580W

Maximum Power Output

Power Shorting Tolerance:0-3W

2279x1134x30mm

Module Dimensions

IEC 61215 / IEC 61730

Fire safty class:Class C according to UL790

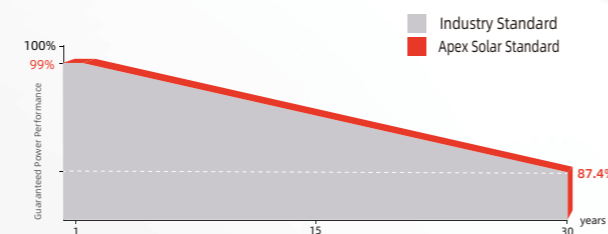
ISO 9001 :Quality Management System

ISO 14001 :Environment Management



Industry Leading Linear Power Warranty

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



12 Process Warranty

30 Power Warranty

HRAP-144HBD-N560-N580M10

ELECTRICAL PARAMETERS AT STC

Rated Maximum Power(Pmax) [W]	560	565	570	575	580
Maximum Power Voltage(Vmp) [V]	41.95	42.14	42.29	42.44	42.59
Maximum Power Current(Impp) [A]	13.35	13.41	13.48	13.55	13.62
Open Circuit Voltage(Voc) [V]	50.67	50.87	51.07	51.27	51.47
Short Circuit Current(Isc) [A]	14.13	14.19	14.25	14.31	14.37
Module Efficiency [%]	21.68	21.87	22.07	22.26	22.45

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

ELECTRICAL PARAMETERS AT NMOT

Rated Maximum Power(Pmax)[W]	421	425	429	432	436
Maximum Power Voltage(Vmp) [V]	39.39	39.52	39.65	39.78	39.87
Maximum Power Current(Impp) [A]	10.69	10.75	10.81	10.87	10.94
Open Circuit Voltage(Voc) [V]	48.13	48.32	48.51	48.70	48.89
Short Circuit Current(Isc) [A]	11.41	11.46	11.50	11.55	11.60

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

BIFACIAL OUTPUT-REARSIDE POWER GAIN

5%	Maximum Power (Pmax) [W]	588	593	599	604	609
	Module Efficiency STC[%]	22.75	22.96	23.16	23.36	23.56
10%	Maximum Power (Pmax) [W]	616	622	627	633	638
	Module Efficiency STC[%]	23.84	24.05	24.26	24.47	24.69
20%	Maximum Power (Pmax) [W]	672	678	648	690	696
	Module Efficiency STC[%]	26.00	26.23	26.47	26.70	26.93

MECHANICAL SPECIFICATION

Cell Type	N-Type Monocrystalline
Cell Dimensions	182x182mm
Cell Arrangement	144(6x24)
Weight	32kg(±3%)
Module Dimensions	2279x1134x30mm
Cable	4.0 mm ² positive/negative:300mm(11.8inches),length Can be customized
Front Glass	2.0 mm (0.08 inches), High Transmission, ARCoated Heat Strengthened Glass
Back Glass	2.0 mm (0.08 inches), Heat Strengthened Glass (White Grid Glass)
Frame	Anodized aluminium alloy
Junction Box	Protection class IP68
Connector	Mc4 Compatible
Mechanical Load	Front side 5400Pa/Rear side 2400Pa

