



Apex Solar Energy Technology GmbH

Tel: +49 016 0460 2608

E-mail: service@apex-solarenergy.com

Web: www.apex-solar.de

Company add: Wieland Street 12, 40211 Dusseldorf, Germany

Warehouse add: August-Borsig-Street No.9 , 50126, Dusseldorf, Germany



LET EVERYONE ENJOY
THE WEALTH OF SUNSHINE

PV ONE-STOP SOLUTION

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.

N-TOPCon Technology

HOT SALE 410-585W

MONO HALF CELL SOLAR PANEL

Model TOPCon module has four advantages: high efficiency: 22.54%; high double-sided ratio: 85%; low attenuation: - 0.4%; low power temperature coefficient: - 0.3%/°C

The power generation capacity per watt of N-type TOPCon module will be higher than P 3.5 - 5% improvement on the dual sided components of the Model PERC

Higher return on investment and lower electricity cost

585W
Maximum Power

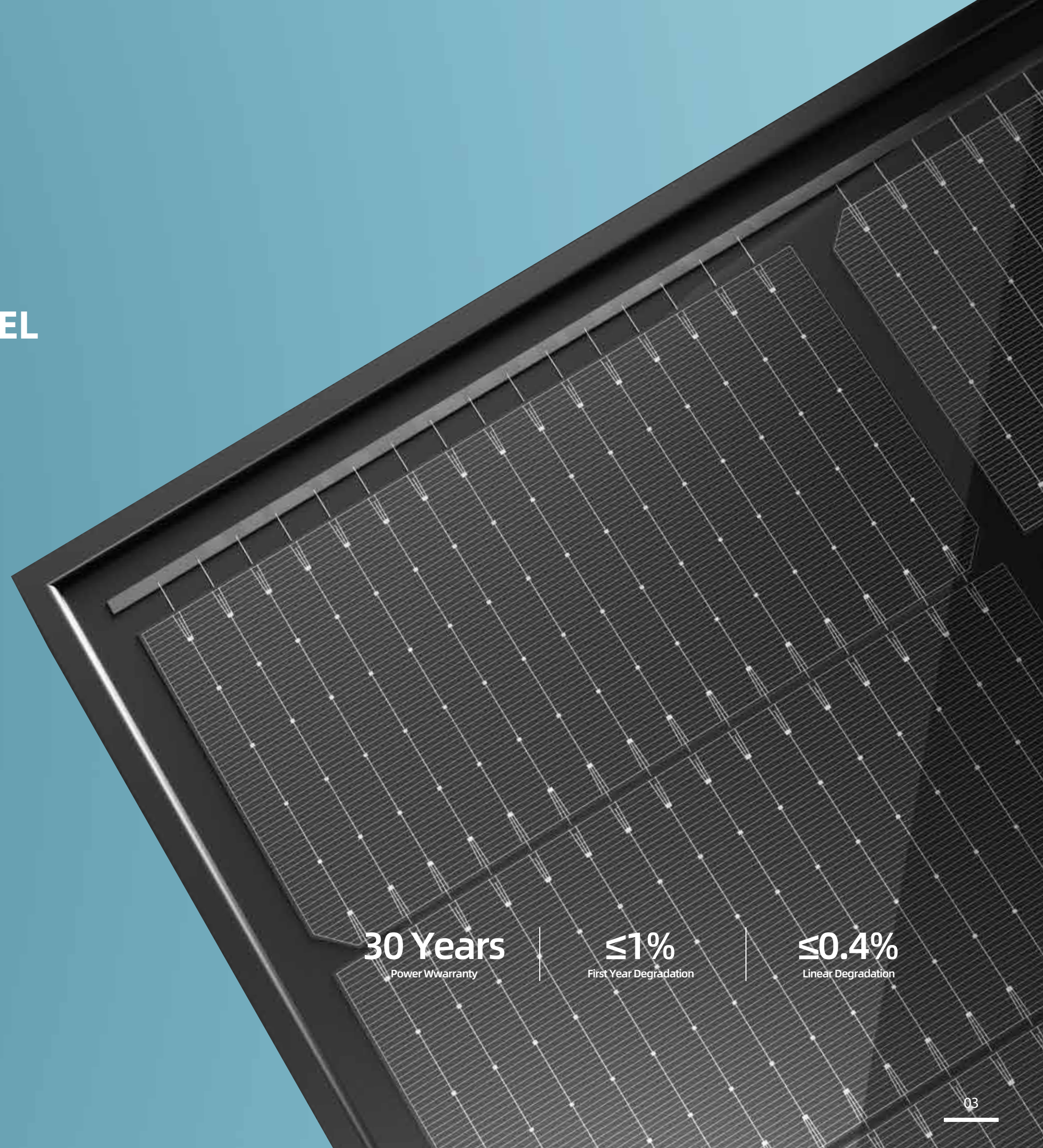
22.65%
Maximum Efficiency

25 Years
Process Warranty

30 Years
Power Warranty

≤1%
First Year Degradation

≤0.4%
Linear Degradation





APEX-108H-N410-N425M10

N-TOPCon Technology

21.76%

Maximum Module Efficiency

425W

Maximum Power Output

Power Tolerance:0-3W

1724×1134×30mm

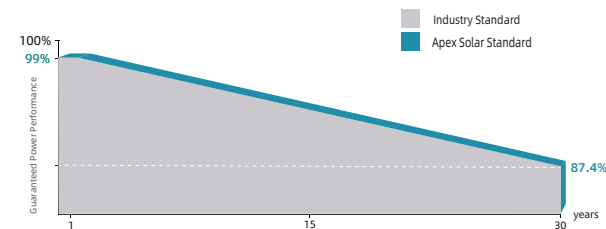
Module Dimensions

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



Industry Leading Linear Power Warranty

25-year Warranty for Materials and Processing, 30-year Warranty for Extra Linear Power Output



25 YEARS Process Warranty **30 YEARS** Power Warranty

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

APEX-108H-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(Imp) [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(Imp) [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

MECHANICAL SPECIFICATION

Cell Type	N-Type Monocrystalline
Cell Dimensions	182×182mm
Cell Arrangement	108(6×18)
Weight	22kg(±3%)
Module Dimensions	1724×1134×30mm
Cable	4.0 mm ² 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
Type of Connector	PV-XT101.1 (Suzhou Xtong Photovoltage Technology Co., Ltd)
Mechanical Load	Front side 5400Pa/Rear side 2400Pa

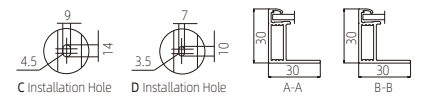
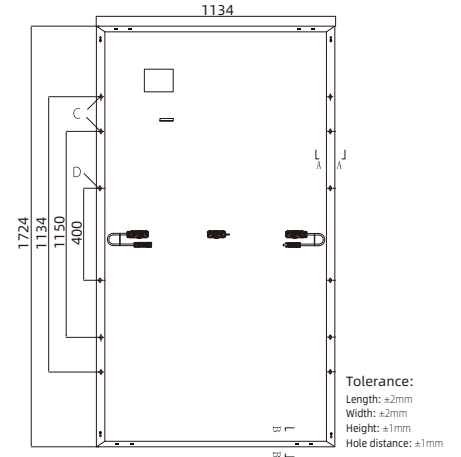
OPERATING CONDITIONS

Maximum System Voltage (V)	1000/1500VDC (IEC)
Pmax Temperature Coefficient	-0.34%/°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

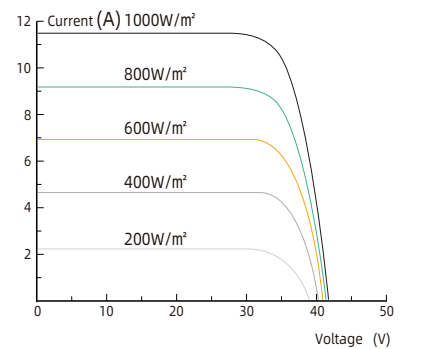
PACKING CONFIGURATION

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

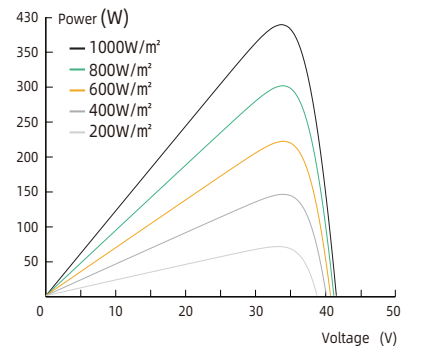
Module Dimension(mm)



Current-Voltage Curve (425W)



Power-Voltage Curve (425W)





APEX-108H-N410-N430M10

N-TOPCon Technology

22.02%

Maximum Module Efficiency

430W

Maximum Power Output

Power Tolerance:0-3W

1724×1134×30mm

Module Dimensions

IEC 61215 / IEC 61730

Fire safety class:Class C according to UL790

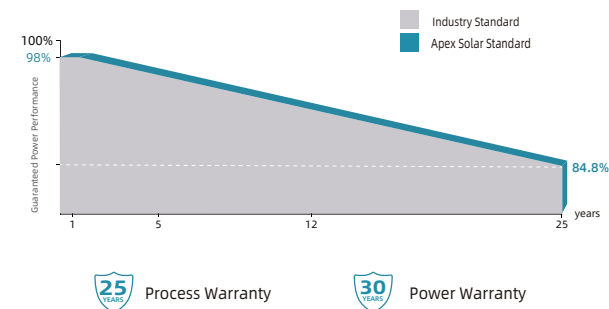
ISO 9001 :Quality Management System

ISO 14001 :Environment Management



Industry Leading Linear Power Warranty

25-year Warranty for Materials and Processing, 25-year Warranty for Extra Linear Power Output



25 Process Warranty

30 Power Warranty

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

APEX-108H-N410-N430M10

ELECTRICAL PARAMETERS AT STC

Rated Maximum Power(Pmax) [W]	410	415	420	425	430
Maximum Power Voltage(Vmp) [V]	31.13	31.32	31.51	31.70	31.88
Maximum Power Current(Imp) [A]	13.17	13.25	13.33	13.41	13.49
Open Circuit Voltage(Voc) [V]	37.73	37.92	38.11	38.30	38.49
Short Circuit Current(Isc) [A]	13.91	13.99	14.07	14.15	14.23
Module Efficiency [%]	21.00	21.25	21.51	21.76	22.02

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	323
Maximum Power Voltage(Vmp) [V]	29.06	29.21	29.34	29.50	29.63
Maximum Power Current(Imp) [A]	10.61	10.68	10.76	10.83	10.91
Open Circuit Voltage(Voc) [V]	35.84	36.02	36.20	36.38	36.56
Short Circuit Current(Isc) [A]	11.23	11.29	11.36	11.42	11.49

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	108(6×18)
Weight	22kg(±3%)
Module Dimensions	1724×1134×30mm
Cable	4.0 mm ² 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
Type of Connector	PV-XT101.1 (Suzhou Xtong Photovoltage Technology Co., Ltd)
Mechanical Load	Front side 5400Pa/Rear side 2400Pa

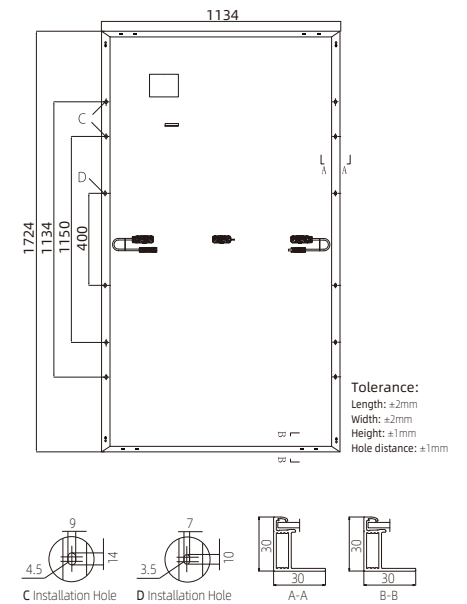
OPERATING CONDITIONS

Maximum System Voltage (V)	1000/1500VDC (IEC)
Pmax Temperature Coefficient	-0.34%/°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

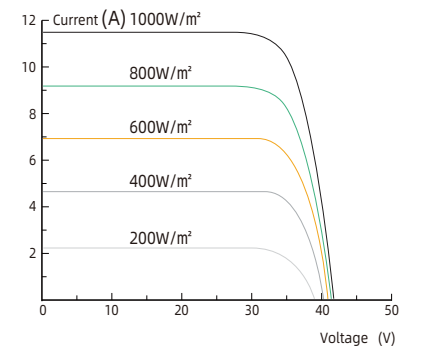
PACKING CONFIGURATION

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

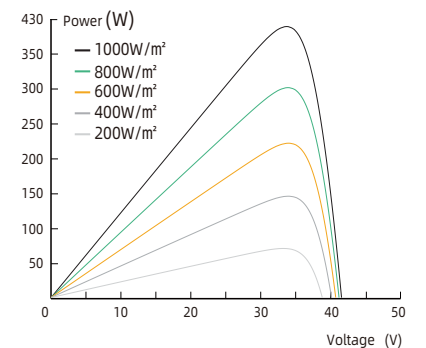
Module Dimension(mm)



Current-Voltage Curve (430W)



Power-Voltage Curve (430W)



ELECTRICAL PARAMETERS AT STC

Rated Maximum Power(Pmax) [W]	410	415	420	425	430
Maximum Power Voltage(Vmp) [V]	31.13	31.32	31.51	31.70	31.88
Maximum Power Current(Imp) [A]	13.17	13.25	13.33	13.41	13.49
Open Circuit Voltage(Voc) [V]	37.73	37.92	38.11	38.30	38.49
Short Circuit Current(Isc) [A]	13.91	13.99	14.07	14.15	14.23
Module Efficiency [%]	21.00	21.25	21.51	21.76	22.02

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	323
Maximum Power Voltage(Vmp) [V]	29.06	29.21	29.34	29.50	29.63
Maximum Power Current(Imp) [A]	10.61	10.68	10.76	10.83	10.91
Open Circuit Voltage(Voc) [V]	35.84	36.02	36.20	36.38	36.56
Short Circuit Current(Isc) [A]	11.23	11.29	11.36	11.42	11.49

