

SOLAR MODULES
BALCONY SOLAR
SOLAR POWER SOLUTION
SMART MODULES / OFF ROAD

— — — — — BY — — — — —

®

SOLAR EPOCH

— SOLAREPOCH.COM —



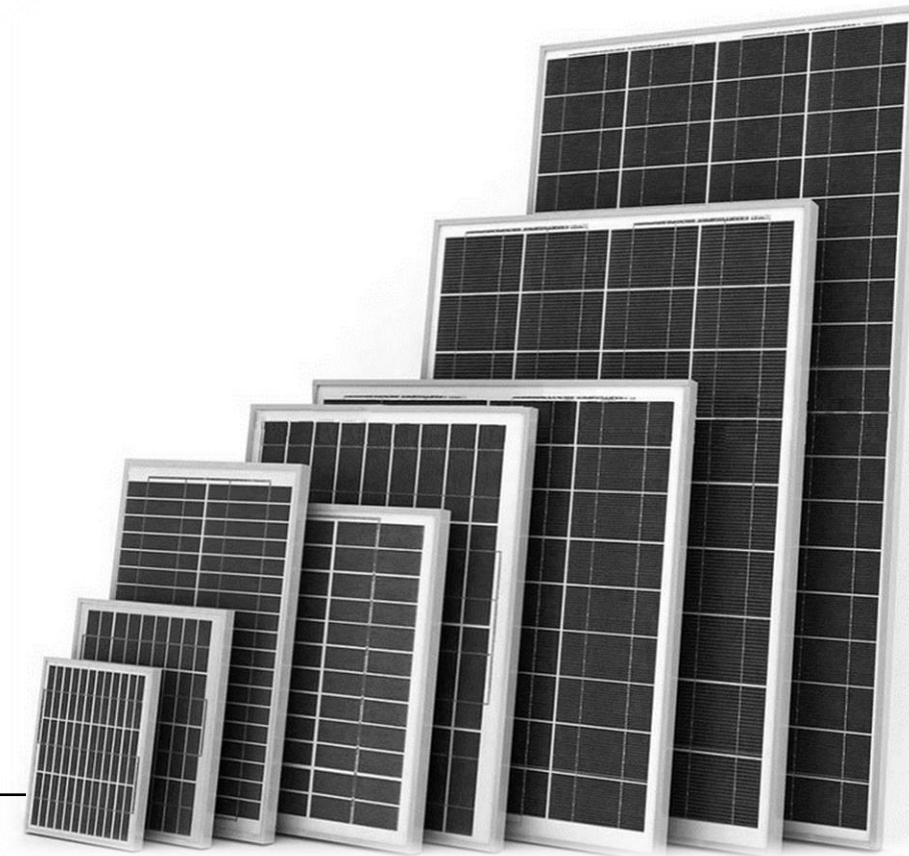
SOLAR EPOCH

®

SEGMENT 1: SOLAR MODULES

① SOLAR MODULES — OFF GRID SERIES —

Types	SU0G-01	SU0G-02	SU0G-03	SU0G-04
Pmax	20W	60W	120W	220W
Cells Array	4*9	4*9	2*12	6*8
Dimensions	539*366*25	768*664*35	1960*350*40	1324*992*35
Vmpp	17.3V	17.3V	17.3V	25.0V
Impp	1.16A	3.47A	6.94A	8.80A
Voc	21.7V	21.7V	21.5V	30.6V
Isc	1.26A	3.93A	7.75A	8.85A
Weight	2.1KG	6.2KG	12.0KG	15.0KG
System Voltage	1000V	1000V	1000V	1000V
Fuse	15A	15A	15A	15A



* All Solar Modules Can Be Customized — OEM/ODM Services

① SOLAR MODULE — AGRICULTURE USAGE —



P_{max} (W) 120W

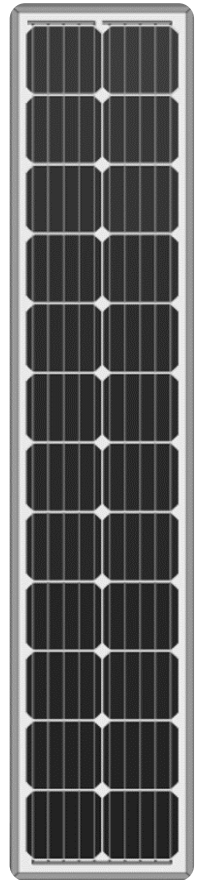
V_{oc} (V) 21.5V

I_{sc} (A) 7.75A

V_{Pmax} (V) 17.3V

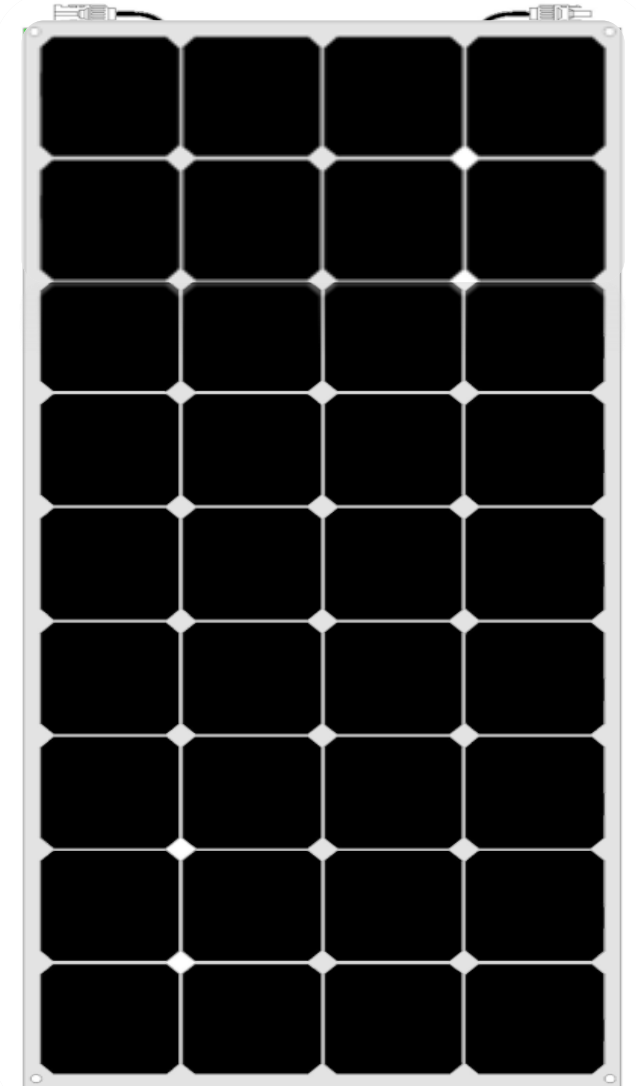
I_{Pmax} (A) 6.94A

Eff (%) 18.50%



① SOLAR MODULE — AGRICULTURE USAGE —

P _{max}	120W
V _{MPPT}	18V
I _{MPPT}	6.6A
Size	1200*535mm
Cell Eff	23%
Thickness	2.5mm
Encapsulating Material	PET/ETFE
Weight	2.3KG



Twinplus Module Series

DRACO SERIES

Launch the **N** N-TOPCon
Module
ext era

PHONO

Authorized Agent of PHONO



PHONO

400-420w

Twinplus Module Series

HIGH EFFICIENCY MONO-PERC M6-10B-R



Outstanding Product Performance

- Competitive high-temperature performance with ameliorated temperature coefficient
- Minimized power loss in cell connection
- Better performance under shading effect
- Decreased nominal operating cell temperature to $45 \pm 2^\circ\text{C}$
- Higher power generation with multi-busbar and half-cut technology



12-year Product Warranty
25-year Linear Performance Warranty

Trustworthy Quality And Reliability

- Guaranteed 0-+5W positive tolerance secures reliable power output
- 5400Pa maximum snow load, 2400Pa maximum wind load
- Optimized electrical design lowers hot spot risk and operating current

MANAGEMENT SYSTEM CERTIFICATES

IEC 61215, IEC 61730
ISO 9001
2015 / Quality management system
ISO 14001
2015 / Standards for environmental management system
ISO 45001
2018 / International standards for occupational health & safety

PID Resistant

- Industry-leading cell processing technology and electrical design ensure solid PID resistance

Electrical Typical Values

Model	PS400M6-18/VH		PS405M6-18/VH		PS410M6-18/VH		PS415M6-18/VH		PS420M6-18/VH	
Model	1500V	1500V	1500V	1500V	1500V	1500V	1500V	1500V	1500V	1500V
Testing Condition	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Rated Power (Pmppt)	400	501	405	505	410	509	415	515	420	516
Rated Current (Imppt)	12.97	10.46	15.06	10.54	15.15	10.61	15.24	10.68	15.35	10.75
Rated Voltage (Vmpp)	30.85	28.81	31.02	28.97	31.18	29.12	31.55	29.28	31.51	29.43
Short Circuit Current (Isc)	15.52	10.91	15.62	10.99	15.72	11.07	15.82	11.15	15.92	11.25
Open Circuit Voltage (Voc)	56.87	54.95	57.05	55.12	57.25	55.29	57.42	55.47	57.61	55.65
Module Efficiency (%)	20.48		20.74		21.00		21.25		21.51	