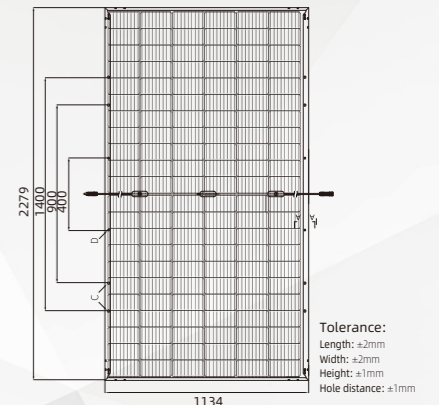
OPERATING CONDITIONS

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	30A

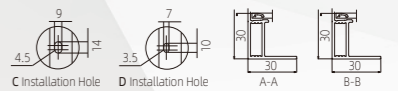
PPACKING CONFIGURATION

Quantity/Pallet	36pcs/pallet
Quantity/Container	720pcs/40HQ

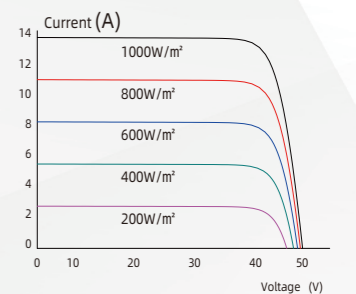
Module Dimension(mm)



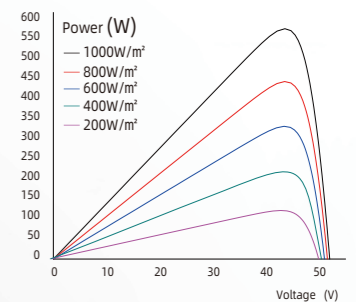
Tolerance:
Length: ±2mm
Width: ±2mm
Height: ±1mm
Hole distance: ±1mm



Current-Voltage Curve (580W)



Power-Voltage Curve (580W)



0-3W

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

156cells Monocrystalline Bifacial Dual Glass Module



HRAP-156HBD-N605-N625M10

N-TOPCon Technology

22.36%

Maximum Module Efficiency

625W

Maximum Power Output

Power Shorting Tolerance:0-3W

2465×1134×30mm

Module Dimensions

IEC 61215 / IEC 61730

Fire safty class:Class C according to UL790

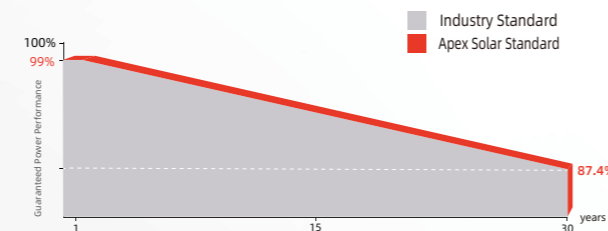
ISO 9001 :Quality Management System

ISO 14001 :Environment Management



Industry Leading Linear Power Warranty

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



12 Process Warranty

30 Power Warranty

HRAP-156HBD-N605-N625M10

ELECTRICAL PARAMETERS AT STC

Rated Maximum Power(Pmax) [W]	605	610	615	620	625
Maximum Power Voltage(Vmp) [V]	45.42	45.60	45.77	45.93	46.10
Maximum Power Current(Impp) [A]	13.32	13.38	13.44	13.50	13.56
Open Circuit Voltage(Voc) [V]	55.17	55.31	55.44	55.58	55.72
Short Circuit Current(Isc) [A]	13.95	14.03	14.11	14.19	14.27
Module Efficiency [%]	21.64	21.82	22.00	22.18	22.36

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

ELECTRICAL PARAMETERS AT NMOT

Rated Maximum Power(Pmax)[W]	455	459	462	466	470
Maximum Power Voltage(Vmp) [V]	42.23	42.35	42.46	42.57	42.68
Maximum Power Current(Impp) [A]	10.77	10.83	10.89	10.95	11.01
Open Circuit Voltage(Voc) [V]	52.41	52.54	52.66	52.79	52.93
Short Circuit Current(Isc) [A]	11.26	11.33	11.39	11.46	11.52

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

BIFACIAL OUTPUT-REAR SIDE POWER GAIN

5%	Maximum Power (Pmax) [W]	635	641	646	651	656
	Module Efficiency STC[%]	22.73	22.91	23.10	23.29	23.48
10%	Maximum Power (Pmax) [W]	666	671	677	682	688
	Module Efficiency STC[%]	23.81	24.00	24.20	24.40	24.59
20%	Maximum Power (Pmax) [W]	726	732	738	744	750
	Module Efficiency STC[%]	25.97	26.19	26.40	26.62	26.83