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	108(6×18)
Weight	22kg(±3%)
Module Dimensions	1724×1134×30mm
Cable	4.0 mm ² 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
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	-0.34%/°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

PACKING CONFIGURATION

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

APEX-108H-N410-N430M10

N-TOPCon Technology

22.02%

Maximum Module Efficiency

430W

Maximum Power Output

Power Tolerance:0-3W

1724×1134×30mm

Module Dimensions

IEC 61215 / IEC 61730

Fire safty class:Class C according to UL790

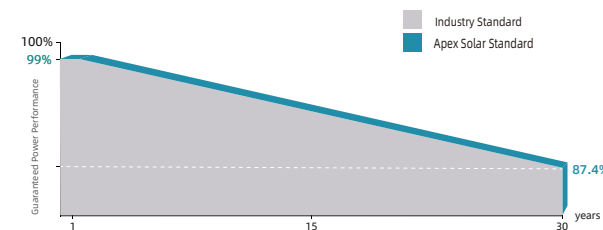
ISO 9001 :Quality Management System

ISO 14001 :Environment Management



Industry Leading Linear Power Warranty

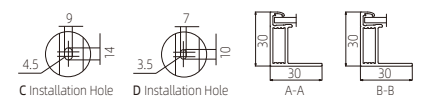
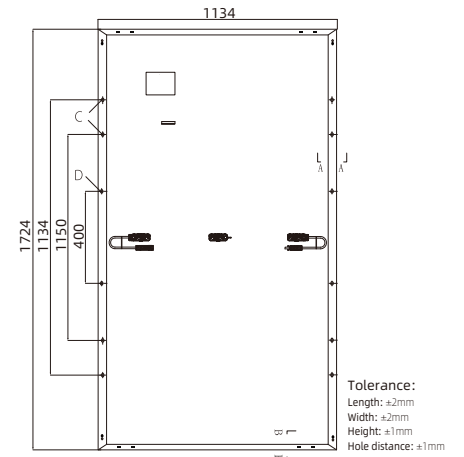
25-year Warranty for Materials and Processing, 30-year Warranty for Extra Linear Power Output



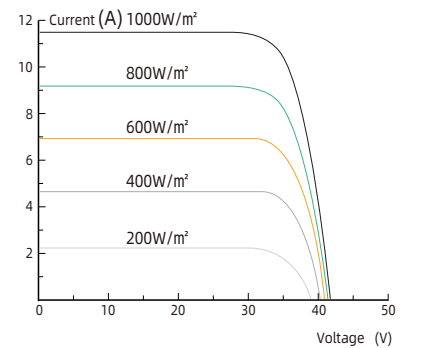
25 Process Warranty

30 Power Warranty

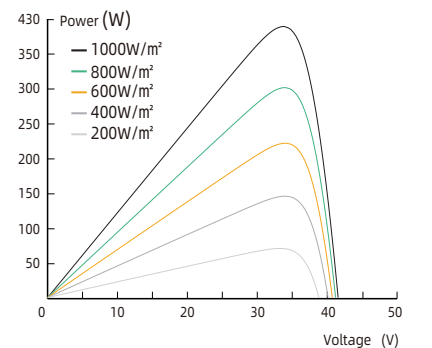
Module Dimension(mm)



Current-Voltage Curve (430W)



Power-Voltage Curve (430W)



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 he 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

APEX-120H-N460-N480M10

N-TOPCon Technology

22.24%

Maximum Module Efficiency

480W

Maximum Power Output

Power Tolerance:0-3W

1909×1134×30mm

Module Dimensions

IEC 61215 / IEC 61730

Fire safty class:Class C according to UL790

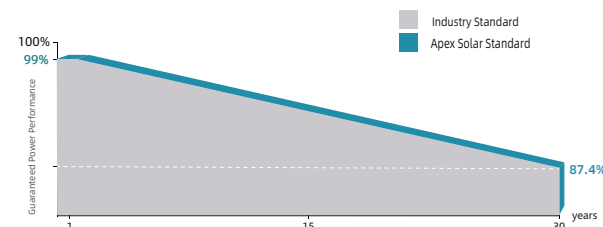
ISO 9001 :Quality Management System

ISO 14001 :Environment Management



Industry Leading Linear Power Warranty

25-year Warranty for Materials and Processing, 30-year Warranty for Extra Linear Power Output



25 Process Warranty

30 Power Warranty



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 he 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

APEX-120H-N460-N480M10

ELECTRICAL PARAMETERS AT STC

Rated Maximum Power(Pmax) [W]	460	465	470	475	480
Maximum Power Voltage(Vmp) [V]	34.72	34.89	35.05	35.21	35.38
Maximum Power Current(Imp) [A]	13.25	13.33	13.41	13.49	13.57
Open Circuit Voltage(Voc) [V]	42.05	42.22	42.38	42.54	42.71
Short Circuit Current(Isc) [A]	13.99	14.07	14.15	14.23	14.31
Module Efficiency [%]	21.32	21.55	21.78	22.01	22.24

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	361
Maximum Power Voltage(Vmp) [V]	32.60	32.77	32.94	33.10	33.27
Maximum Power Current(Imp) [A]	10.61	10.67	10.73	10.79	10.85
Open Circuit Voltage(Voc) [V]	39.94	40.10	40.25	40.41	40.57
Short Circuit Current(Isc) [A]	11.29	11.36	11.42	11.49	11.55

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	120(6×20)
Weight	24.2kg(±3%)
Module Dimensions	1909×1134×30mm
Cable	4.0 mm ² 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
Type of Connector	PV-XT101.1 (Suzhou Xtong Photovoltage Technology Co., Ltd)
Mechanical Load	Front side 5400Pa/Rear side 2400Pa

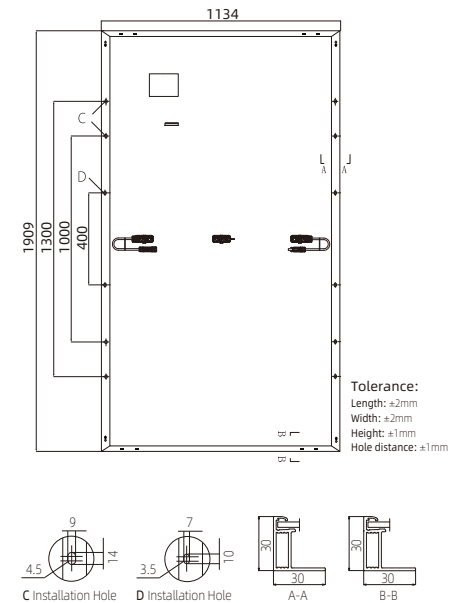
OPERATING CONDITIONS

Maximum System Voltage (V)	1000/1500VDC (IEC)
Pmax Temperature Coefficient	-0.34%/°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

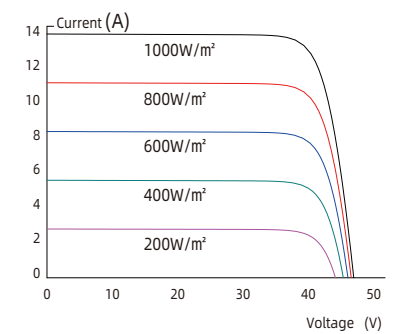
PACKING CONFIGURATION

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

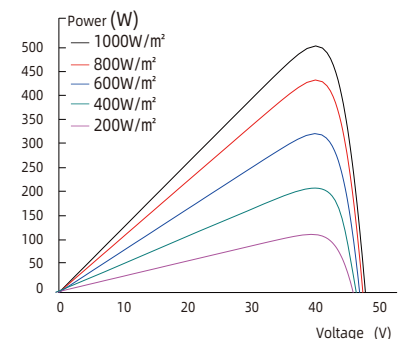
Module Dimension(mm)



Current-Voltage Curve (480W)



Power-Voltage Curve (480W)





APEX-144H-N565-N580M10

N-TOPCon Technology

22.45%

Maximum Module Efficiency

580W

Maximum Power Output

Power Tolerance:0-3W

2279×1134×35mm

Module Dimensions

IEC 61215 / IEC 61730

Fire safty class:Class C according to UL790

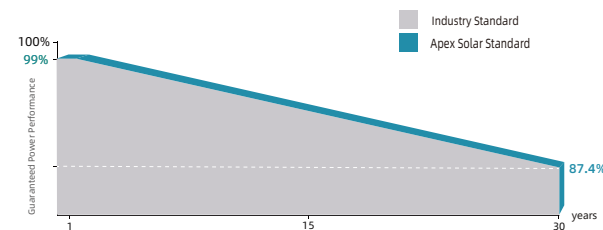
ISO 9001 :Quality Management System

ISO 14001 :Environment Management



Industry Leading Linear Power Warranty

25-year Warranty for Materials and Processing, 30-year Warranty for Extra Linear Power Output



25 Process Warranty

30 Power Warranty

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 he 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

APEX-144H-N565-N580M10

ELECTRICAL PARAMETERS AT STC

Rated Maximum Power(Pmax) [W]	565	570	575	580
Maximum Power Voltage(Vmp) [V]	41.92	42.07	42.22	42.37
Maximum Power Current(Imp) [A]	13.48	13.55	13.62	13.69
Open Circuit Voltage(Voc) [V]	50.60	50.74	50.88	51.02
Short Circuit Current(Isc) [A]	14.23	14.31	14.39	14.47
Module Efficiency [%]	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]	425	429	432	436
Maximum Power Voltage(Vmp) [V]	39.38	39.51	39.60	39.69
Maximum Power Current(Imp) [A]	10.79	10.85	10.92	10.99
Open Circuit Voltage(Voc) [V]	48.06	48.20	48.33	48.46
Short Circuit Current(Isc) [A]	11.49	11.55	11.62	11.68

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(6×24)
Weight	28kg(±3%)
Module Dimensions	2279×1134×35mm
Cable	4.0 mm ² 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
Type of Connector	PV-XT101.1 (Suzhou Xtong Photovoltage Technology Co., Ltd)
Mechanical Load	Front side 5400Pa/Rear side 2400Pa

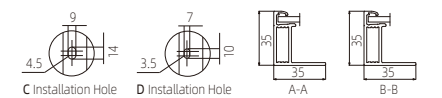
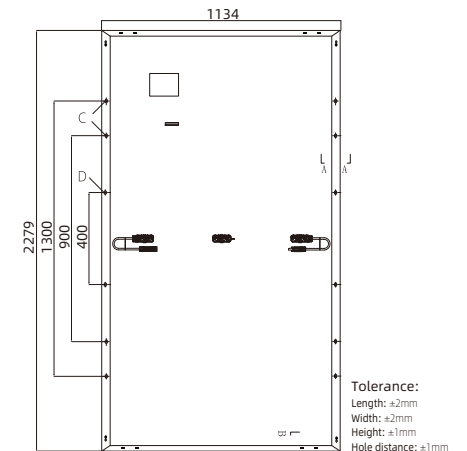
OPERATING CONDITIONS

Maximum System Voltage (V)	1000/1500VDC (IEC)
Pmax Temperature Coefficient	-0.34%/°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

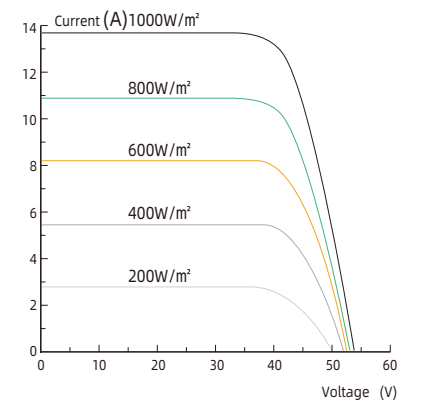
PACKING CONFIGURATION

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

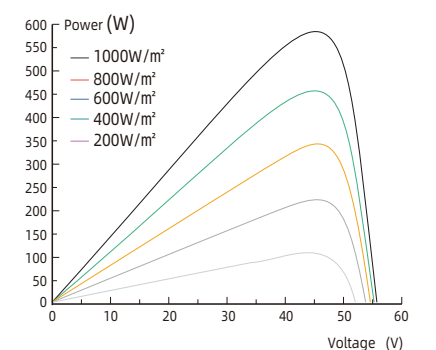
Module Dimension(mm)

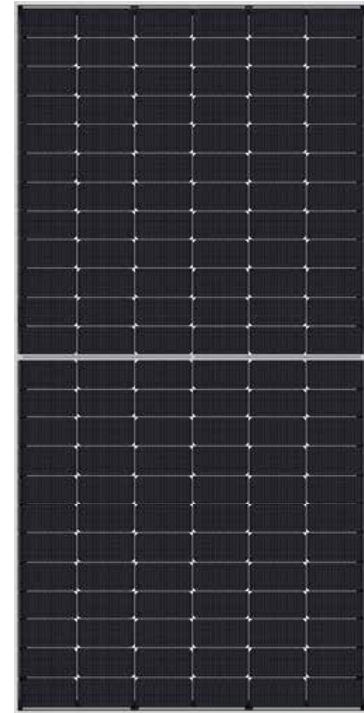


Current-Voltage Curve (580W)



Power-Voltage Curve (580W)





APEX-144H-N565-N585M10

N-TOPCon Technology

22.65%

Maximum Module Efficiency

585W

Maximum Power Output

Power Tolerance:0-3W

2279×1134×35mm

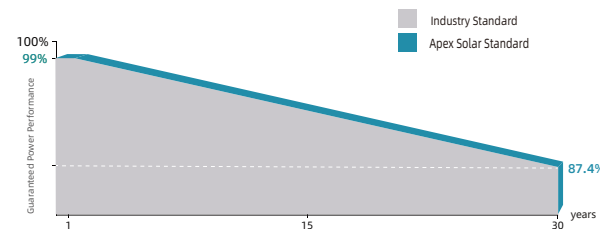
Module Dimensions

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

25-year Warranty for Materials and Processing, 30-year Warranty for Extra Linear Power Output



25 YEARS Process Warranty

30 YEARS Power Warranty

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 he 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