STC(Standard Testing Conditions): Irradiance 1000W/m², AM 1.5, Cell Temperature 25°C

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

Mechanical Characteristics

Cell Type	Monocrystalline
Dimension (L x W x H)	Length: 1722mm (67.80 inch) Width: 1154mm (44.65 inch) Height: 50mm (1.98 inch)
Weight	21.5kg (47.39 lbs)
Glass	3.2mm toughened glass
Frame	Anodized Aluminium Alloy
Cable (Including Connector)	4mm ² (IEC), (+): 450mm, (-): 250mm or Customized Length
Junction Box	IP 68 Rated

Temperature Ratings

Voltage Temperature Coefficient	-0.26%/°C
Current Temperature Coefficient	+0.042%/°C
Power Temperature Coefficient	-0.55%/°C
Power Tolerance	0-+3%
NOCT	45±2°C

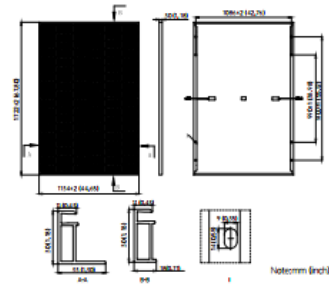
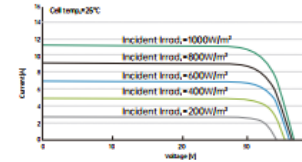
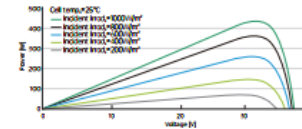
Absolute Maximum Rating

Operating Temperature	From -40 to +85°C
Hail Diameter @ 80km/h	Up to 25mm
Front Side Maximum Static Loading	5400Pa
Rear Side Maximum Static Loading	2400Pa
Maximum Series Fuse Rating	25A
PV Module Classification	II
Fire Rating (IEC61730)	C
Maximum System Voltage	DC 1000V/1500V

Packing Configuration

Container	20' GP	40' HQ
Pieces/Container	216	936
Pcs/Pallet	36	36
Pallets/Container	6	26

Electrical Characteristics





PHONO SOLAR EPOCH

420-440w Draco Module Series

N-TOPCON HIGH EFFICIENCY MONO BM6-16B-G

Bloomberg
NEW ENERGY FINANCE

Tier1



Light Weight Makes It Easier to Transport and Install

Extraordinary Product Performance

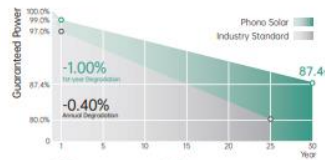
- Up to 30% additional power yield benefited from bifacial technology and over 80% cell bifaciality
- Competitive high-temperature performance with ameliorated temperature coefficient
- Better weak illumination response, higher power generation with N-TOPCon technology

High Quality Reliability

- Zero Light Induced Degradation (LID), can increase power generation
- Industry-leading cell processing technology and dual glass contributes to excellent anti-PID characteristic
- First-year degradation is less than 1.0%, with linear degradation of 0.4% per year for 30 years

Wider Application Conditions

- BIPV, vertical installation, snowfield, high-humid area, windy and dusty area



15-year
Product Warranty

30-year
Linear Performance Warranty

MANAGEMENT SYSTEM CERTIFICATES

IEC 61215, IEC 61730
ISO 9001
2015 / Quality management system
ISO 14001
2015 / Standards for environmental management system
ISO 45001
2018 / International standards for occupational health & safety



Electrical Typical Values

Model	1000V		PS420M8GF-18/VNH		PS425M8GF-18/VNH		PS430M8GF-18/VNH		PS435M8GF-18/VNH		PS440M8GF-18/VNH	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Rated Power (Pmpp)	420	322	425	325	430	329	435	333	440	337	440	337
Rated Current (Impp)	13.18	10.62	13.24	10.66	13.30	10.71	13.36	10.76	13.42	10.81	13.42	10.81
Rated Voltage (Vmpp)	31.87	30.30	32.10	30.52	32.34	30.74	32.56	30.95	32.79	31.17	32.79	31.17
Short Circuit Current (Isc)	13.83	11.14	13.89	11.19	13.95	11.24	14.04	11.31	14.11	11.36	14.11	11.36
Open Circuit Voltage (Voc)	38.44	36.81	38.73	37.08	39.03	37.37	39.32	37.65	39.61	37.93	39.61	37.93
Module Efficiency (%)	21.51		21.76		22.02		22.28		22.53		22.53	

STC (Standard Testing Conditions): Irradiance 1000W/m², AM 1.5, Cell Temperature 25°C

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

BSTC

Model	PS420M8GF-18/VNH	PS425M8GF-18/VNH	PS430M8GF-18/VNH	PS435M8GF-18/VNH	PS440M8GF-18/VNH
Maximum Power (Pmax)	460	465	470	475	480
Optimum Operating Current (Impp)	14.43	14.49	14.53	14.59	14.64
Optimum Operating Voltage (Vmpp)	31.87	32.10	32.34	32.56	32.79
Short Circuit Current (Isc)	15.15	15.20	15.24	15.29	15.34
Open Circuit Voltage (Voc)	38.44	38.73	39.03	39.32	39.61

BSTC: Front Side Irradiation 1000W/m², Back Side Reflection Irradiation 135W/m², AM 1.5, Ambient Temperature 25°C

Mechanical Characteristics

Cell Type	N Type Monocrystalline
Dimension (L × W × H)	Length: 1722mm (67.80 inch)
	Width: 1134mm (44.65 inch)
	Height: 30mm (1.18 inch)
Weight	21.0kg (46.30 lbs)
Glass	1.6mm/1.6mm toughened glass
Frame	Anodized Aluminium Alloy
Cable (Including Connector)	4mm² (IEC)
	(+): 450mm, (-): 250mm or Customized Length
Junction Box	IP 68 Rated

Temperature Ratings

Voltage Temperature Coefficient	-0.25%/°C
Current Temperature Coefficient	+0.04%/°C
Power Temperature Coefficient	-0.29%/°C
Power Tolerance	0~+5%
NOCT	42±2°C
Bifaciality	80±5%

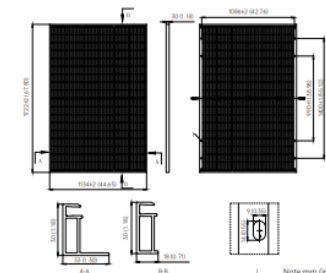
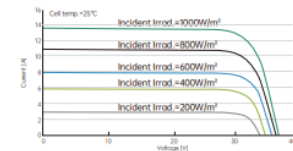
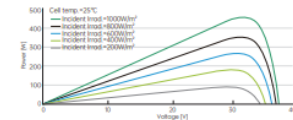
Absolute Maximum Rating

Operating Temperature	From -40 to +85°C
Hole Diameter @ 80km/h	Up to 25mm
Front Side Maximum Static Loading	5400Pa
Rear Side Maximum Static Loading	2400Pa
Maximum Series Fuse Rating	30A
PV Module Classification	II
Fire Rating (IEC61730)	C
Maximum System Voltage	DC 1000V/1500V

Packing Configuration

Container	20' GP	40' HQ
Pieces/Container	216	936
Pcs/Pallet	36	36
Pallets/Container	6	26

Electrical Characteristics





PHONO

535-555w

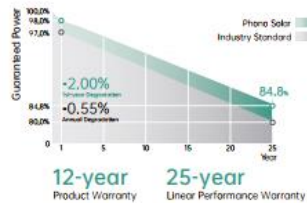
Twinplus Module Series

HIGH EFFICIENCY MONO-PERC M6-10B-R

Bloomberg Tier1 PVEL

Outstanding Product Performance

- Competitive high-temperature performance with ameliorated temperature coefficient
- Minimized power loss in cell connection
- Better performance under shading effect
- Decreased nominal operating cell temperature to $45 \pm 2^\circ\text{C}$
- Higher power generation with multi-busbar and half-cut technology



Trustworthy Quality And Reliability

- Guaranteed 0 \rightarrow +5W positive tolerance secures reliable power output
- 5400Pa maximum snow load, 2400Pa maximum wind load
- Optimized electrical design lowers hot spot risk and operating current

PID Resistant

- Industry-leading cell processing technology and electrical design ensure solid PID resistance

MANAGEMENT SYSTEM CERTIFICATES

IEC 61215, IEC 61730
 ISO 9001
 2015 / Quality management system
 ISO 14001
 2015 / Standards for environmental management system ensure solid PID resistance
 ISO 45001
 2018 / International standards for occupational health & safety