MECHANICAL SPECIFICATION

Cell Type	N-Type Monocrystalline
Cell Dimensions	182x182mm
Cell Arrangement	156(6x26)
Weight	34.6kg(±3%)
Module Dimensions	2465x1134x30mm
Cable	4.0 mm² positive/negative:300mm(11.8inches),length Can be customized
Front Glass	2.0 mm (0.08 inches), High Transmission, ARCoated Heat Strengthened Glass
Back Glass	2.0 mm (0.08 inches), Heat Strengthened Glass (White Grid Glass)
Frame	Anodized aluminium alloy
Junction Box	Protection class IP68
Connector	Mc4 Compatible
Mechanical Load	Front side 5400Pa/Rear side 2400Pa

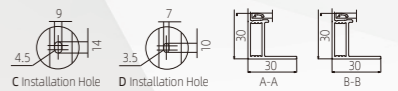
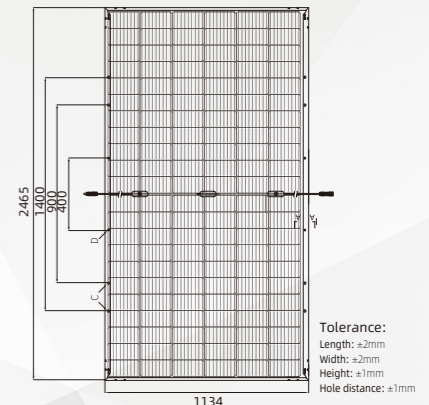
OPERATING CONDITIONS

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	30A

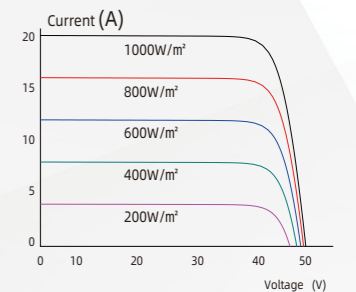
PPACKING CONFIGURATION

Quantity/Pallet	36pcs/pallet
Quantity/Container	720pcs/40HQ

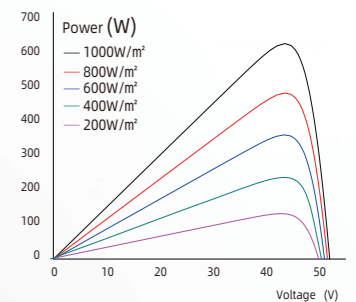
Module Dimension(mm)



Current-Voltage Curve (625W)



Power-Voltage Curve (625W)



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

132cells Monocrystalline Bifacial Dual Glass Module

HRAP-132HBD-N680-N700M12

N-TOPCon Technology

22.53%

Maximum Module Efficiency

700W

Maximum Power Output

Power Shorting Tolerance:0-3W

2384×1303×35mm

Module Dimensions

IEC 61215 / IEC 61730

Fire safty class:Class C according to UL790

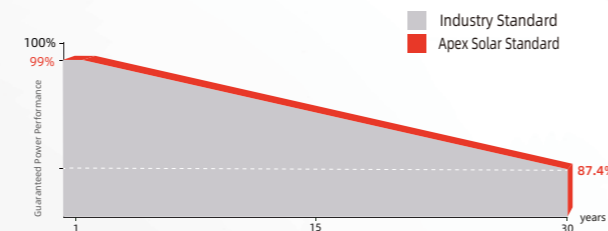
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Industry Leading Linear Power Warranty

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



12 Process Warranty

30 Power Warranty

HRAP-132HBD-N680-N700M12

ELECTRICAL PARAMETERS AT STC

Rated Maximum Power(Pmax) [W]	680	685	690	695	700
Maximum Power Voltage(Vmp) [V]	38.55	38.74	38.94	39.13	39.33
Maximum Power Current(Impp) [A]	17.64	17.68	17.72	17.76	17.80
Open Circuit Voltage(Voc) [V]	46.50	46.69	46.88	47.07	47.26
Short Circuit Current(Isc) [A]	18.69	18.74	18.79	18.84	18.89
Module Efficiency [%]	21.89	22.05	22.21	22.37	22.53