APEX-144H-N565-N585M10

ELECTRICAL PARAMETERS AT STC

Rated Maximum Power(Pmax) [W]	565	570	575	580	585
Maximum Power Voltage(Vmp) [V]	41.92	42.07	42.22	42.37	42.52
Maximum Power Current(Imp) [A]	13.48	13.55	13.62	13.69	13.76
Open Circuit Voltage(Voc) [V]	50.60	50.74	50.88	51.02	51.16
Short Circuit Current(Isc) [A]	14.23	14.31	14.39	14.47	14.55
Module Efficiency [%]	21.87	22.07	22.26	22.45	22.65

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

ELECTRICAL PARAMETERS AT NMOT

Rated Maximum Power(Pmax)[W]	425	429	432	436	440
Maximum Power Voltage(Vmp) [V]	39.38	39.51	39.60	39.69	39.81
Maximum Power Current(Imp) [A]	10.79	10.85	10.92	10.99	11.05
Open Circuit Voltage(Voc) [V]	48.06	48.20	48.33	48.46	48.60
Short Circuit Current(Isc) [A]	11.49	11.55	11.62	11.68	11.75

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(6×24)
Weight	28kg(±3%)
Module Dimensions	2279×1134×35mm
Cable	4.0 mm ² 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
Type of Connector	PV-XT101.1 (Suzhou Xtong Photovoltage Technology Co., Ltd)
Mechanical Load	Front side 5400Pa/Rear side 2400Pa

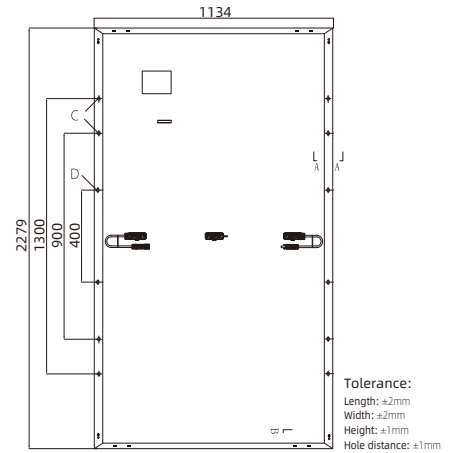
OPERATING CONDITIONS

Maximum System Voltage (V)	1000/1500VDC (IEC)
Pmax Temperature Coefficient	-0.34%/°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

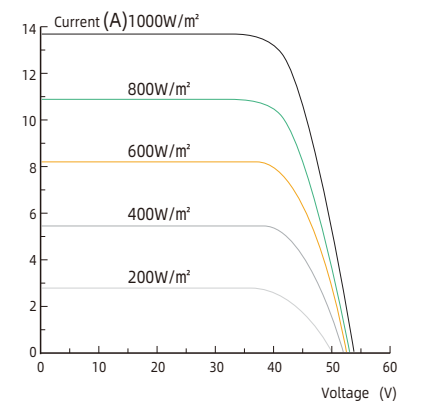
PACKING CONFIGURATION

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

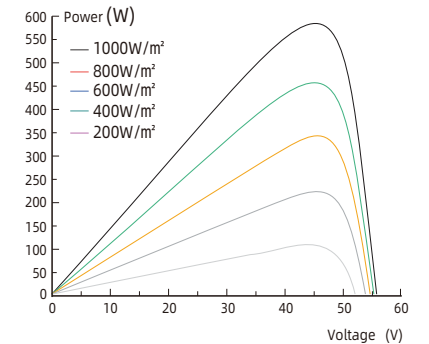
Module Dimension(mm)



Current-Voltage Curve (585W)



Power-Voltage Curve (585W)



ELECTRICAL PARAMETERS AT STC

Rated Maximum Power(Pmax) [W]	610	615	620	625	630
Maximum Power Voltage(Vmp) [V]	45.59	45.69	45.79	45.92	46.02
Maximum Power Current(Imp) [A]	13.38	13.46	13.54	13.61	13.69
Open Circuit Voltage(Voc) [V]	55.25	55.40	55.55	55.70	55.85
Short Circuit Current(Isc) [A]	14.11	14.18	14.25	14.32	14.39
Module Efficiency [%]	21.82	22.00	22.18	22.36	22.54

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

ELECTRICAL PARAMETERS AT NMOT

Rated Maximum Power(Pmax)[W]	459	462	466	470	474
Maximum Power Voltage(Vmp) [V]	42.28	42.39	42.50	42.61	42.72
Maximum Power Current(Imp) [A]	10.85	10.91	10.97	11.03	11.09
Open Circuit Voltage(Voc) [V]	52.48	52.62	52.77	52.91	53.05
Short Circuit Current(Isc) [A]	11.39	11.45	11.50	11.56	11.62

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

MECHANICAL SPECIFICATION

Cell Type	N-Type Monocrystalline
Cell Dimensions	182x182mm
Cell Arrangement	156(2x78)
Weight	30.6kg(±3%)
Module Dimensions	2465x1134x35mm
Cable	4.0 mm ² 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
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	-0.34%/°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

PACKING CONFIGURATION

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

APEX-156H-N610-N630M10

N-TOPCon Technology

22.54%

Maximum Module Efficiency

630W

Maximum Power Output

Power Tolerance:0-3W

2465x1134x35mm

Module Dimensions

IEC 61215 / IEC 61730

Fire safty class:Class C according to UL790

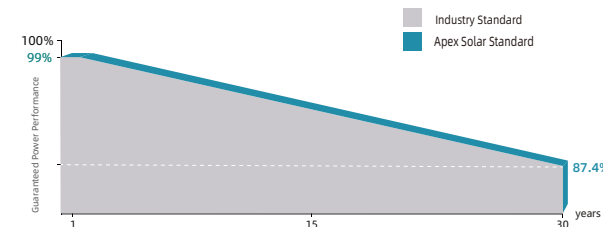
ISO 9001 :Quality Management System

ISO 14001 :Environment Management



Industry Leading Linear Power Warranty

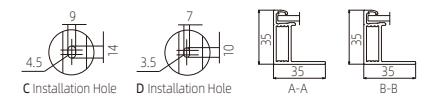
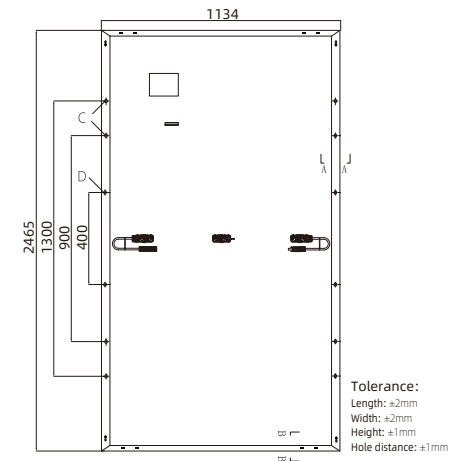
25-year Warranty for Materials and Processing, 30-year Warranty for Extra Linear Power Output



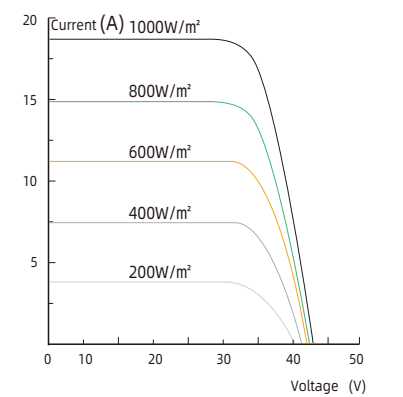
25 Process Warranty

30 Power Warranty

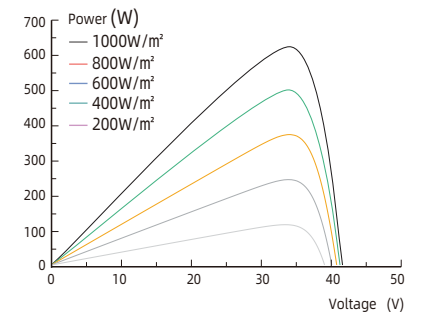
Module Dimension(mm)



Current-Voltage Curve (630W)



Power-Voltage Curve (630W)



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 he 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 Black Module

APEX-108HBD N410-N430M10

N-TOPCon Technology

22.02%

Maximum Module Efficiency

430W

Maximum Power Output

Power Tolerance:0-3W

1724×1134×30mm

Module Dimensions

IEC 61215 / IEC 61730

Fire safty class:Class C according to UL790

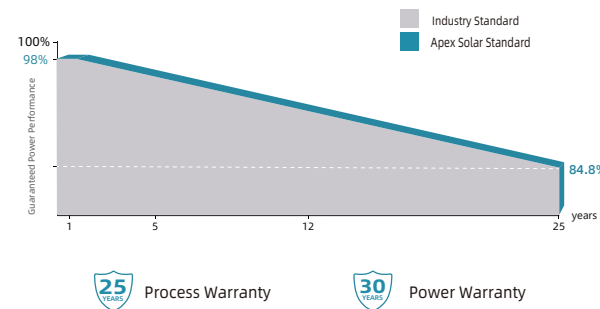
ISO 9001 :Quality Management System

ISO 14001 :Environment Management



Industry Leading Linear Power Warranty

25-year Warranty for Materials and Processing, 25-year Warranty for Extra Linear Power Output



APEX-108HBD-N410-N430M10

ELECTRICAL PARAMETERS AT STC

Rated Maximum Power(Pmax) [W]	410	415	420	425	430
Maximum Power Voltage(Vmp) [V]	31.13	31.32	31.51	31.70	31.88
Maximum Power Current(Imp) [A]	13.17	13.25	13.33	13.41	13.49
Open Circuit Voltage(Voc) [V]	37.73	37.92	38.11	38.30	38.49
Short Circuit Current(Isc) [A]	13.91	13.99	14.07	14.15	14.23
Module Efficiency [%]	21.00	21.25	21.51	21.76	22.02

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	323
Maximum Power Voltage(Vmp) [V]	29.06	29.21	29.34	29.50	29.63
Maximum Power Current(Imp) [A]	10.61	10.68	10.76	10.83	10.91
Open Circuit Voltage(Voc) [V]	35.84	36.02	36.20	36.38	36.56
Short Circuit Current(Isc) [A]	11.23	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]	431	436	441	446	452
	Module Efficiency STC[%]	22.02	22.29	22.56	22.83	23.09
10%	Maximum Power (Pmax) [W]	451	457	462	468	473
	Module Efficiency STC[%]	23.07	23.35	23.63	23.91	24.19
20%	Maximum Power (Pmax) [W]	492	498	504	510	516
	Module Efficiency STC[%]	25.17	25.47	25.78	26.09	26.39

MECHANICAL SPECIFICATION

Cell Type	N-Type Monocrystalline
Cell Dimensions	182×182mm
Cell Arrangement	108(6×18)
Weight	23kg(±3%)
Module Dimensions	1724×1134×30mm
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

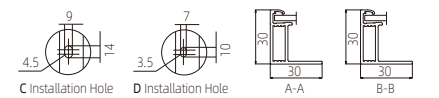
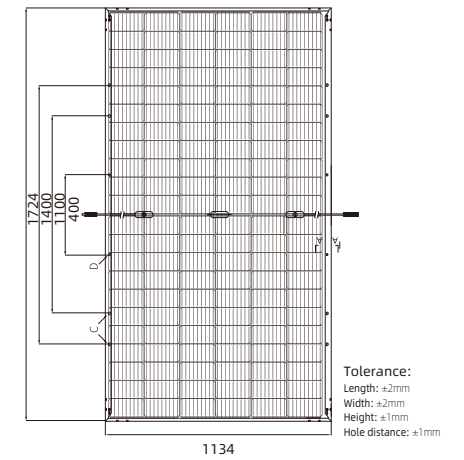
OPERATING CONDITIONS

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

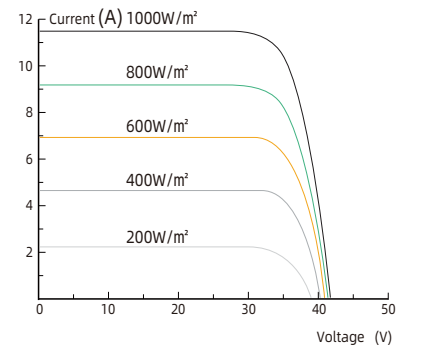
PACKING CONFIGURATION

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

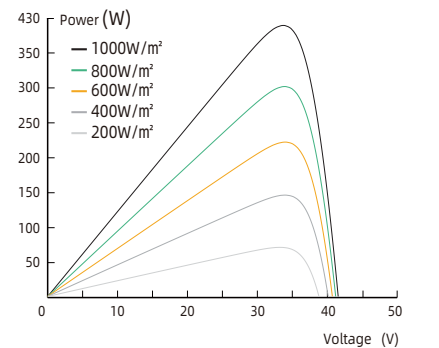
Module Dimension(mm)



Current-Voltage Curve (430W)



Power-Voltage Curve (430W)



108cells Monocrystalline Bifacial Dual Glass Module



APEX-108HBD N410-N430M10

N-TOPCon Technology

22.02%

Maximum Module Efficiency

430W

Maximum Power Output

Power Tolerance:0-3W

1724x1134x30mm

Module Dimensions

IEC 61215 / IEC 61730

Fire safety class:Class C according to UL790

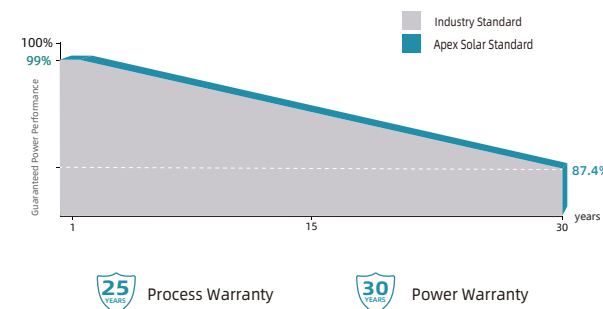
ISO 9001 :Quality Management System

ISO 14001 :Environment Management



Industry Leading Linear Power Warranty

25-year Warranty for Materials and Processing, 30-year Warranty for Extra Linear Power Output



- 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

APEX-108HBD-N410-N430M10

ELECTRICAL PARAMETERS AT STC

Rated Maximum Power(Pmax) [W]	410	415	420	425	430
Maximum Power Voltage(Vmp) [V]	31.13	31.32	31.51	31.70	31.88
Maximum Power Current(Imp) [A]	13.17	13.25	13.33	13.41	13.49
Open Circuit Voltage(Voc) [V]	37.73	37.92	38.11	38.30	38.49
Short Circuit Current(Isc) [A]	13.91	13.99	14.07	14.15	14.23
Module Efficiency [%]	21.00	21.25	21.51	21.76	22.02