Electrical Typical Values

Model	1000V	P555M6-24/TH		P5540M6-24/TH		P5545M6-24/TH		P5550M6-24/TH		P5555M6-24/TH	
Testing Condition	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	
Rated Power (Pmpp)	535	405	540	407	545	411	550	414	555	418	
Rated Current (Impp)	12.97	10.46	13.06	10.54	13.15	10.61	13.24	10.68	13.33	10.75	
Rated Voltage (Vmp)	41.25	38.55	41.35	38.62	41.45	38.71	41.55	38.80	41.64	38.89	
Short Circuit Current (Isc)	15.52	10.91	15.62	10.99	15.72	11.07	15.82	11.15	15.92	11.23	
Open Circuit Voltage (Voc)	49.29	46.75	49.39	46.82	49.49	46.92	49.59	47.01	49.69	47.11	
Module Efficiency (%)	20.71		20.90		21.10		21.29		21.48		

STC(Standard Testing Conditions): Irradiance 1000W/m², AM 1.5, Cell Temperature 25°C

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

Mechanical Characteristics

Cell Type	Monocrystalline
Dimension (L x W x H)	Length: 2278mm (89.69 inch) Width: 1134mm (44.65 inch) Height: 35mm (1.38 inch)
Weight	28.0kg (61.72 lbs)
Glass	3.2mm toughened glass
Frame	Anodized Aluminium Alloy
Cable (Including Connector)	4mm ² (IEC), (+): 450mm, (-): 250mm or Customized Length
Junction Box	IP 68 Rated

Temperature Ratings

Voltage Temperature Coefficient	-0.26%/°C
Current Temperature Coefficient	+0.042%/°C
Power Temperature Coefficient	-0.33%/°C
Power Tolerance	0 \rightarrow +5%
NOCT	45 \pm 2°C

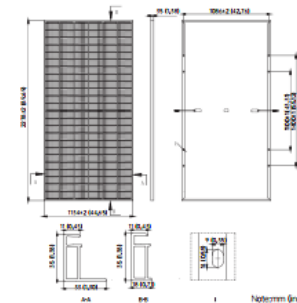
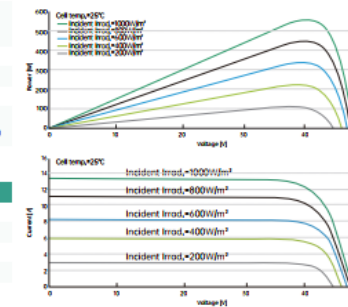
Absolute Maximum Rating

Operating Temperature	From -40 to +85°C
Hall Diameter @ 80km/h	Up to 25mm
Front Side Maximum Static Loading	5400Pa
Rear Side Maximum Static Loading	2400Pa
Maximum Series Fuse Rating	25A
PV Module Classification	II
Fire Rating (IEC61730)	C
Maximum System Voltage	DC 1000V/1500V

Packing Configuration

Container	20' GP	40' HQ
Pieces/Container	155	620
Pcs/Pallet	51	51
Pallets/Container	5	20

Electrical Characteristics



PHONO

PHONO SOLAR TECHNOLOGY CO., LTD. reserves the right to make necessary adjustments to the information described herein at any time without further notice. The specifications and certificates contained in this datasheet may deviate slightly from our actual products due to the on-going innovation and product enhancement. Please be sure to use the most recent version of data.



PHONO SOLAR EPOCH

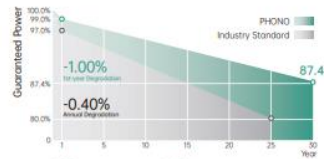
615-635W Draco Module Series

N-TOPCON HIGH EFFICIENCY MONO BM6-16B-G

Bloomberg Tier1 PVEdge 100% 100% 100%

Extraordinary Product Performance

- Up to 30% additional power yield benefited from bifacial technology and over 80% cell bifaciality
- Competitive high-temperature performance with ameliorated temperature coefficient
- Better weak illumination response, higher power generation with N-TOPCON technology



15-year Product Warranty 30-year Linear Performance Warranty

Higher Quality Reliability

- Zero Light Induced Degradation(LID), can increase power generation
- Industry-leading cell processing technology and dual glass contributes to excellent anti-PID characteristic
- First-year degradation is less than 1.0%, with linear degradation of 0.4% per year for 30 years

Wider Application Conditions

- BIPV, vertical installation, snowfield, high-humid area, windy and dusty area
- Safer and easier handling during transportation and installation

MANAGEMENT SYSTEM CERTIFICATES

IEC 61215, IEC 61730
ISO 9001
2015 / Quality management system
ISO 14001
2015 / Standards for environmental management system
ISO 45001
2018 / International standards for occupational health & safety



Electrical Typical Values

Model	P5615M8GFH-26/RNH		P5620M8GFH-26/RNH		P5625M8GFH-26/RNH		P5630M8GFH-26/RNH		P5635M8GFH-26/RNH	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Testing Condition										
Rated Power (Pmpp)	615	471	620	475	625	479	630	482	635	486
Rated Current (Imp)	13.44	10.82	13.50	10.87	13.56	10.92	13.62	10.97	13.68	11.02
Rated Voltage (Vmpp)	45.76	43.50	45.93	43.66	46.09	43.82	46.26	43.98	46.32	44.13
Short Circuit Current (Isc)	14.11	11.36	14.19	11.43	14.27	11.49	14.35	11.56	14.42	11.61
Open Circuit Voltage (Voc)	55.46	53.10	55.60	53.24	55.74	53.37	55.88	53.51	56.01	53.63
Module Efficiency (%)	22.00		22.18		22.36		22.54		22.72	

STC (Standard Testing Conditions): Irradiance 1000W/m², AM 1.5, Cell Temperature 25°C

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

BSTC

Maximum Power (Pmax)	675	680	685	690	695
Optimum Operating Current (Imp)	14.75	14.81	14.86	14.92	15.00
Optimum Operating Voltage (Vmpp)	45.76	45.93	46.09	46.26	46.32
Short Circuit Current (Isc)	15.41	15.48	15.56	15.63	15.71
Open Circuit Voltage (Voc)	55.46	55.60	55.74	55.88	56.01

BSTC: Front side irradiation 1000W/m², back side reflection irradiation 135W/m², AM 1.5, ambient temperature 25°C

Mechanical Characteristics

Cell Type	N Type Monocrystalline
Dimension (L x W x H)	Length: 2465mm (97.05 inch)
	Width: 1134mm (44.65 inch)
	Height: 35mm (1.38 inch)
Weight	35.0kg (77.16 lbs)
Glass	2.0mm/2.0mm toughened glass
Frame	Anodized Aluminium Alloy
Cable (including Connector)	4mm² (IEC),
	(+) 450mm, (-) 250mm or Customized Length

Temperature Ratings

Voltage Temperature Coefficient	-0.25%/°C
Current Temperature Coefficient	-0.04%/°C
Power Temperature Coefficient	-0.29%/°C
Power Tolerance	0~+3%
NOCT	42±2°C
Bifaciality	80±5%

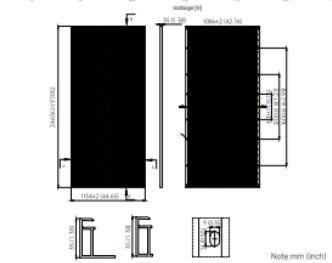
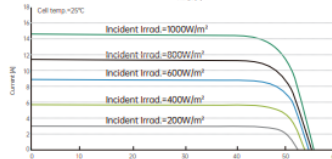
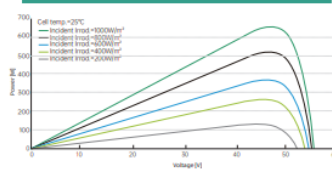
Absolute Maximum Rating

Operating Temperature	From -40 to +85°C
Hail Diameter @ 80km/h	Up to 25mm
Front Side Maximum Static Loading	5400Pa
Rear Side Maximum Static Loading	2400Pa
Maximum Series Fuse Rating	30A
PV Module Classification	II
Fire Rating (IEC61730)	C
Maximum System Voltage	DC 1500V

Packing Configuration

Container	40' HQ
Pieces/Container	558
Pcs/Pallet	31
Pallets/Container	18

Electrical Characteristics





① SOLAR MODULE — AUTHORIZED AGENT — AUSTRALIA



TRANSFORM ENERGY
FOR TOMORROW

*Jinergy promotes industrial progress with
technological innovation, helps transform the energy structure,
and achieves a zero-carbon future.*

Phenomenal
Performance

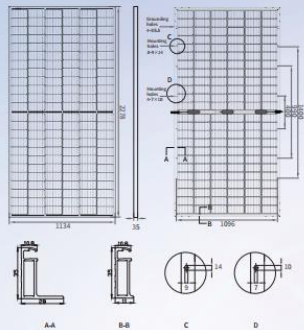
Jinergy devotes itself to exploring products with high application value, bringing environment-friendly, high-yield, and zero-carbon emission experience to customers.