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

ELECTRICAL PARAMETERS AT NMOT

Rated Maximum Power(Pmax)[W]	513	517	521	525	529
Maximum Power Voltage(Vmp) [V]	36.15	36.36	36.56	36.74	36.94
Maximum Power Current(Impp) [A]	14.19	14.22	14.25	14.29	14.32
Open Circuit Voltage(Voc) [V]	44.37	44.56	44.75	44.94	45.13
Short Circuit Current(Isc) [A]	15.05	15.09	15.13	15.17	15.21

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

BIFACIAL OUTPUT-REAR SIDE POWER GAIN

5%	Maximum Power (Pmax) [W]	714	719	725	730	735
	Module Efficiency STC[%]	22.99	23.15	23.32	23.49	23.66
10%	Maximum Power (Pmax) [W]	748	754	759	765	770
	Module Efficiency STC[%]	24.08	24.26	24.43	24.61	24.79
20%	Maximum Power (Pmax) [W]	816	822	828	834	840
	Module Efficiency STC[%]	26.27	26.46	26.66	26.85	27.04

MECHANICAL SPECIFICATION

Cell Type	N-Type Monocrystalline
Cell Dimensions	210×210mm
Cell Arrangement	132(6×22)
Weight	38kg(±3%)
Module Dimensions	2384×1303×35mm
Cable	4.0 mm² positive/negative:300mm(11.8inches),length Can be customized
Front Glass	2.0 mm (0.08 inches), High Transmission, ARCoated Heat Strengthened Glass
Back Glass	2.0 mm (0.08 inches), Heat Strengthened Glass (White Grid Glass)
Frame	Anodized aluminium alloy
Junction Box	Protection class IP68
Connector	Mc4 Compatible
Mechanical Load	Front side 5400Pa/Rear side 2400Pa

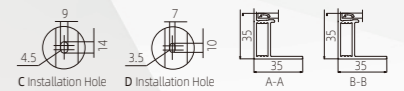
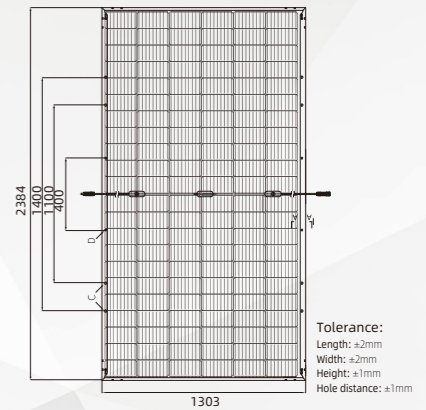
OPERATING CONDITIONS

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Operating Temperature	-40°C~+85°C
Maximum Series Fuse	30A

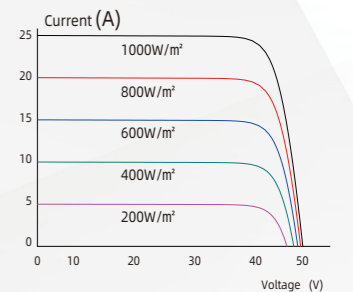
PPACKING CONFIGURATION

Quantity/Pallet	31pcs/pallet
Quantity/Container	558pcs/40HQ

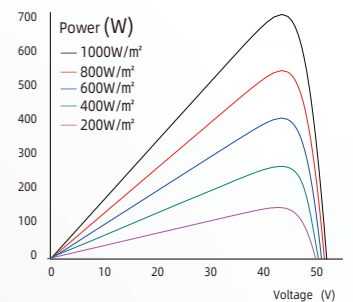
Module Dimension(mm)



Current-Voltage Curve (700W)



Power-Voltage Curve (700W)



0-3W

Guaranteed 0-3W positive tolerance ensures the power output reliability

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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

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Fusion of MBB and half-cut cells technology
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