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	323
Maximum Power Voltage(Vmp) [V]	29.06	29.21	29.34	29.50	29.63
Maximum Power Current(Imp) [A]	10.61	10.68	10.76	10.83	10.91
Open Circuit Voltage(Voc) [V]	35.84	36.02	36.20	36.38	36.56
Short Circuit Current(Isc) [A]	11.23	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]	431	436	441	446	452
	Module Efficiency STC[%]	22.02	22.29	22.56	22.83	23.09
10%	Maximum Power (Pmax) [W]	451	457	462	468	473
	Module Efficiency STC[%]	23.07	23.35	23.63	23.91	24.19
20%	Maximum Power (Pmax) [W]	492	498	504	510	516
	Module Efficiency STC[%]	25.17	25.47	25.78	26.09	26.39

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

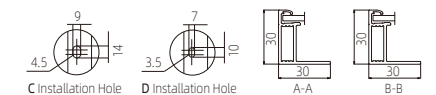
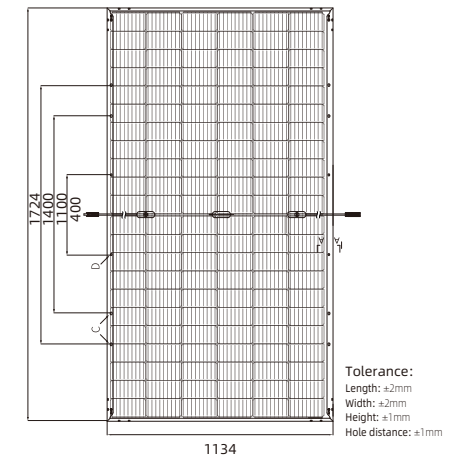
OPERATING CONDITIONS

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

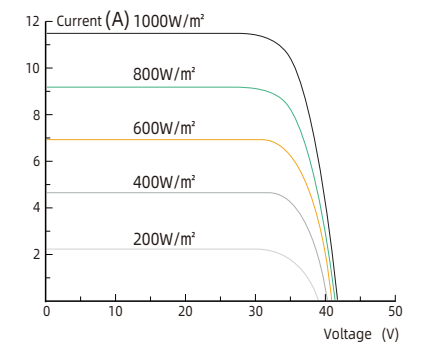
PACKING CONFIGURATION

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

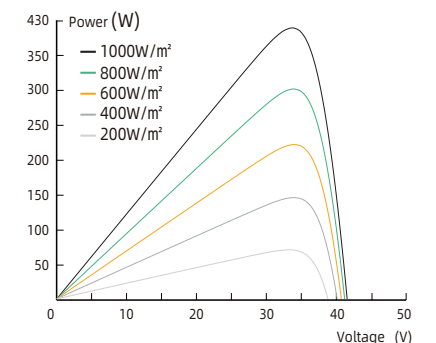
Module Dimension(mm)



Current-Voltage Curve (430W)



Power-Voltage Curve (430W)



120cells Monocrystalline Bifacial Dual Glass Module



APEX-120HBD N460-N475M10

N-TOPCon Technology

22.01%

Maximum Module Efficiency

475W

Maximum Power Output

Power Tolerance:0-3W

1909×1134×30mm

Module Dimensions

IEC 61215 / IEC 61730

Fire safety class:Class C according to UL790

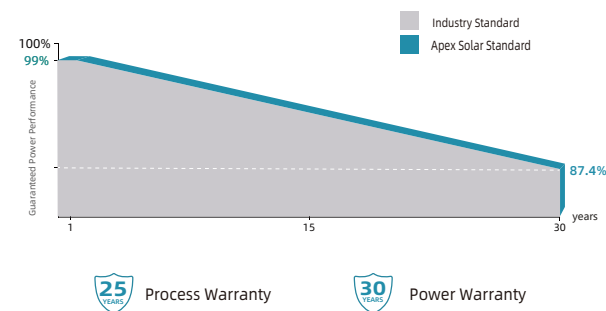
ISO 9001 :Quality Management System

ISO 14001 :Environment Management



Industry Leading Linear Power Warranty

25-year Warranty for Materials and Processing ,30-year Warranty for Extra Linear Power Output



APEX-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(Imp) [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(Imp) [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	182×182mm
Cell Arrangement	120(6×20)
Weight	24.2kg(±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

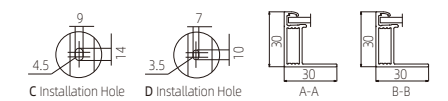
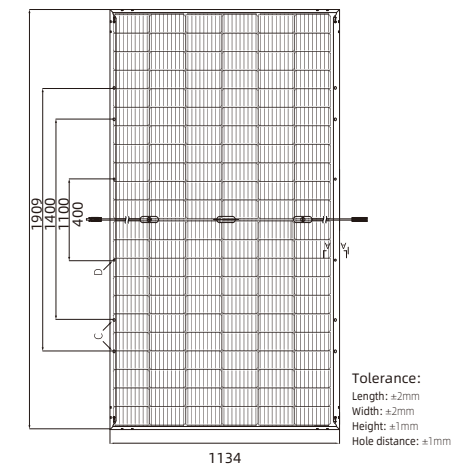
OPERATING CONDITIONS

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

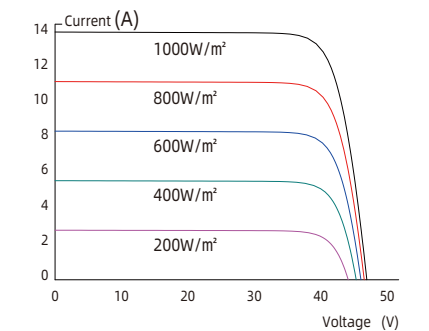
PACKING CONFIGURATION

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

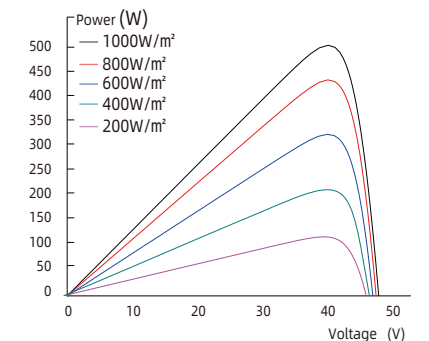
Module Dimension(mm)



Current-Voltage Curve (475W)



Power-Voltage Curve (475W)



144cells Monocrystalline Bifacial Dual Glass Module



APEX-144HBD N565-N580M10

N-TOPCon Technology

22.45%

Maximum Module Efficiency

580W

Maximum Power Output

Power Tolerance:0-3W

2279×1134×30mm

Module Dimensions

IEC 61215 / IEC 61730

Fire safty class:Class C according to UL790

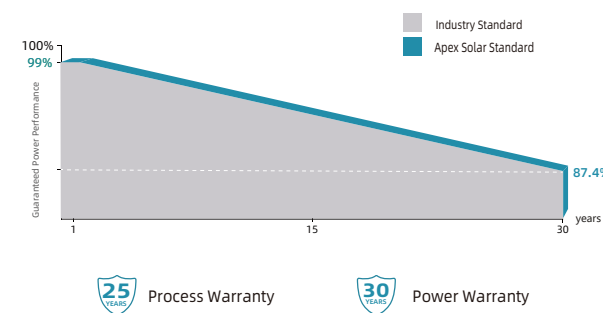
ISO 9001 :Quality Management System

ISO 14001 :Environment Management



Industry Leading Linear Power Warranty

25-year Warranty for Materials and Processing, 30-year Warranty for Extra Linear Power Output



- 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 he 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

APEX-144HBD-N565-N580M10

ELECTRICAL PARAMETERS AT STC

Rated Maximum Power(Pmax) [W]	565	570	575	580
Maximum Power Voltage(Vmp) [V]	41.92	42.07	42.22	42.37
Maximum Power Current(Imp) [A]	13.48	13.55	13.62	13.69
Open Circuit Voltage(Voc) [V]	50.60	50.74	50.88	51.02
Short Circuit Current(Isc) [A]	14.23	14.31	14.39	14.47
Module Efficiency [%]	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]	425	429	432	436
Maximum Power Voltage(Vmp) [V]	39.38	39.51	39.60	39.69
Maximum Power Current(Imp) [A]	10.79	10.85	10.92	10.99
Open Circuit Voltage(Voc) [V]	48.06	48.20	48.33	48.46
Short Circuit Current(Isc) [A]	11.49	11.55	11.62	11.68

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

BIFACIAL OUTPUT-REAR SIDE POWER GAIN

5%	Maximum Power (Pmax) [W]	593	599	604	609
	Module Efficiency STC[%]	22.96	23.16	23.36	23.56
10%	Maximum Power (Pmax) [W]	622	627	633	638
	Module Efficiency STC[%]	24.05	24.26	24.47	24.69
20%	Maximum Power (Pmax) [W]	678	684	690	696
	Module Efficiency STC[%]	26.23	26.47	26.70	26.93

MECHANICAL SPECIFICATION

Cell Type	N-Type Monocrystalline
Cell Dimensions	182×182mm
Cell Arrangement	144(6×24)
Weight	28kg(±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

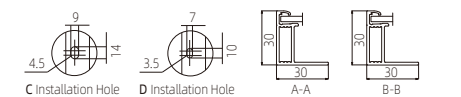
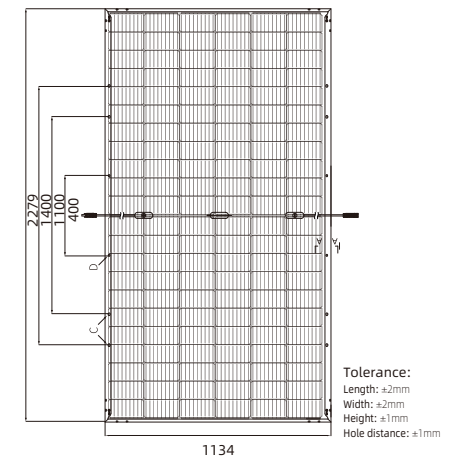
OPERATING CONDITIONS

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	25A

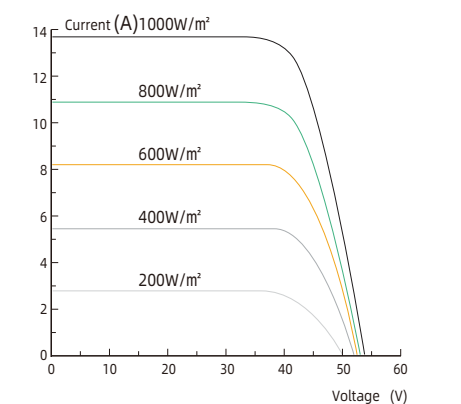
PACKING CONFIGURATION

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

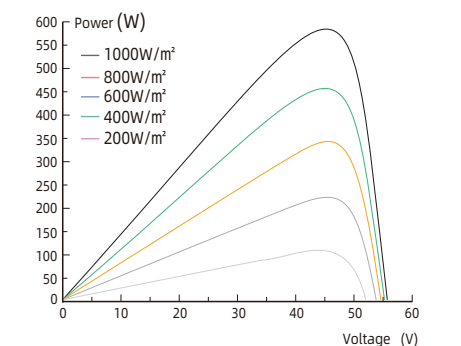
Module Dimension(mm)



Current-Voltage Curve (580W)



Power-Voltage Curve (580W)



156cells Monocrystalline Bifacial Dual Glass Module

APEX-156HBD-N605-N630M10

N-TOPCon Technology

22.54%

Maximum Module Efficiency

630W

Maximum Power Output

Power Tolerance:0-3W

2465×1134×35mm

Module Dimensions

IEC 61215 / IEC 61730

Fire safty class:Class C according to UL790

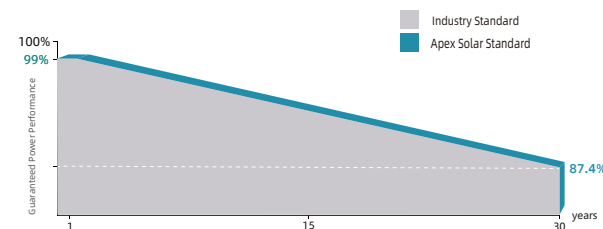
ISO 9001 :Quality Management System

ISO 14001 :Environment Management



Industry Leading Linear Power Warranty

25-year Warranty for Materials and Processing, 30-year Warranty for Extra Linear Power Output



25 Process Warranty

30 Power Warranty

High Efficiency Half-cells Solar Panel APEX-156HBD-N605-N630M10

ELECTRICAL PARAMETERS AT STC

Rated Maximum Power(Pmax) [W]	610	615	620	625	630
Maximum Power Voltage(Vmp) [V]	45.59	45.69	45.79	45.92	46.02
Maximum Power Current(Imp) [A]	13.38	13.46	13.54	13.61	13.69
Open Circuit Voltage(Voc) [V]	55.25	55.40	55.55	55.70	55.85
Short Circuit Current(Isc) [A]	14.11	14.18	14.25	14.32	14.39
Module Efficiency [%]	21.82	22.00	22.18	22.36	22.54

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

ELECTRICAL PARAMETERS AT NMOT

Rated Maximum Power(Pmax)[W]	459	462	466	470	474
Maximum Power Voltage(Vmp) [V]	42.28	42.39	42.50	42.61	42.72
Maximum Power Current(Imp) [A]	10.85	10.91	10.97	11.03	11.09
Open Circuit Voltage(Voc) [V]	52.48	52.62	52.77	52.91	53.05
Short Circuit Current(Isc) [A]	11.39	11.45	11.50	11.56	11.62

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

BIFACIAL OUTPUT-REAR SIDE POWER GAIN

5%	Maximum Power (Pmax) [W]	641	646	651	656	662
	Module Efficiency STC[%]	22.91	23.10	23.29	23.48	23.66
10%	Maximum Power (Pmax) [W]	671	677	682	688	693
	Module Efficiency STC[%]	24.00	24.20	24.40	24.59	24.79
20%	Maximum Power (Pmax) [W]	732	738	744	750	756
	Module Efficiency STC[%]	26.19	26.40	26.62	26.83	27.05