Authorized Agent of JINERGY

High power PERC bifacial solar module

JNMM144-535-555

ENGINEERING DRAWING



MECHANICAL PARAMETERS

Cell (mm)	182*91 PERC
Dimensions (L*W*H) (mm)	2278*1334*35
Weight (kg)	27.2
Cable Cross Section Size (mm ²)	4
No. of Cells & Connections	144(6*24)
No. of Diodes	3
Frame	Anodized Aluminium Alloy
Glass Thickness (mm)	3.2
QUALIFICATION	
Temperature Cycling Range (°C)	-40~+85
Max. Series Fuse Rating (A)	30
Max. Wind Load/Max. Snow Load (Pa)	2400/5400
Hot Spot Rate	100% Free
Fire Rating	Class C
Junction Box & Connector Protection Grade	IP68
Bifacial Factor(%)	70±5
TEMPERATURE COEFFICIENTS	
Nominal Module Operating Temperature (NMOT)	43.2±2°C
Temperature Coefficient Voltage (Voc)	-0.29 %/°C
Temperature Coefficient Current (Isc)	0.04 %/°C
Temperature Coefficient Power (Pm)	-0.34 %/°C

ELECTRICAL PARAMETERS

Module Type (1500V DC)	JNMM144-535	JNMM144-540	JNMM144-545	JNMM144-550	JNMM144-555
Max. Power at STC (Pmppt/W)	535	540	545	550	555
Output Tolerance (W)	0-5	0-5	0-5	0-5	0-5
Max. Power Voltage (Vmp/V)	41.28	41.54	41.76	41.98	42.20
Max. Power Current (Imp/A)	12.97	13.00	13.06	13.12	13.17
Open Circuit Voltage (Voc/V)	49.12	49.43	49.70	49.97	50.24
Short Circuit Current (Isc/A)	13.79	13.83	13.88	13.93	13.98
Module Efficiency (%)	20.71	20.90	21.10	21.29	21.48
Backside Power Gain	10%	20%	20%	30%	
Max. Power (Pmppt/W)	599.5	654	654	708.5	
Max. Power Voltage (Vmp/V)	41.75	41.77	41.77	41.75	
Max. Power Current (Imp/A)	14.36	15.66	16.97		
Open Circuit Voltage (Voc/V)	49.70	49.70	49.70		
Short Circuit Current (Isc/A)	15.26	16.65	18.03		
Module Efficiency (%)	23.21	25.32	27.43		

I-V CURVE (545W)



PACKING CONFIGURATION

Pieces Per Pallet	31
Pallets Per Container	20
Pieces Per Container	620

Default

Connector Type	<input type="checkbox"/> MC4 Compatible <input type="checkbox"/> MC4
Cable Length	<input type="checkbox"/> 400mm/300mm <input type="checkbox"/> Customized
Frame Color	<input type="checkbox"/> Silver <input type="checkbox"/> Black

Optional

Connector Type	<input type="checkbox"/> MC4
Cable Length	<input type="checkbox"/> Customized
Frame Color	<input type="checkbox"/> Black



13-year Product materials and workmanship quality warranty

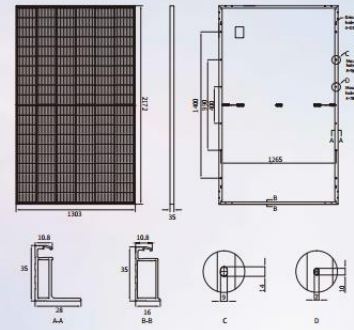
Output power	
The 1st year	>=98.00%
The 20th year	>=91.95%
The 25th year	>=84.80%



Super high power PERC solar module

JNMM120-600-610

ENGINEERING DRAWING



MECHANICAL PARAMETERS

Cell (mm)	210*105 PERC
Dimensions (L*W*H) (mm)	2172*1303*35
Weight (kg)	30.0
Cable Cross Section Size (mm ²)	4
No. of Cells & Connections	120(6*20)
No. of Diodes	3
Frame	Anodized Aluminium Alloy
Glass Thickness (mm)	3.2
Connector Type	PV-JNB1/PV-KST4-EVO 2/PV-UB/PV-ABT4-EVO2/2y-UB

QUALIFICATION

Temperature Cycling Range (°C)	-40~+85
Max. Series Fuse Rating (A)	30
Max. Wind Load/Max. Snow Load (Pa)	2400/5400
Fire Rating	Class C
Junction Box & Connector Protection Grade	IP68

TEMPERATURE COEFFICIENTS

Nominal Module Operating Temperature (NMOT)	43.2±2°C
Temperature Coefficient Voltage (Voc)	-0.29 %/°C
Temperature Coefficient Current (Isc)	0.04 %/°C
Temperature Coefficient Power (Pm)	-0.34 %/°C

ELECTRICAL PARAMETERS

Module Type (1500V DC)	JNMM120-600	JNMM120-605	JNMM120-610
Max. Power at STC (Pmppt/W)	600	605	610
Output Tolerance (W)	0-5	0-5	0-5
Max. Power Voltage (Vmp/V)	34.40	34.60	34.80
Max. Power Current (Imp/A)	17.44	17.49	17.54
Open Circuit Voltage (Voc/V)	41.50	41.70	41.90
Short Circuit Current (Isc/A)	18.52	18.57	18.62
Module Efficiency (%)	21.20	21.38	21.55
Max. Power (Pmppt/W)	453.9	457.7	461.5
Max. Power Voltage (Vmp/V)	32.53	32.71	32.89
Max. Power Current (Imp/A)	13.95	13.99	14.03
Open Circuit Voltage (Voc/V)	39.18	39.37	39.56
Short Circuit Current (Isc/A)	14.91	14.95	14.99

I-V CURVE (600W)



PACKING CONFIGURATION

Pieces Per Pallet	31
Pallets Per Container	18
Pieces Per Container	558

Default

Cable Length	<input type="checkbox"/> 400mm/300mm <input type="checkbox"/> Customized
Frame Color	<input type="checkbox"/> Silver <input type="checkbox"/> Black

Optional

Cable Length	<input type="checkbox"/> Customized
Frame Color	<input type="checkbox"/> Black



15-year Product materials and workmanship quality warranty

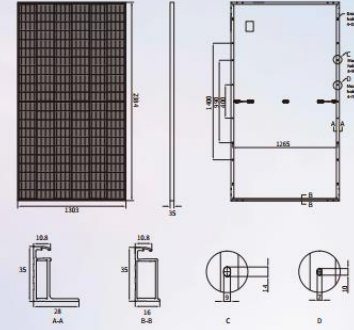
Output power	
The 1st year	>=98.20%
The 15th year	>=93.20%
The 20th year	>=88.20%
The 25th year	>=83.20%



Super high power PERC solar module

JNMM132-660-675

ENGINEERING DRAWING



MECHANICAL PARAMETERS

Cell (mm)	210*105 PERC
Dimensions (L*W*H) (mm)	2384*1303*35
Weight (kg)	32.5
Cable Cross Section Size (mm ²)	4
No. of Cells & Connections	132(6*22)
No. of Diodes	3
Frame	Anodized Aluminium Alloy
Glass Thickness (mm)	3.2
Connector Type	PV-JNB1/PV-KST4-EVO 2/PV-UB/PV-ABT4-EVO2/2y-UB

QUALIFICATION

Temperature Cycling Range (°C)	-40~+85
Max. Series Fuse Rating (A)	30
Max. Wind Load/Max. Snow Load (Pa)	2400/5400
Fire Rating	Class C
Junction Box & Connector Protection Grade	IP68

TEMPERATURE COEFFICIENTS

Nominal Module Operating Temperature (NMOT)	43.2±2°C
Temperature Coefficient Voltage (Voc)	-0.29 %/°C
Temperature Coefficient Current (Isc)	0.04 %/°C
Temperature Coefficient Power (Pm)	-0.34 %/°C

ELECTRICAL PARAMETERS

Module Type (1500V DC)	JNMM132-660	JNMM132-665	JNMM132-670	JNMM132-675
Max. Power at STC (Pmppt/W)	660	665	670	675
Output Tolerance (W)	0-5	0-5	0-5	0-5
Max. Power Voltage (Vmp/V)	37.85	38.02	38.20	38.38
Max. Power Current (Imp/A)	17.44	17.49	17.54	17.59
Open Circuit Voltage (Voc/V)	45.65	45.87	46.09	46.30
Short Circuit Current (Isc/A)	18.52	18.57	18.62	18.67
Module Efficiency (%)	21.25	21.41	21.57	21.73
Max. Power (Pmppt/W)	499.3	503.1	506.8	510.6
Max. Power Voltage (Vmp/V)	35.79	35.95	36.12	36.29
Max. Power Current (Imp/A)	13.95	13.99	14.03	14.07
Open Circuit Voltage (Voc/V)	43.10	43.30	43.51	43.71
Short Circuit Current (Isc/A)	14.91	14.95	14.99	15.03

I-V CURVE (665W)



PACKING CONFIGURATION

Pieces Per Pallet	31
Pallets Per Container	18
Pieces Per Container	558

Default

Cable Length	<input type="checkbox"/> 400mm/300mm <input type="checkbox"/> Customized
Frame Color	<input type="checkbox"/> Silver <input type="checkbox"/> Black

Optional

Cable Length	<input type="checkbox"/> Customized
Frame Color	<input type="checkbox"/> Black



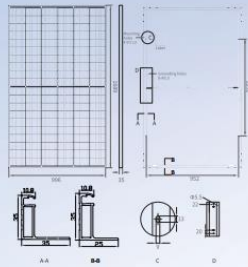
15-year Product materials and workmanship quality warranty

Output power	
The 1st year	>=98.30%
The 15th year	>=93.30%
The 20th year	>=88.30%
The 25th year	>=83.30%



High efficiency mono solar module

JNMM120-330~335



MECHANICAL PARAMETERS

Cell (mm)	158.75*79.375 Mono
Dimensions (L*W*H) (mm)	1684*1002*35/40 1689*996*35/40
Weight (kg)	18.1/18.4 18.1/18.4
Cable Cross Section Size (mm ²)	4
Cable Length (mm)	Positive 295 / Negative 145
No. of Cells & Connections	120(6*20)
No. of Diodes	3
Type of Connector	PV-JN01/PV-KBT4-EVO 2/ny_UR,PV-KBT4-EVO2/ny_UR

QUALIFICATION

Max. System Voltage (V DC)	1500
Temperature Cycling Range (°C)	-40~+85
Max. Series Fuse Rating (A)	20
Max. Wind Load / Max. Snow Load (Pa)	2400 / 5400
Fire Rating	Class C
Junction Box & Connector Protection Grade	IP68

TEMPERATURE COEFFICIENTS

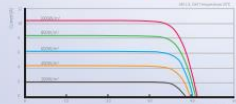
Nominal Module Operating Temperature (NMOT) 43±2°C	
Temperature Coefficient Voltage (Voc)	-0.29 %/°C
Temperature Coefficient Current (Isc)	0.04 %/°C
Temperature Coefficient Power (Pm)	-0.37 %/°C

ELECTRICAL PARAMETERS

Module Type	JNMM120-330	JNMM120-335
STC 1000W/m ² Cell Temperature 25°C		
Max. Power at STC (Pmpp/W)	330	335
Output Tolerance (W)	0~+5	0~+5
Max. Power Voltage (Vmp/V)	33.43	33.70
Max. Power Current (Imp/A)	9.87	9.94
Open Circuit Voltage (Voc/V)	41.22	41.56
Short Circuit Current (Isc/A)	10.29	10.36
Module Efficiency (%)	19.6	19.9
NMOT 43±2°C Ambient Temperature 25°C Wind Speed 1m/s		
Max. Power at NMOT (Pmpp/W)	248.4	252.1
Max. Power Voltage (Vmp/V)	31.46	31.71
Max. Power Current (Imp/A)	7.90	7.95
Open Circuit Voltage (Voc/V)	38.92	39.24
Short Circuit Current (Isc/A)	8.28	8.34

* Measurement tolerance: Pmax:±3%, Voc:±3%, Isc:±5%

I-V CURVE(335W)



PACKING CONFIGURATION

Container (High cube)	
Pieces Per Pallet	31/27/31/27
Pallets Per Stack	2
Extra Pieces Per Stack	4
Stacks Per Container	13
Pieces Per Container	858/754/858/754



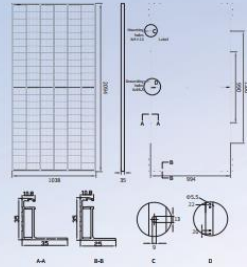
15-year Product materials and workmanship quality warranty

Output power	
The 1st year	>98.00%
The 15th year	>93.00%
The 25th year	>84.80%



High efficiency mono solar module

JNMM144-445~455



MECHANICAL PARAMETERS

Cell (mm)	166*83 Mono
Dimensions (L*W*H) (mm)	2094*1038*35/40 2108*1048*35/40
Weight (kg)	23.3/23.6 23.5/23.8
Cable Cross Section Size (mm ²)	4
Cable Length (mm)	Positive 295 / Negative 145
No. of Cells & Connections	144(6*24)
No. of Diodes	3
Type of Connector	PV-JN01/PV-KBT4-EVO 2/ny_UR,PV-KBT4-EVO2/ny_UR

QUALIFICATION

Max. System Voltage (V DC)	1500
Temperature Cycling Range (°C)	-40~+85
Max. Series Fuse Rating (A)	20
Max. Wind Load / Max. Snow Load (Pa)	2400 / 5400
Fire Rating	Class C
Junction Box & Connector Protection Grade	IP68

TEMPERATURE COEFFICIENTS

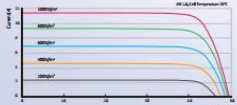
Nominal Module Operating Temperature (NMOT) 43±2°C	
Temperature Coefficient Voltage (Voc)	-0.29 %/°C
Temperature Coefficient Current (Isc)	0.04 %/°C
Temperature Coefficient Power (Pm)	-0.37 %/°C

ELECTRICAL PARAMETERS

Module Type	JNMM144-445	JNMM144-450	JNMM144-455
STC 1000W/m ² Cell Temperature 25°C			
Max. Power at STC (Pmpp/W)	445	450	455
Output Tolerance (W)	0~+5	0~+5	0~+5
Max. Power Voltage (Vmp/V)	41.16	41.36	41.56
Max. Power Current (Imp/A)	10.82	10.89	10.96
Open Circuit Voltage (Voc/V)	49.78	49.98	50.18
Short Circuit Current (Isc/A)	11.42	11.50	11.58
Module Efficiency (%)	20.5	20.7	20.9
NMOT 43±2°C Ambient Temperature 25°C Wind Speed 1m/s			
Max. Power at NMOT (Pmpp/W)	334.9	338.7	342.5
Max. Power Voltage (Vmp/V)	38.69	38.88	39.06
Max. Power Current (Imp/A)	8.66	8.71	8.77
Open Circuit Voltage (Voc/V)	47.00	47.18	47.37
Short Circuit Current (Isc/A)	9.19	9.26	9.32

* Measurement tolerance: Pmax:±3%, Voc:±3%, Isc:±5%

I-V CURVE(450W)



PACKING CONFIGURATION

Container (High cube)	
Pieces Per Pallet	31/27/31/27
Pallets Per Stack	2
Stacks Per Container	11
Pieces Per Container	682/594/682/594



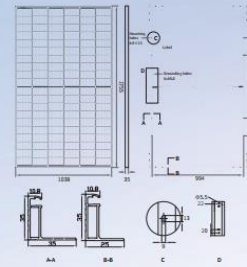
15-year Product materials and workmanship quality warranty

Output power	
The 1st year	>98.00%
The 15th year	>93.00%
The 25th year	>84.80%



High efficiency mono solar module

JNMM120-365~375



MECHANICAL PARAMETERS

Cell (mm)	166*83 Mono
Dimensions (L*W*H) (mm)	1755*1038*35/40 1765*1048*35/40
Weight (kg)	19.5/19.8 19.6/19.9
Cable Cross Section Size (mm ²)	4
Cable Length (mm)	Positive 295 / Negative 145
No. of Cells & Connections	120(6*20)
No. of Diodes	3
Type of Connector	PV-JN01/PV-KBT4-EVO 2/ny_UR,PV-KBT4-EVO2/ny_UR

QUALIFICATION

Max. System Voltage (V DC)	1500
Temperature Cycling Range (°C)	-40~+85
Max. Series Fuse Rating (A)	20
Max. Wind Load / Max. Snow Load (Pa)	2400 / 5400
Fire Rating	Class C
Junction Box & Connector Protection Grade	IP68

TEMPERATURE COEFFICIENTS

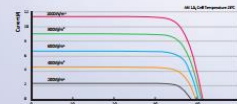
Nominal Module Operating Temperature (NMOT) 43±2°C	
Temperature Coefficient Voltage (Voc)	-0.29 %/°C
Temperature Coefficient Current (Isc)	0.04 %/°C
Temperature Coefficient Power (Pm)	-0.37 %/°C

ELECTRICAL PARAMETERS

Module Type	JNMM120-365	JNMM120-370	JNMM120-375
STC 1000W/m ² Cell Temperature 25°C			
Max. Power at STC (Pmpp/W)	365	370	375
Output Tolerance (W)	0~+5	0~+5	0~+5
Max. Power Voltage (Vmp/V)	33.89	34.08	34.28
Max. Power Current (Imp/A)	10.77	10.86	10.95
Open Circuit Voltage (Voc/V)	41.10	41.30	41.50
Short Circuit Current (Isc/A)	11.28	11.37	11.46
Module Efficiency (%)	20.0	20.3	20.6
NMOT 43±2°C Ambient Temperature 25°C Wind Speed 1m/s			
Max. Power at NMOT (Pmpp/W)	274.7	278.5	282.2
Max. Power Voltage (Vmp/V)	31.88	32.05	32.22
Max. Power Current (Imp/A)	8.62	8.69	8.76
Open Circuit Voltage (Voc/V)	38.80	38.99	39.18
Short Circuit Current (Isc/A)	9.08	9.15	9.23