MECHANICAL SPECIFICATION

Cell Type	Monocrystalline
Cell Dimensions	182×182mm
Cell Arrangement	156(2×78)
Weight	34.6kg(±3%)
Module Dimensions	2465×1134×35mm
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

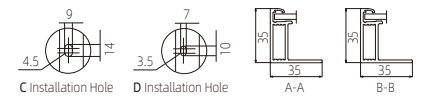
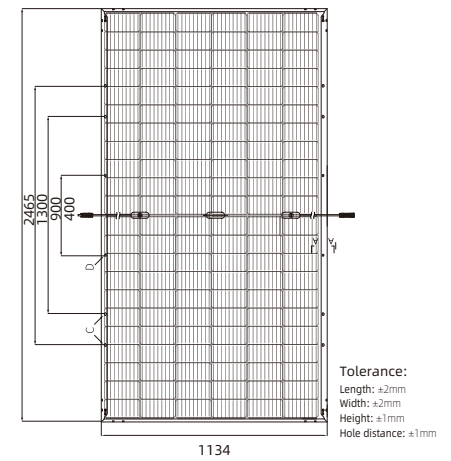
OPERATING CONDITIONS

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

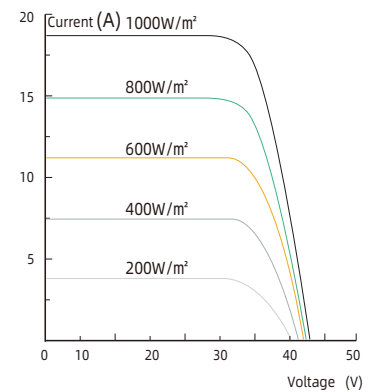
PACKING CONFIGURATION

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

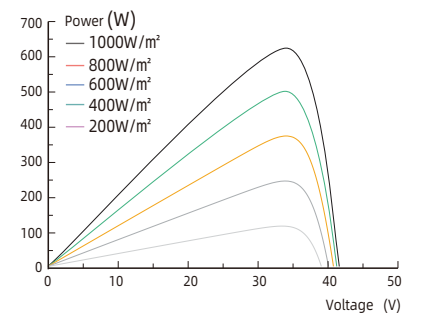
Module Dimension(mm)



Current-Voltage Curve (630W)



Power-Voltage Curve (630W)



P-TYPE Technology

HOT SALE 365-675W

MONO HALF CELL SOLAR PANEL

675W
Maximum Power

21.73%
Maximum Efficiency

25 Years
Process Warranty

25 Years
Power Wwarranty

≤2%
First Year Degradation

≤0.55%
Linear Degradation



APEX-120H 365-380M6

20.86%

Maximum Module Efficiency

380W

Maximum Power Output

Power Tolerance:0-3W

1755×1038×30mm

Module Dimensions

IEC 61215 / IEC 61730

Fire safty class:Class C according to UL790

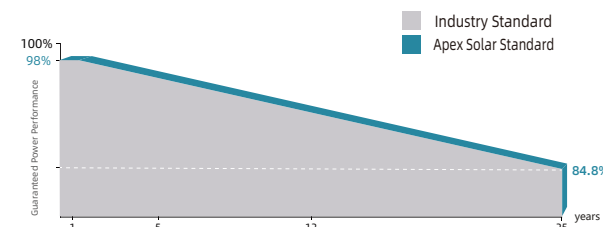
ISO 9001 :Quality Management System

ISO 14001 :Environment Management



Industry Leading Linear Power Warranty

25-year Warranty for Materials and Processing . 25-year Warranty for Extra Linear Power Output



25 Process Warranty

25 Power Warranty

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 he 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

High Efficiency Half-cells Solar Panel APEX-120H 365-380M6

ELECTRICAL PARAMETERS AT STC

Rated Maximum Power(Pmax) [W]	365	370	375	380
Maximum Power Voltage(Vmp) [V]	33.85	34.05	34.25	34.40
Maximum Power Current(Imp) [A]	10.79	10.87	10.95	11.04
Open Circuit Voltage(Voc) [V]	41.05	41.25	41.45	41.65
Short Circuit Current(Isc) [A]	11.27	11.35	11.43	11.51
Module Efficiency [%]	20.00	20.30	20.60	20.86

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

ELECTRICAL PARAMETERS AT NMOT

Rated Maximum Power(Pmax)[W]	266.7	270.4	274.1	277.8
Maximum Power Voltage(Vmp) [V]	31.2	31.3	31.5	31.7
Maximum Power Current(Imp) [A]	8.56	8.63	8.7	8.76
Open Circuit Voltage(Voc) [V]	38.1	38.3	38.5	38.7
Short Circuit Current(Isc) [A]	9.06	9.12	9.19	9.25

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

MECHANICAL SPECIFICATION

Cell Type	Monocrystalline
Cell Dimensions	166×166mm
Cell Arrangement	120(6×20)
Weight	19.5kg(±3%)
Module Dimensions	1755×1038×30mm
Cable	4.0 mm ² 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
Type of Connector	PV-XT101.1 (Suzhou Xtong Photovoltage Technology Co., Ltd)
Mechanical Load	Front side 5400Pa/Rear side 2400Pa

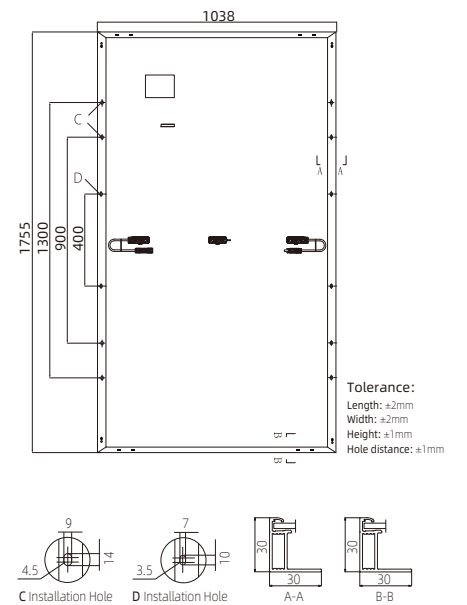
OPERATING CONDITIONS

Maximum System Voltage (V)	1000/1500VDC (IEC)
Pmax Temperature Coefficient	-0.34%/°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

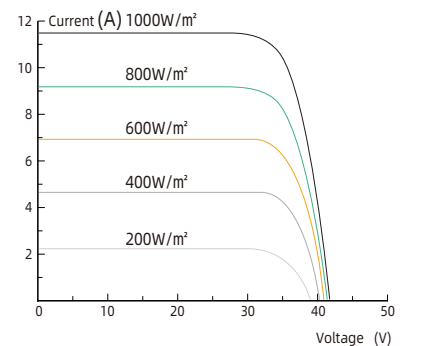
PACKING CONFIGURATION

Quantity/Pallet	36pcs/pallet
Quantity/Container	975pcs/40HQ

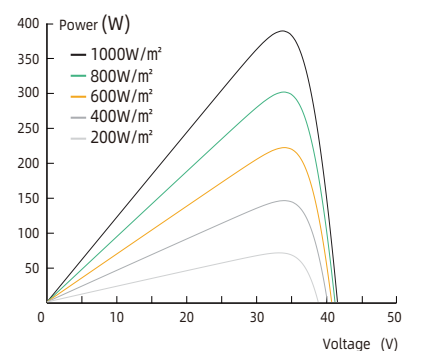
Module Dimension(mm)

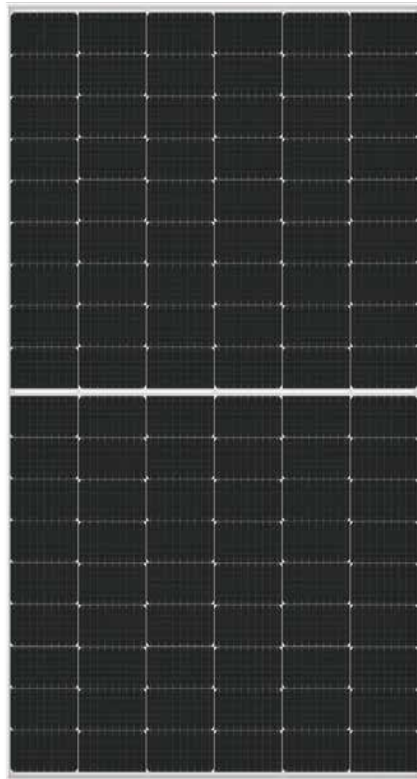


Current-Voltage Curve (380W)



Power-Voltage Curve (380W)





APEX-108H 400-420M10

21.48%

Maximum Module Efficiency

420W

Maximum Power Output

Power Tolerance:0-3W

1724×1134×30mm

Module Dimensions

IEC 61215 / IEC 61730

Fire safty class:Class C according to UL790

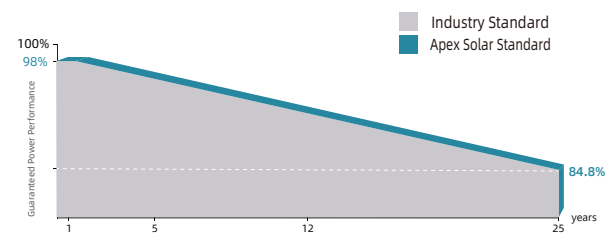
ISO 9001 :Quality Management System

ISO 14001 :Environment Management



Industry Leading Linear Power Warranty

25-year Warranty for Materials and Processing , 25-year Warranty for Extra Linear Power Output



25 Process Warranty

25 Power Warranty

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 he 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

ELECTRICAL PARAMETERS AT STC

Rated Maximum Power(Pmax) [W]	400	405	410	415	420
Maximum Power Voltage(Vmp) [V]	30.75	31.00	31.25	31.49	31.73
Maximum Power Current(Imp) [A]	13.01	13.07	13.12	13.18	13.24
Open Circuit Voltage(Voc) [V]	36.75	37.00	37.25	37.50	37.75
Short Circuit Current(Isc) [A]	13.76	13.83	13.88	13.94	14.01
Module Efficiency [%]	20.46	20.72	20.97	21.23	21.48

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

ELECTRICAL PARAMETERS AT NMOT

Rated Maximum Power(Pmax)[W]	299	302.7	306.5	310.2	313.9
Maximum Power Voltage(Vmp) [V]	28.56	28.80	29.03	29.25	29.47
Maximum Power Current(Imp) [A]	10.47	10.52	10.56	10.60	10.65
Open Circuit Voltage(Voc) [V]	34.55	34.79	35.08	35.26	35.49
Short Circuit Current(Isc) [A]	11.13	11.18	11.22	11.27	11.32

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

MECHANICAL SPECIFICATION

Cell Type	Monocrystalline
Cell Dimensions	182×182mm
Cell Arrangement	108(6×18)
Weight	21.5kg(±3%)
Module Dimensions	1724×1134×30mm
Cable	4.0 mm ² 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
Type of Connector	PV-XT101.1 (Suzhou Xtong Photovoltage Technology Co., Ltd)
Mechanical Load	Front side 5400Pa/Rear side 2400Pa

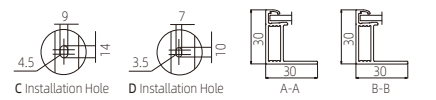
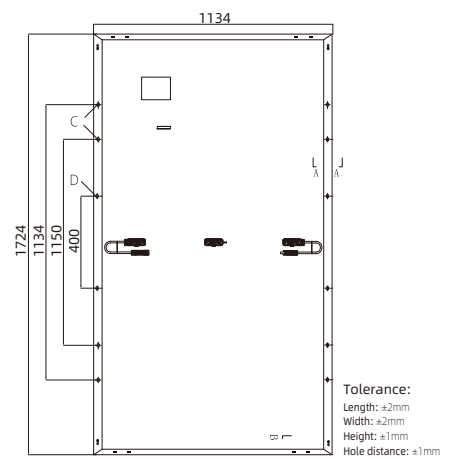
OPERATING CONDITIONS

Maximum System Voltage (V)	1000/1500VDC (IEC)
Pmax Temperature Coefficient	-0.34%/°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

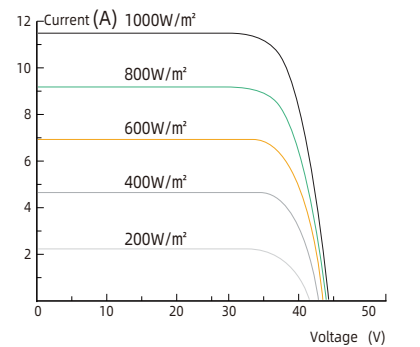
PACKING CONFIGURATION

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

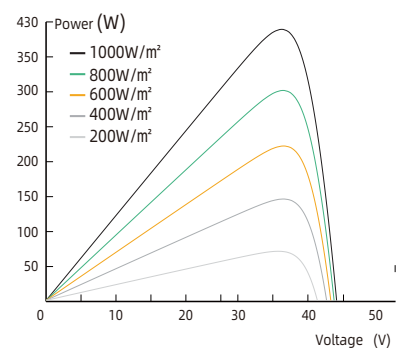
Module Dimension(mm)

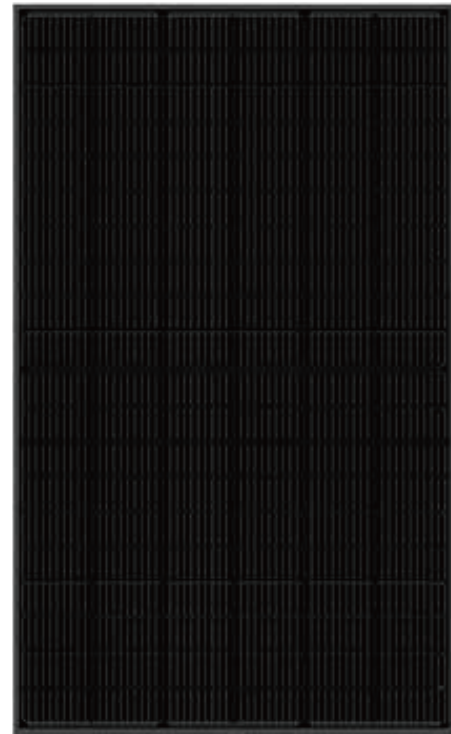


Current-Voltage Curve (420W)