* Measurement tolerance: Pmax:±3%, Voc:±3%, Isc:±5%

I-V CURVE(370W)



PACKING CONFIGURATION

Container (High cube)	
Pieces Per Pallet	31/27/31/27
Pallets Per Stack	2
Stacks Per Container	13
Pieces Per Container	806/702/806/702



15-year Product materials and workmanship quality warranty

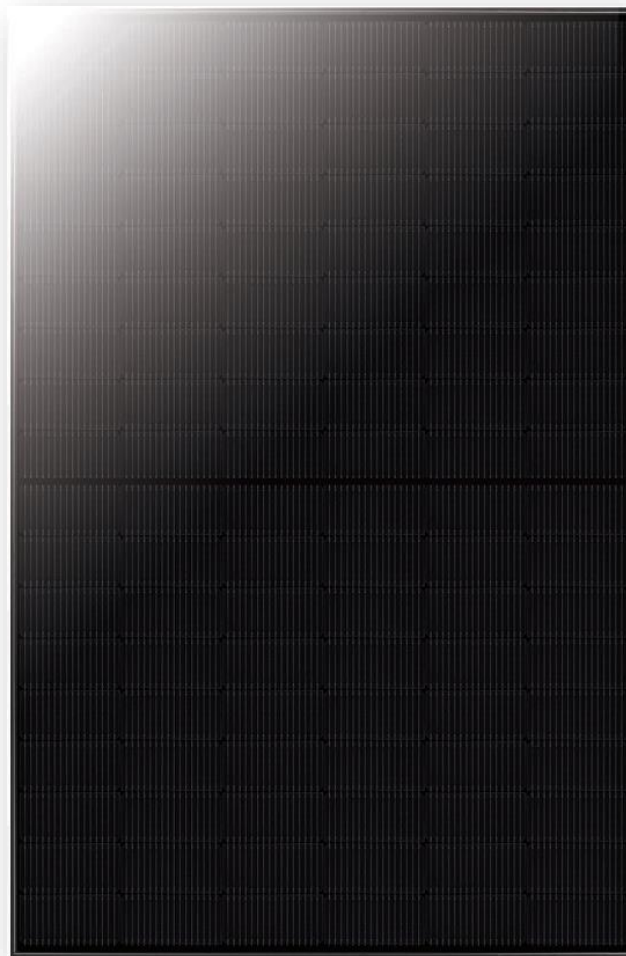
Output power	
The 1st year	>98.00%
The 15th year	>93.00%
The 25th year	>84.80%



Suitable For Residential Rooftop Installation & Extraordinary Product Performance

- Up to 30% additional power yield benefited from bifacial technology and up over 80% cell bifaciality
- Competitive high-temperature performance with ameliorated temperature coefficient
- Better weak illumination response, higher power generation with N-type technology

N-Topcon Module



P_{max} (W) 430W

V_{oc} (V) 39.03V

I_{sc} (A) 13.95A

V_{Pmax} (V) 32.34V

I_{Pmax} (A) 13.03A

Eff (%) 22.02%

① SOLAR MODULE – COMMERCIAL USAGE –

P_{max}	570W	575W	580W
V_{oc}	51.25V	51.49V	51.73V
I_{sc}	13.83A	13.89A	13.95A
V_{mpp}	42.49V	42.68V	42.86V
I_{mpp}	13.18A	13.24A	7.75A

- Zero Light Induced Degradation(LID),can increase power generation
Encapsulation with POE and dual glass (2.0mm) contributes to excellent anti-PID characteristic
- First-year degradation is less than 1.0%, with linear degradation of 0.4% per year for 30 years

Higher Quality Reliability



SEGMENT 2 : BALCONY SOLAR

SOLAR EPOCH

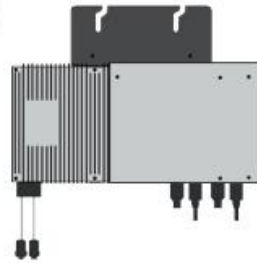


② BALCONY SOLAR

①



②



③

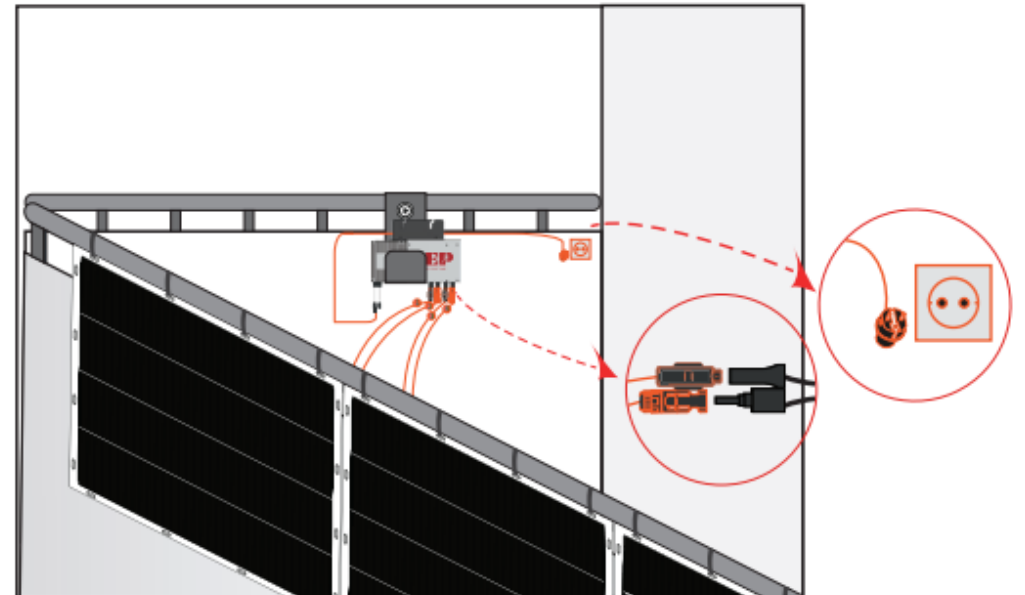


④



COMPONENTS:

- ① Flexible Solar Module : 600W – 800W
- ② Micro Inverter : 220V 50Hz/110V 60Hz;
- ③ Extension Cable
- ④ Installation Belts



② BALCONY SOLAR

Solar Module

ELECTRICAL CHARACTERISTICS

STC	SEB-210F8ME
Maximum Power (P _{max})	210W
Maximum Power Voltage (V _{mp})	32.4V
Maximum Power Current (I _{mp})	6.53A
Open-circuit Voltage (V _{oc})	38.8V
Short-circuit Current (I _{sc})	6.86A
Module Efficiency (%)	19.26%
Operating Temperature	-40°C to 85°C
Maximum System Voltage	600VDC
Maximum Series Fuse Rating	15A
Application Class	Class A
Power Tolerance	0~+5W

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

MECHANICAL CHARACTERISTICS

Solar Cell	Mono-crystalline silicon cell
Number Of Cells	56
Installation Module Dimension	L:1380* W:790* H:18mm
Actual Module Dimension	L:1300* W:736mm
Weight	3.7kg
Backsheet	White PV Backsheet
J-Box	IP 67 rated
Output cables	4mm ²
Connector	MC4 compatible



② BALCONY SOLAR

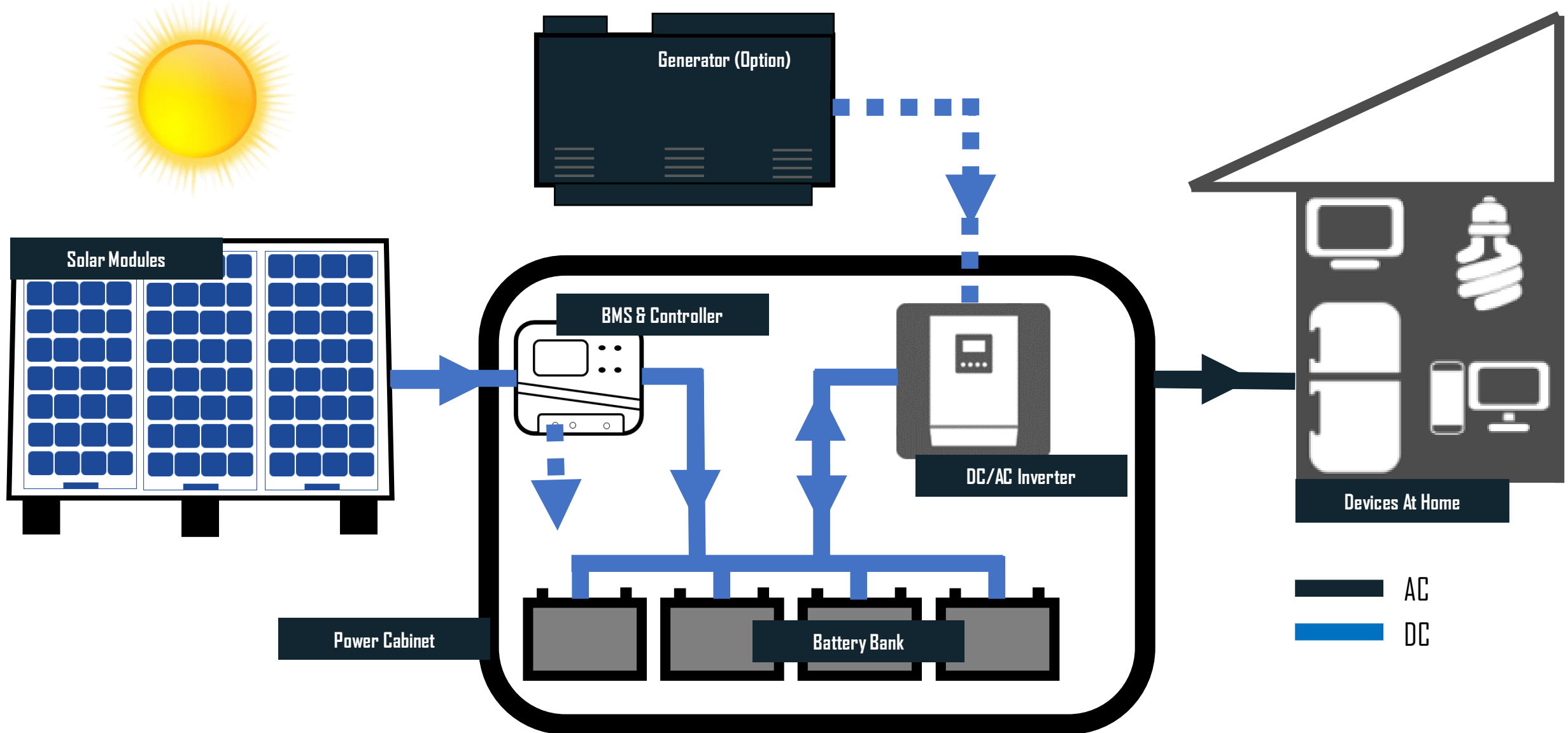
Micro Inverter			
SEB-600			
Input DC			
Max Recommended PV Power (Wp)	450 x 2		
Max DC Open Circuit Voltage (Vdc)	60		
Max DC Input Current (Adc)	14 x 2		
MPPT Tracking Accuracy	>99.5%		
MPPT Tracking Range (Vdc)	22 - 55		
Isc PV (absolute maximum) (Adc)	18 x 2		
Maximum Inverter Backfeed Current to the Array (Adc)	0		
Output AC			
Max AC Output Power (Wp)	600		
Nominal Power Grid Voltage (Vac)	240	208	230
Allowable Power Grid Voltage (Vac)	211-264	183-229	Cofigurable
Allowable Power Grid Frequency (Hz)	59.3 - 60.5	Cofigurable	
THD	<3% at rated power		
Power Factor (cos phi, fixed)	>0.99 at rated power		
Rated Output Current (Aac)	2.50	2.88	2.61
Current (inrush, peak and duration)	24A, 15us		
Nominal Frequency (Hz)	60	60	50
Maximum Output Fault Current (Aac)	4.6A peak		
Maximum Output Overcurrent Protection (Aac)	10		
Maximum Number of Units per Branch (20A), All NEC adjustment factors have been considered	7	6	6

SEGMENT 3 : SOLAR POWER SOLUTION

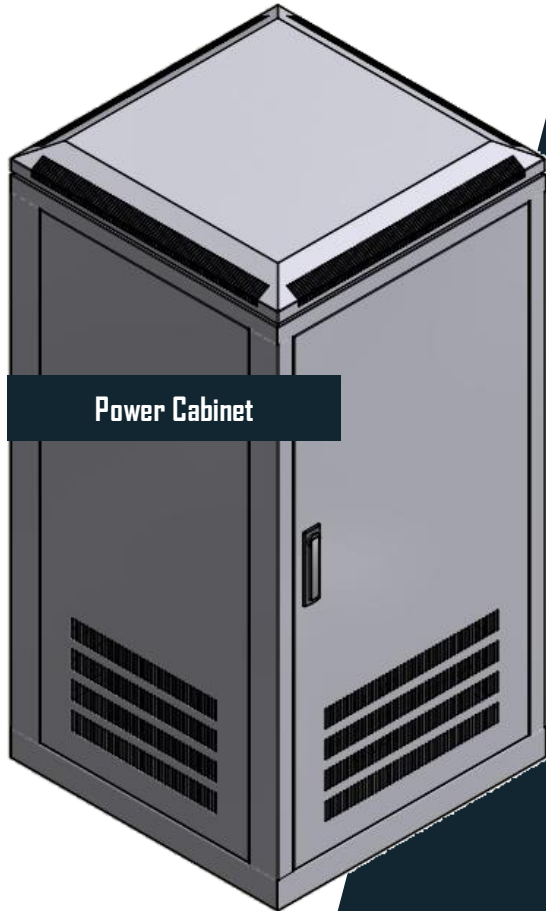
SOLAR EPOCH



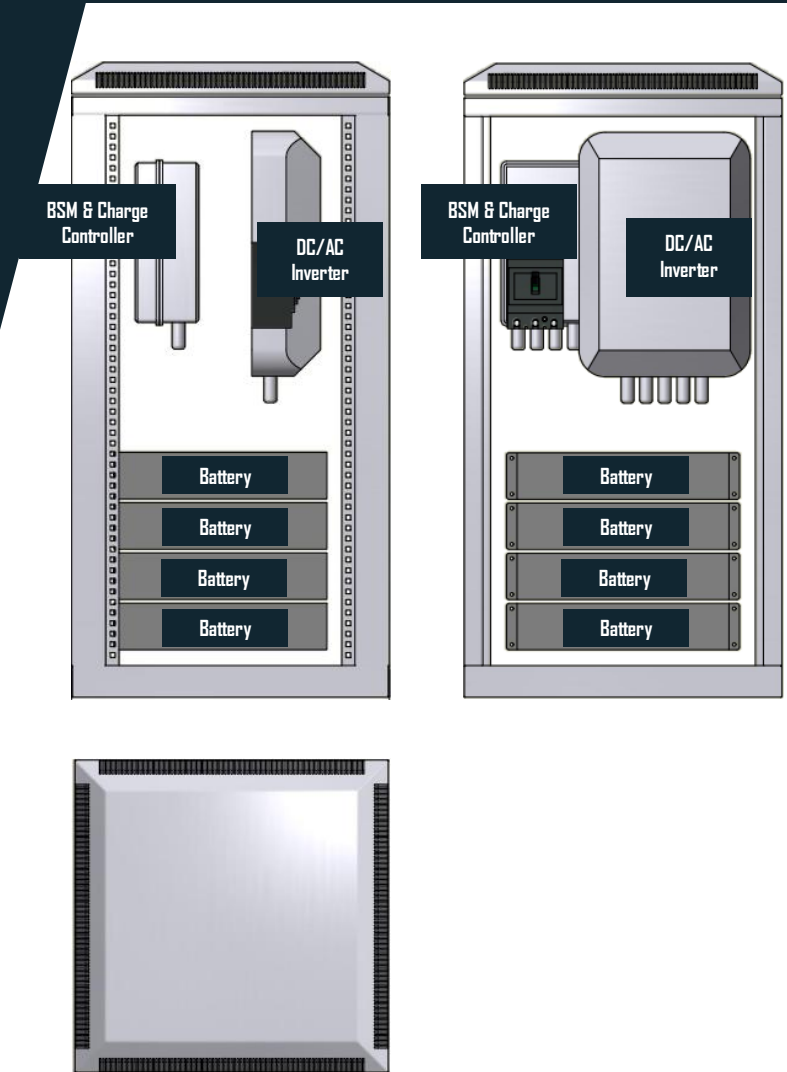
③ SOLAR POWER SOLUTION – HOME –



③ SOLAR POWER SOLUTION – CABINET (OPTIONAL) –



- Cabinet Can Be Customized To Fit Different Power Requirements
- Battery Management System (BSM) & Solar Module Charger Controller Are Used for Coordinating Solar Module Power Surge Changing And Battery Capacity
- BSM Will Maintain Battery At Best Condition
- DC/AC Inverter With MPPT (Maximum Power Point Tracking) Is Working To Output 230V/50Hz



③ 3KW SOLAR SYSTEM – BOM & PARAMETERS –**Module****550W Monocrystalline Solar Module 2279*1134*35mm****× 6****Mount****Monocrystalline Module Mounting System****× 1****Inverter****25.6V60A MPPT-2KW220V****× 1****AC Cable****20M² 60CM AC PV Cable****× 1****Battery****25.6V 100AH Lithium Battery****× 1****DC Cable****4M² ,Red DC Cable 20m; Black DC Cable 10m****× 1****Connector****MC4 Capable Solar Connector****× 4**