Power-Voltage Curve (420W)





APEX-108H 400-420M10

21.48%

Maximum Module Efficiency

420W

Maximum Power Output

Power Tolerance:0-3W

1724×1134×30mm

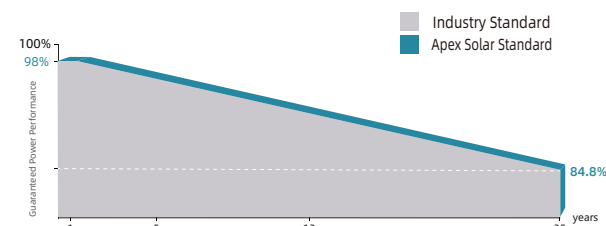
Module Dimensions

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

25-year Warranty for Materials and Processing . 25-year Warranty for Extra Linear Power Output



25 Process Warranty **25** Power Warranty

- 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 he 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

High Efficiency Half-cells Solar Panel APEX-108H 400-420M10

ELECTRICAL PARAMETERS AT STC

Rated Maximum Power(Pmax) [W]	400	405	410	415	420
Maximum Power Voltage(Vmp) [V]	30.75	31.00	31.25	31.49	31.73
Maximum Power Current(Imp) [A]	13.01	13.07	13.12	13.18	13.24
Open Circuit Voltage(Voc) [V]	36.75	37.00	37.25	37.50	37.75
Short Circuit Current(Isc) [A]	13.76	13.83	13.88	13.94	14.01
Module Efficiency [%]	20.46	20.72	20.97	21.23	21.48

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

ELECTRICAL PARAMETERS AT NMOT

Rated Maximum Power(Pmax)[W]	299	302.7	306.5	310.2	313.9
Maximum Power Voltage(Vmp) [V]	28.56	28.80	29.03	29.25	29.47
Maximum Power Current(Imp) [A]	10.47	10.52	10.56	10.60	10.65
Open Circuit Voltage(Voc) [V]	34.55	34.79	35.08	35.26	35.49
Short Circuit Current(Isc) [A]	11.13	11.18	11.22	11.27	11.32

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

MECHANICAL SPECIFICATION

Cell Type	Monocrystalline
Cell Dimensions	182×182mm
Cell Arrangement	108(6×18)
Weight	21.5kg(±3%)
Module Dimensions	1724×1134×30mm
Cable	4.0 mm ² 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
Type of Connector	PV-XT101.1 (Suzhou Xtong Photovoltage Technology Co., Ltd)
Mechanical Load	Front side 5400Pa/Rear side 2400Pa

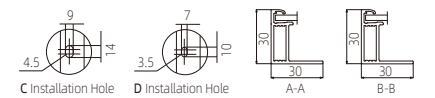
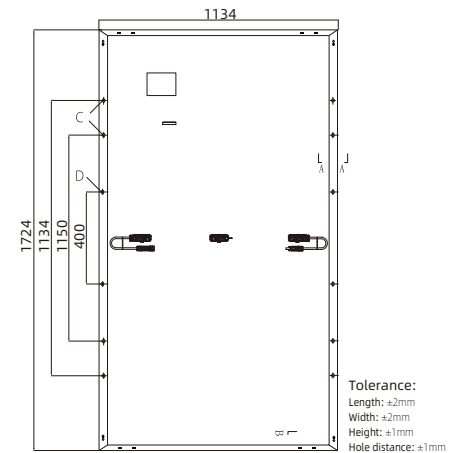
OPERATING CONDITIONS

Maximum System Voltage (V)	1000/1500VDC (IEC)
Pmax Temperature Coefficient	-0.34%/°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

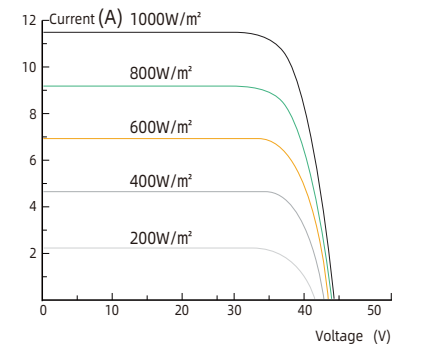
PACKING CONFIGURATION

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

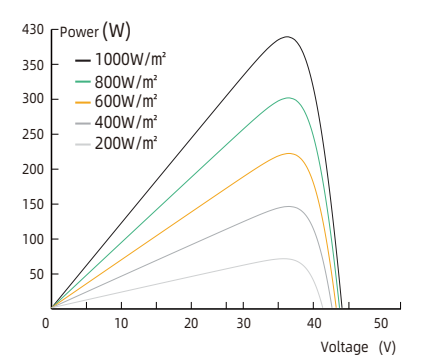
Module Dimension(mm)

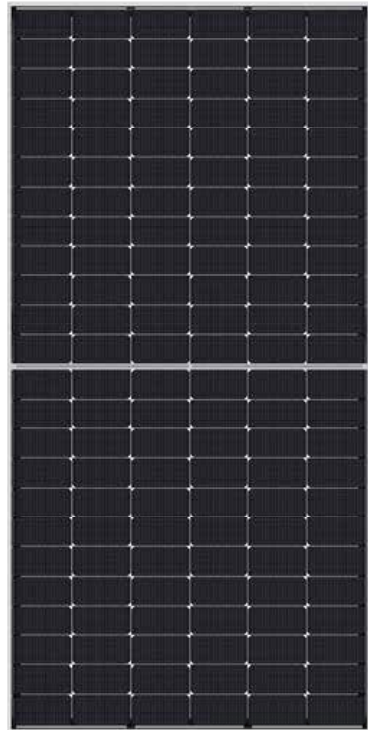


Current-Voltage Curve (420W)



Power-Voltage Curve (420W)





APEX-120H 440-460M10

21.32%

Maximum Module Efficiency

460W

Maximum Power Output

Power Tolerance:0-3W

1909×1134×35mm

Module Dimensions

IEC 61215 / IEC 61730

Fire safty class:Class C according to UL790

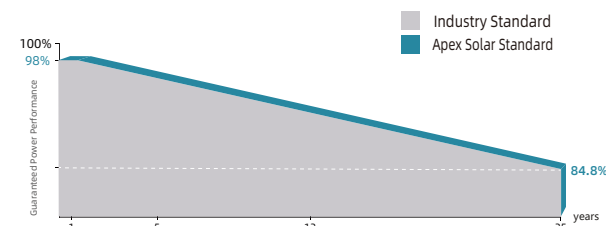
ISO 9001 :Quality Management System

ISO 14001 :Environment Management



Industry Leading Linear Power Warranty

25-year Warranty for Materials and Processing , 25-year Warranty for Extra Linear Power Output



25 Process Warranty

25 Power Warranty

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 he 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

High Efficiency Half-cells Solar Panel APEX-120H 440-460M10

ELECTRICAL PARAMETERS AT STC

Rated Maximum Power(Pmax) [W]	440	445	450	455	460
Maximum Power Voltage(Vmp) [V]	33.91	34.06	34.21	34.36	34.90
Maximum Power Current(Imp) [A]	12.98	13.07	13.16	13.25	13.19
Open Circuit Voltage(Voc) [V]	40.95	41.1	41.25	41.4	41.80
Short Circuit Current(Isc) [A]	13.41	13.52	13.62	13.72	13.92
Module Efficiency [%]	20.33	20.56	20.79	21.02	21.32

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

ELECTRICAL PARAMETERS AT NMOT

Rated Maximum Power(Pmax)[W]	330	334	338	342	343.80
Maximum Power Voltage(Vmp) [V]	31.34	31.49	31.64	31.79	32.50
Maximum Power Current(Imp) [A]	10.54	10.62	10.69	10.77	10.59
Open Circuit Voltage(Voc) [V]	37.76	37.91	38.06	38.21	39.00
Short Circuit Current(Isc) [A]	11.19	11.28	11.36	11.45	11.24

NMOT: Irradiance 800 W/m2 ambient temperature 20°C win d 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 mm² 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
Type of Connector	PV-XT101.1 (Suzhou Xtong Photovoltage Technology Co., Ltd)
Mechanical Load	Front side 5400Pa/Rear side 2400Pa

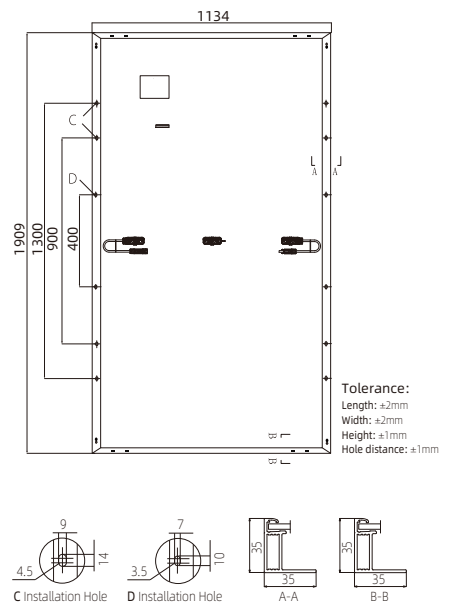
OPERATING CONDITIONS

Maximum System Voltage (V)	1000/1500VDC (IEC)
Pmax Temperature Coefficient	-0.34%/°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

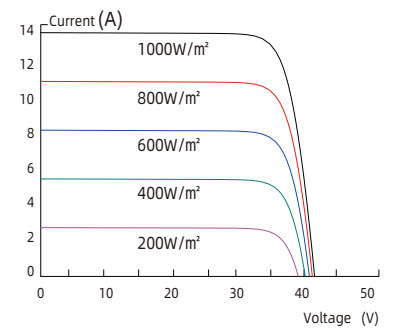
PACKING CONFIGURATION

Quantity/Pallet	31pcs/pallet
Quantity/Container	744pcs/40HQ

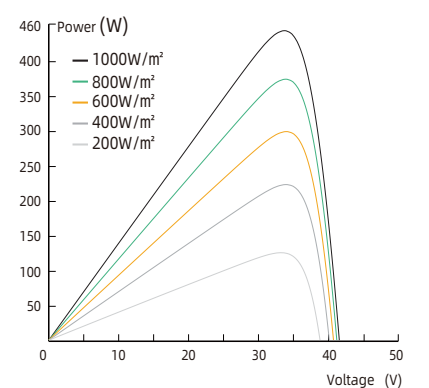
Module Dimension(mm)



Current-Voltage Curve (460W)



Power-Voltage Curve (460W)





APEX-144H 440-460M6

21.16%

Maximum Module Efficiency

460W

Maximum Power Output

Power Tolerance:0-3W

2094×1038×35mm

Module Dimensions

IEC 61215 / IEC 61730

Fire safty class:Class C according to UL790

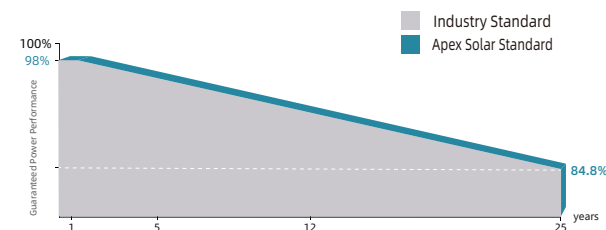
ISO 9001 :Quality Management System

ISO 14001 :Environment Management



Industry Leading Linear Power Warranty

25-year Warranty for Materials and Processing , 25-year Warranty for Extra Linear Power Output



25 Process Warranty

25 Power Warranty

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 he 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

High Efficiency Half-cells Solar Panel APEX-144H 440-460M6

ELECTRICAL PARAMETERS AT STC

Rated Maximum Power(Pmax) [W]	440	445	450	455	460
Maximum Power Voltage(Vmp) [V]	41.2	41.44	41.67	41.9	42.13
Maximum Power Current(Imp) [A]	10.68	10.74	10.8	10.86	10.92
Open Circuit Voltage(Voc) [V]	49.3	49.55	49.8	50.05	50.3
Short Circuit Current(Isc) [A]	11.3	11.36	11.42	11.48	11.54
Module Efficiency [%]	20.24	20.47	20.7	20.93	21.16

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

ELECTRICAL PARAMETERS AT NMOT

Rated Maximum Power(Pmax)[W]	334.76	338.61	342.39	346.19	349.57
Maximum Power Voltage(Vmp) [V]	39.29	39.52	39.74	39.96	40.18
Maximum Power Current(Imp) [A]	8.52	8.57	8.62	8.66	8.7
Open Circuit Voltage(Voc) [V]	46.76	46.99	47.23	47.47	47.71
Short Circuit Current(Isc) [A]	9.09	9.14	9.19	9.24	9.29

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

MECHANICAL SPECIFICATION

Cell Type	Monocrystalline
Cell Dimensions	166×166mm
Cell Arrangement	144(6×24)
Weight	23kg(±3%)
Module Dimensions	2094×1038×35mm
Cable	4.0 mm ² 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
Type of Connector	PV-XT101.1 (Suzhou Xtong Photovoltage Technology Co., Ltd)
Mechanical Load	Front side 5400Pa/Rear side 2400Pa

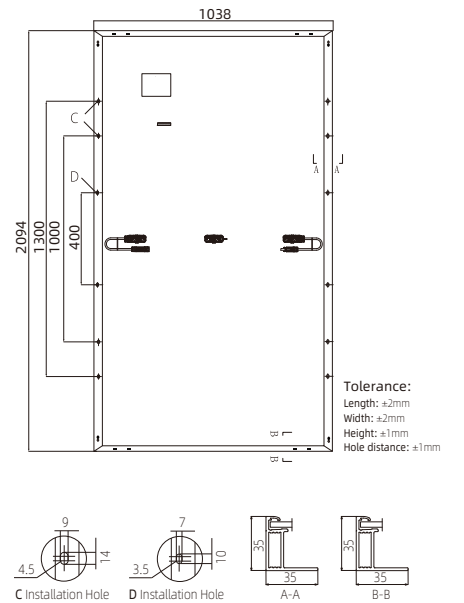
OPERATING CONDITIONS

Maximum System Voltage (V)	1000/1500VDC (IEC)
Pmax Temperature Coefficient	-0.34%/°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

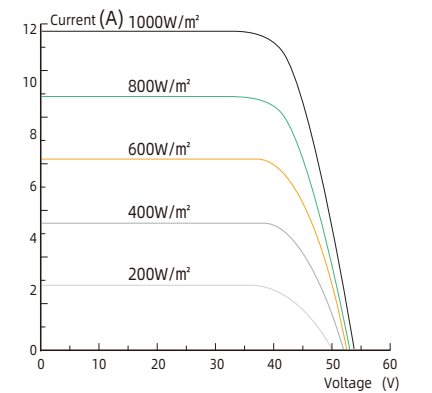
PACKING CONFIGURATION

Quantity/Pallet	31pcs/pallet
Quantity/Container	715pcs/40HQ

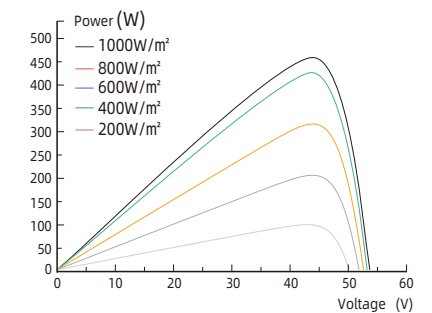
Module Dimension(mm)



Current-Voltage Curve (460W)



Power-Voltage Curve (460W)





APEX-144H 525-550M10

21.3%

Maximum Module Efficiency

550W

Maximum Power Output

Power Tolerance:0-3W

2279×1134×35mm

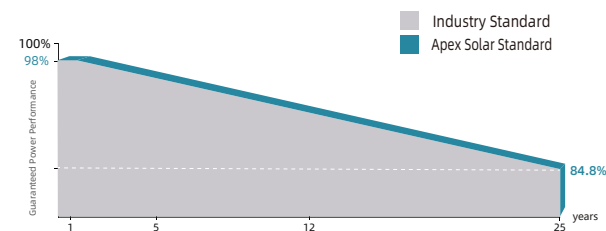
Module Dimensions

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

25-year Warranty for Materials and Processing . 25-year Warranty for Extra Linear Power Output



25 Process Warranty **25** Power Warranty

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 he 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

High Efficiency Half-cells Solar Panel APEX-144H 525-550M10

ELECTRICAL PARAMETERS AT STC

Rated Maximum Power(Pmax) [W]	525	530	535	540	545	550
Maximum Power Voltage(Vmp) [V]	41.15	41.31	41.47	41.64	41.80	41.96
Maximum Power Current(Imp) [A]	12.76	12.83	12.90	12.97	13.04	13.11
Open Circuit Voltage(Voc) [V]	49.15	49.30	49.45	49.60	49.75	49.90
Short Circuit Current(Isc) [A]	13.65	13.72	13.79	13.86	13.93	14.00
Module Efficiency [%]	20.3	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]	397	401	405	408	412	416
Maximum Power Voltage(Vmp) [V]	38.36	38.57	38.78	38.99	39.20	39.43
Maximum Power Current(Imp) [A]	10.35	10.39	10.43	10.47	10.51	10.55
Open Circuit Voltage(Voc) [V]	46.05	46.18	46.31	46.43	46.55	46.68
Short Circuit Current(Isc) [A]	10.97	11.01	11.05	11.09	11.13	11.17

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

MECHANICAL SPECIFICATION

Cell Type	Monocrystalline
Cell Dimensions	182×182mm
Cell Arrangement	144(6×24)
Weight	29.0kg(±3%)
Module Dimensions	2279×1134×35mm
Cable	4.0 mm ² 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
Type of Connector	PV-XT101.1 (Suzhou Xtong Photovoltage Technology Co., Ltd)
Mechanical Load	Front side 5400Pa/Rear side 2400Pa

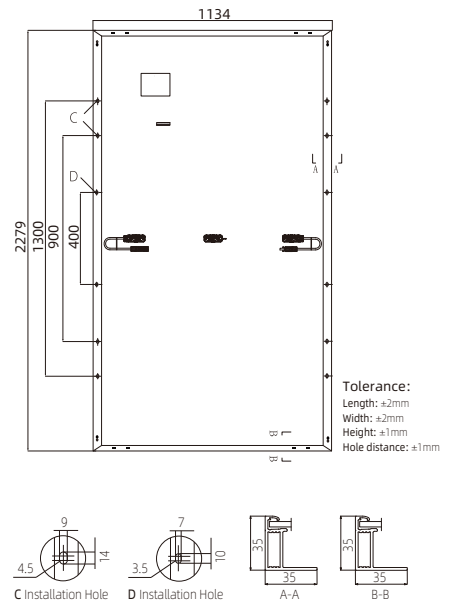
OPERATING CONDITIONS

Maximum System Voltage (V)	1000/1500VDC (IEC)
Pmax Temperature Coefficient	-0.34%/°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

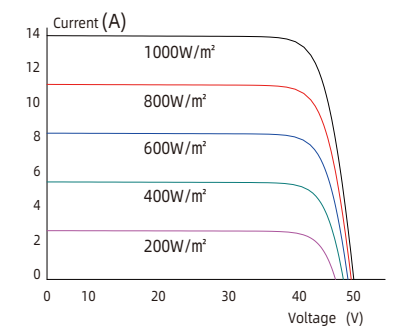
PACKING CONFIGURATION

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

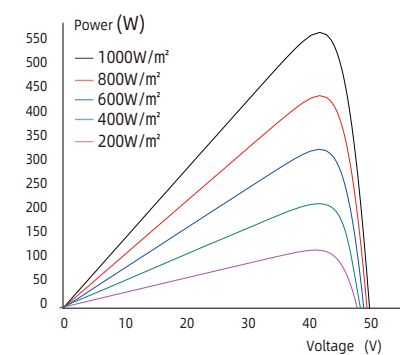
Module Dimension(mm)



Current-Voltage Curve (550W)



Power-Voltage Curve (550W)





APEX-132H 655-675M12

21.73%

Maximum Module Efficiency

675W

Maximum Power Output

Power Tolerance:0-3W

2384×1303×35mm

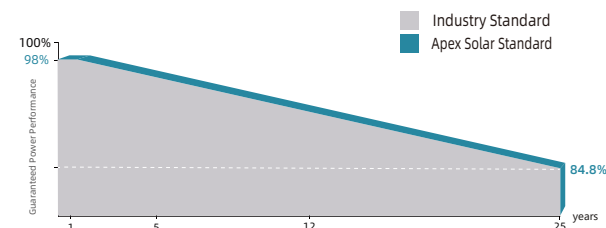
Module Dimensions

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

25-year Warranty for Materials and Processing , 25-year Warranty for Extra Linear Power Output



25 Process Warranty **25** Power Warranty

- 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 he 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

High Efficiency Half-cells Solar Panel APEX-132H 655-675M12

ELECTRICAL PARAMETERS AT STC

Rated Maximum Power(Pmax) [W]	655	660	665	670	675
Maximum Power Voltage(Vmp) [V]	37.59	37.79	37.99	38.19	38.39
Maximum Power Current(Imp) [A]	17.43	17.47	17.51	17.55	17.59
Open Circuit Voltage(Voc) [V]	45.49	45.69	45.89	46.09	46.29
Short Circuit Current(Isc) [A]	18.49	18.52	18.55	18.61	18.64
Module Efficiency [%]	21.09	21.25	21.41	21.57	21.73

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	512
Maximum Power Voltage(Vmp) [V]	35.09	35.29	35.49	35.69	35.89
Maximum Power Current(Imp) [A]	14.14	14.17	14.20	14.23	14.26
Open Circuit Voltage(Voc) [V]	42.79	42.99	43.19	43.39	43.59
Short Circuit Current(Isc) [A]	14.88	14.93	14.98	15.03	15.08

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

MECHANICAL SPECIFICATION

Cell Type	Monocrystalline
Cell Dimensions	210×210mm
Cell Arrangement	132(6×22)
Weight	34.0kg(±3%)
Module Dimensions	2384×1303×35mm
Cable	4.0 mm² 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
Type of Connector	PV-XT101.1 (Suzhou Xtong Photovoltage Technology Co., Ltd)
Mechanical Load	Front side 5400Pa/Rear side 2400Pa

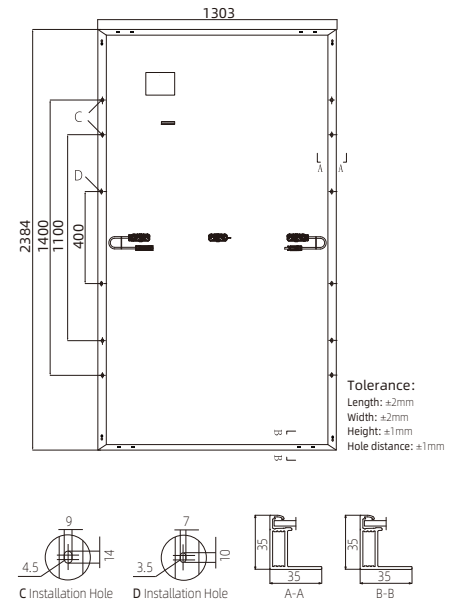
OPERATING CONDITIONS

Maximum System Voltage (V)	1000/1500VDC (IEC)
Pmax Temperature Coefficient	-0.34%/°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

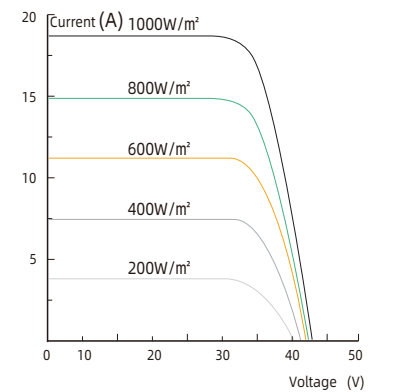
PACKING CONFIGURATION

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

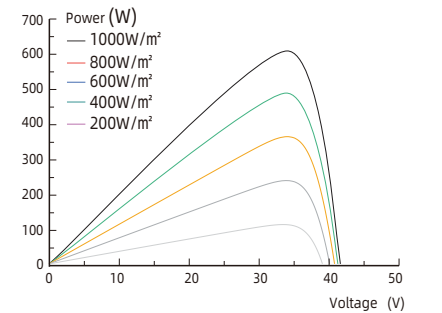
Module Dimension(mm)



Current-Voltage Curve (675W)



Power-Voltage Curve (675W)



108cells Monocrystalline Bifacial Dual Glass Module



APEX-108HBD 395-420M10

21.51%

Maximum Module Efficiency

420W

Maximum Power Output

Power Tolerance:0-3W

1724x1134x30mm

Module Dimensions

IEC 61215 / IEC 61730

Fire safty class:Class C according to UL790

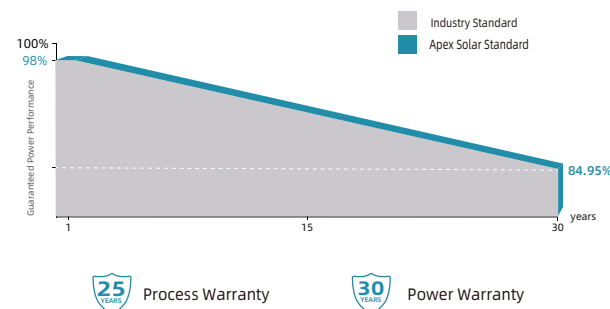
ISO 9001 :Quality Management System

ISO 14001 :Environment Management



Industry Leading Linear Power Warranty

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



- 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 he 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

High Efficiency Half-cells Solar Panel APEX-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(Imp) [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(Imp) [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	23.38	23.66
20%	Maximum Power (Pmax) [W]	474	480	486	492	498	504
	Module Efficiency STC[%]	24.27	24.58	24.89	25.20	25.50	25.81

MECHANICAL SPECIFICATION

Cell Type	Monocrystalline
Cell Dimensions	182x182mm
Cell Arrangement	108(6x18)
Weight	21.5kg(±3%)
Module Dimensions	1724x1134x30mm
Cable	4.0 mm²positive/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

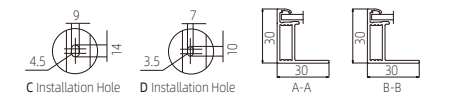
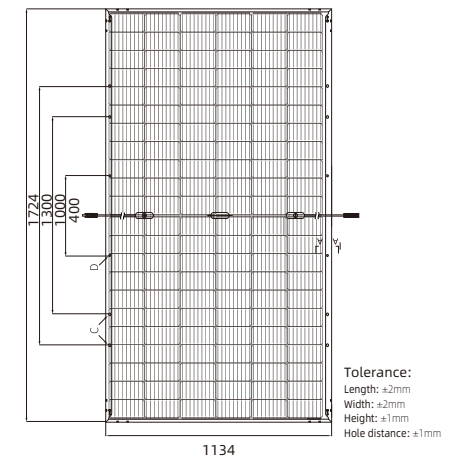
OPERATING CONDITIONS

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

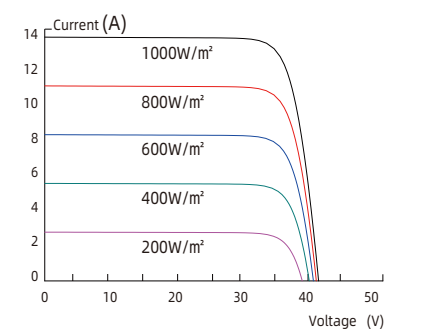
PACKING CONFIGURATION

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

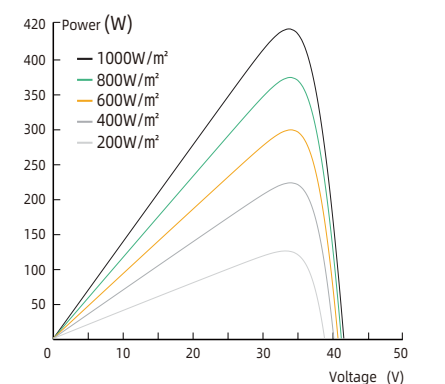
Module Dimension(mm)



Current-Voltage Curve (420W)



Power-Voltage Curve (420W)



120cells Monocrystalline Bifacial Dual Glass Module

APEX-120HBD 440-455M10

21.08%

Maximum Module Efficiency

455W

Maximum Power Output

Power Tolerance:0-3W

1909×1134×30mm

Module Dimensions

IEC 61215 / IEC 61730

Fire safty class:Class C according to UL790

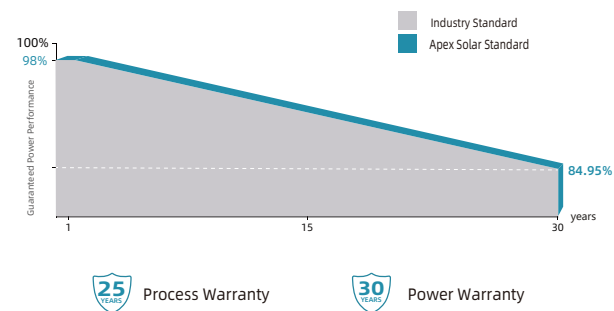
ISO 9001 :Quality Management System

ISO 14001 :Environment Management



Industry Leading Linear Power Warranty

25-year Warranty for Materials and Processing, 30-year Warranty for Extra Linear Power Output



High Efficiency Half-cells Solar Panel APEX-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(Imp) [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(Imp) [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]	426	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 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

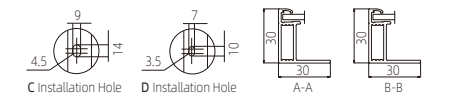
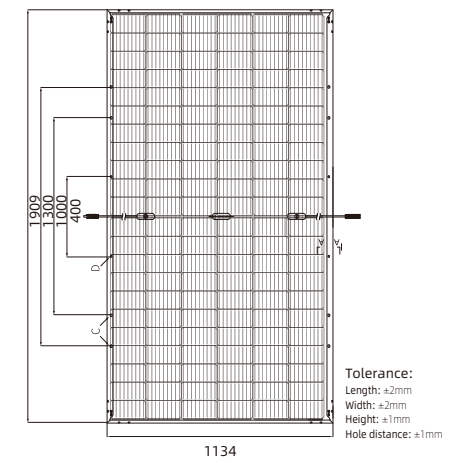
OPERATING CONDITIONS

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

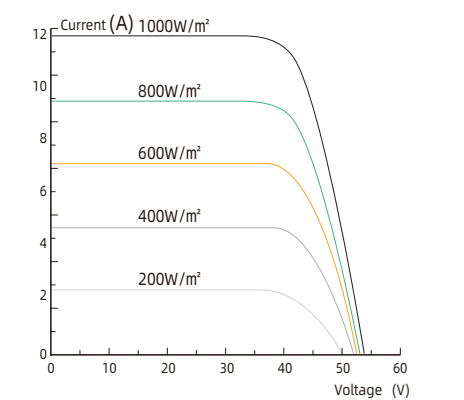
PACKING CONFIGURATION

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

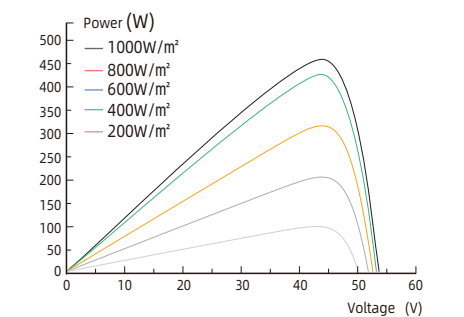
Module Dimension(mm)



Current-Voltage Curve (455W)



Power-Voltage Curve (455W)



144cells Monocrystalline Bifacial Dual Glass Module



**APEX-144HBD
530-550M10**

21.3%

Maximum Module Efficiency

550W

Maximum Power Output

Power Tolerance:0-3W

2279x1134x30mm

Module Dimensions

IEC 61215 / IEC 61730

Fire safty class:Class C according to UL790

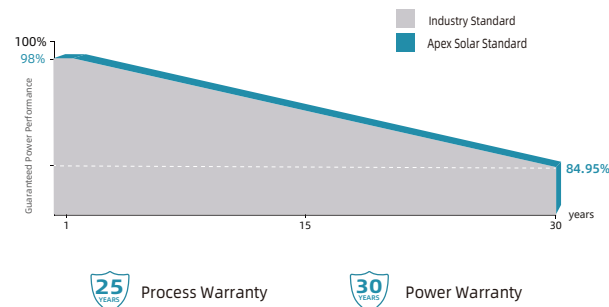
ISO 9001 :Quality Management System

ISO 14001 :Environment Management



Industry Leading Linear Power Warranty

25-year Warranty for Materials and Processing, 30-year Warranty for Extra Linear Power Output



- 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 he 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

High Efficiency Half-cells Solar Panel APEX-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(Imp) [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(Imp) [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	22.98	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
C ell Dimensions	182x182mm
Cell Arrangement	144(6x24)
Weight	32.3kg(±3%)
Module Dimensions	2279x1134x30mm
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

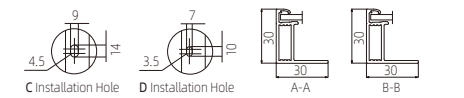
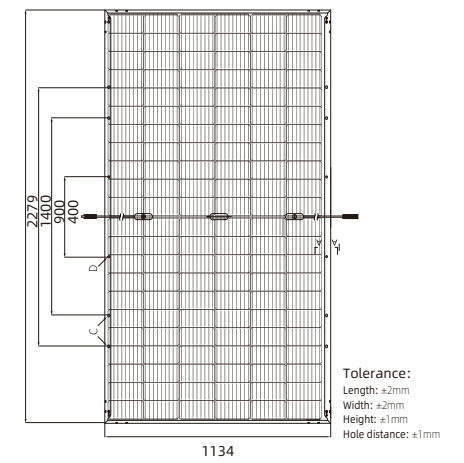
OPERATING CONDITIONS

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

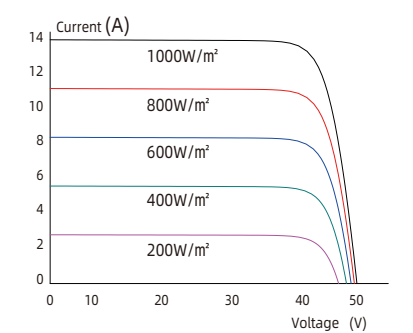
PACKING CONFIGURATION

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

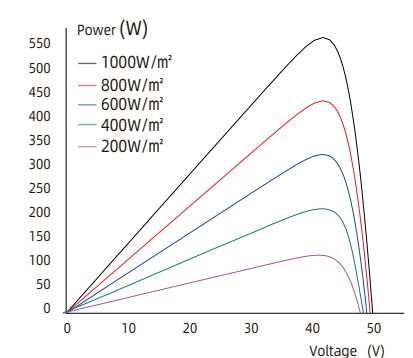
Module Dimension(mm)



Current-Voltage Curve (550W)



Power-Voltage Curve (550W)



120cells Monocrystalline Bifacial Dual Glass Module



**APEX-120HBD
590-605M12**

21.4%

Maximum Module Efficiency

605W

Maximum Power Output

Power Tolerance:0-3W

2172x1303x35mm

Module Dimensions

IEC 61215 / IEC 61730

Fire safty class:Class C according to UL790

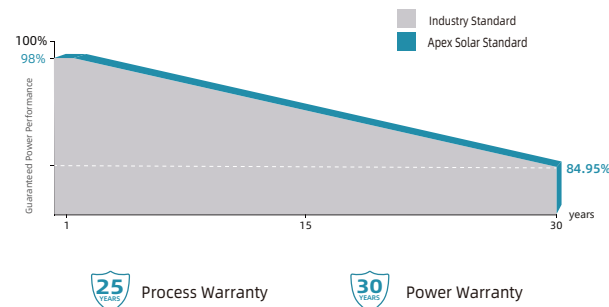
ISO 9001 :Quality Management System

ISO 14001 :Environment Management



Industry Leading Linear Power Warranty

25-year Warranty for Materials and Processing, 30-year Warranty for Extra Linear Power Output



- 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 he 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

High Efficiency Half-cells Solar Panel APEX-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(Imp) [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(Imp) [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
C Cell Dimensions	210x210mm
Cell Arrangement	120(6x20)
Weight	30.9kg(±3%)
Module Dimensions	2172x1303x35mm
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

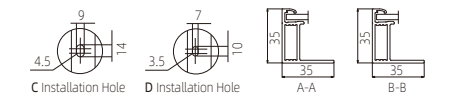
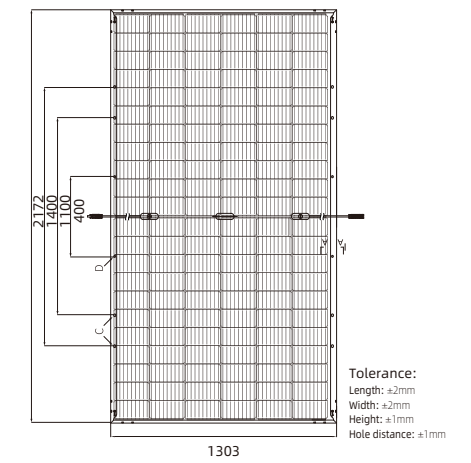
OPERATING CONDITIONS

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

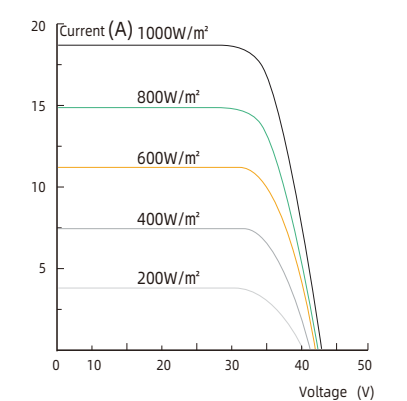
PACKING CONFIGURATION

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

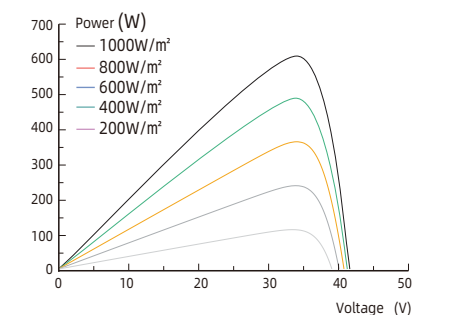
Module Dimension(mm)



Current-Voltage Curve (605W)



Power-Voltage Curve (605W)



132cells Monocrystalline Bifacial Dual Glass Module

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



APEX-132HBD 655-670M12

21.57%

Maximum Module Efficiency

670W

Maximum Power Output

Power Tolerance:0-3W

2384×1303×35mm

Module Dimensions

IEC 61215 / IEC 61730

Fire safty class:Class C according to UL790

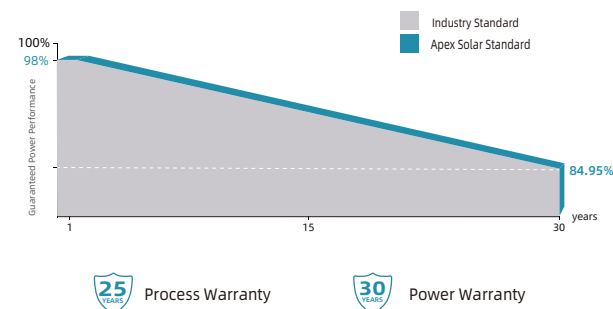
ISO 9001 :Quality Management System

ISO 14001 :Environment Management



Industry Leading Linear Power Warranty

25-year Warranty for Materials and Processing, 30-year Warranty for Extra Linear Power Output



25 Process Warranty

30 Power Warranty

ELECTRICAL PARAMETERS AT STC

	655	660	665	670
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

	496	500	504	508
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: 1 m/s

BIFACIAL OUTPUT-REAR SIDE POWER GAIN

		688	693	698	704
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
C cell Dimensions	210×210mm
Cell Arrangement	132(6×22)
Weight	38.1kg(±3%)
Module Dimensions	2384×1303×35mm
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

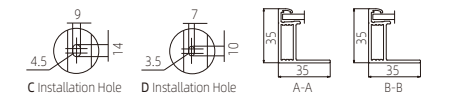
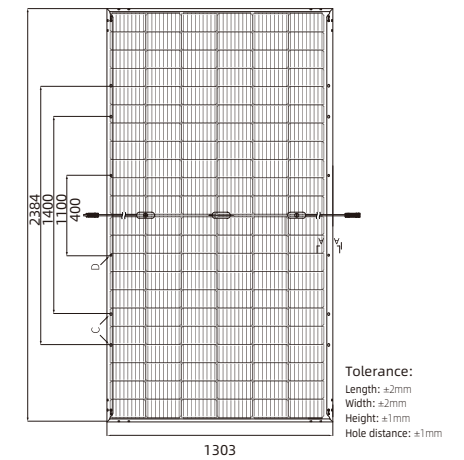
OPERATING CONDITIONS

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

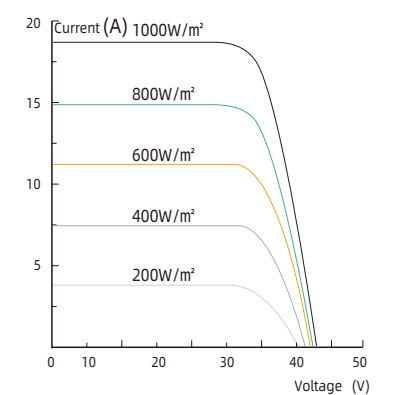
PACKING CONFIGURATION

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

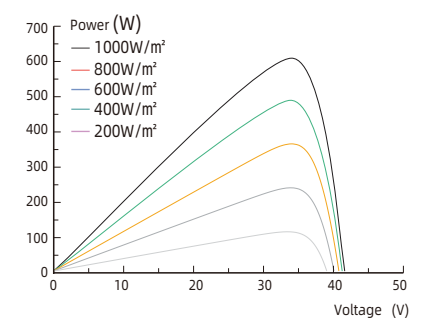
Module Dimension(mm)



Current-Voltage Curve (670W)



Power-Voltage Curve (670W)





residential house roof — town



residential house roof — countryside



residential house roof — Warehouse



Industrial and commercial distribution — workshop



Industrial and commercial distribution — workshop



Industrial and commercial distribution — workshop



Ground power station — wasteland



Ground power station — desert



Ground power station — mountain