③ 5KW SOLAR SYSTEM – BOM & PARAMETERS –**Module****550W Monocrystalline Solar Module 2279*1134*35mm****× 10****Mount****Monocrystalline Module Mounting System****× 1****Inverter****48V100A MPPT-5KW220V****× 1****AC Cable****20M² 60CM AC PV Cable****× 2****Battery****51.2V 100AH Lithium Battery****× 2****DC Cable****4M² ,Red DC Cable 30m; Black DC Cable 20m****× 1****Connector****MC4 Capable Solar Connector****× 4**

③ 10KW SOLAR SYSTEM — BOM & PARAMETERS —



Module

550W Monocrystalline Solar Module 2279*1134*35mm

× 20

Mount



Monocrystalline Module Mounting System

× 1



Inverter

48V100A MPPT-5KW220V

× 2

AC Cable



60M² 150CM AC PV Cable

× 2



Battery

51.2V 100AH Lithium Battery

× 6

DC Cable



4M² ,Red DC Cable 200m; Black DC Cable 200m

× 1



Connector

MC4 Capable Solar Connector

× 4

③ 20KW SOLAR SYSTEM – BOM & PARAMETERS –



Module

550W Monocrystalline Solar Module 2279*1134*35mm

× 40

Mount



Monocrystalline Module Mounting System

× 1



Inverter

48V100A MPPT-5KW220V

× 2

AC Cable



60M² 150CM AC PV Cable

× 2



Battery

51.2V 100AH Lithium Battery

× 12

DC Cable



4M² ,Red DC Cable 200m; Black DC Cable 200m

× 1



Connector

MC4 Capable Solar Connector

× 4

③ SOLAR POWER SOLUTION — SOLAR LIGHT —

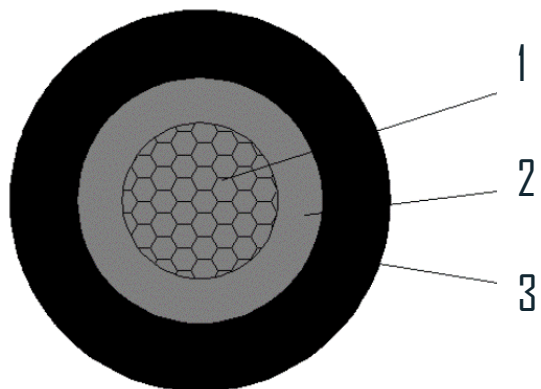


The lamp beads adopt high-efficiency LED seals, have high illumination brightness, sustained luminescence, and the test life in the laboratory is more than 30,000 hours

Adopting A-grade solar power modules, the conversion efficiency reaches over 19%, and the linear power quality is guaranteed for 25 years

Cement walls, power poles, wooden structures can all be installed, no need to pull wires, no need for electricity bills

③ SOLAR POWER SOLUTION — DC PV CABLE —



Item	Description	Material	Apply method
1	Conductor	Tinned copper wire	Class 5 stranded non-compacted
2	Insulation	XLPO	Extruding
3	Outer sheath	XLPO	Extruding
Core identification	Black		
Outer sheath color	Black		

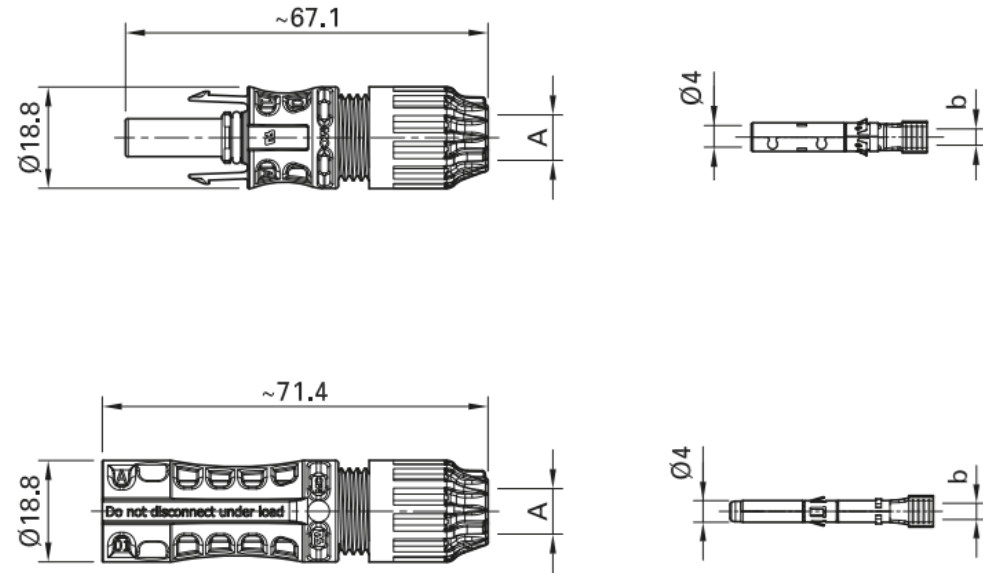
Marking: according to customer's requirements.

Dimension Data			
Core No. x Cross section (mm ²)	Nom./min. insulation thick. (mm)	Nom./min. outer sheath thick. (mm)	Max. diam. over outer sheath (mm)
1x4	0.7/0.53	0.8/0.58	6.6



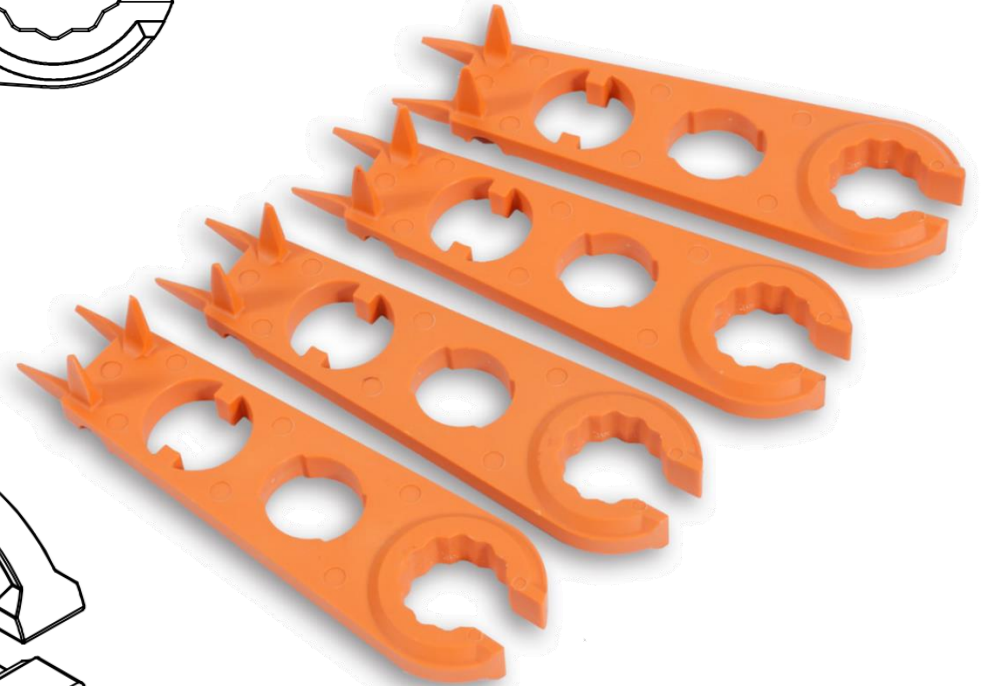
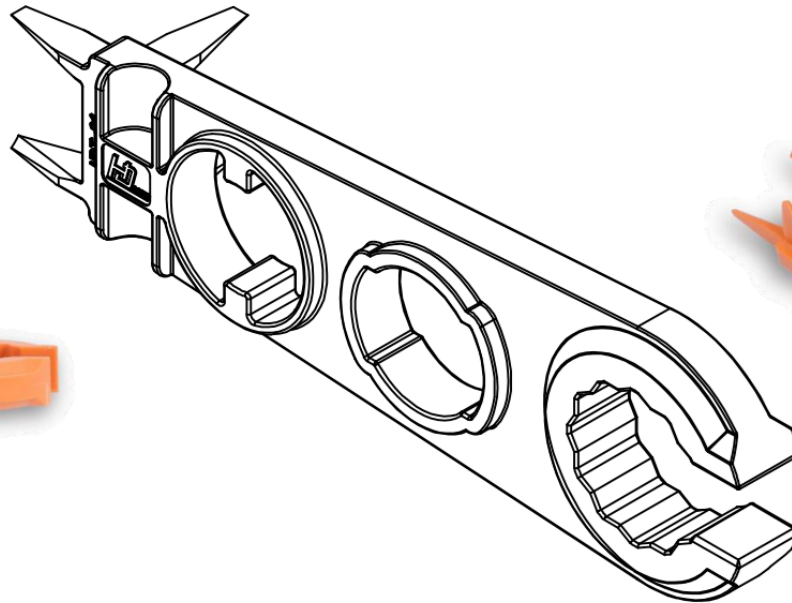
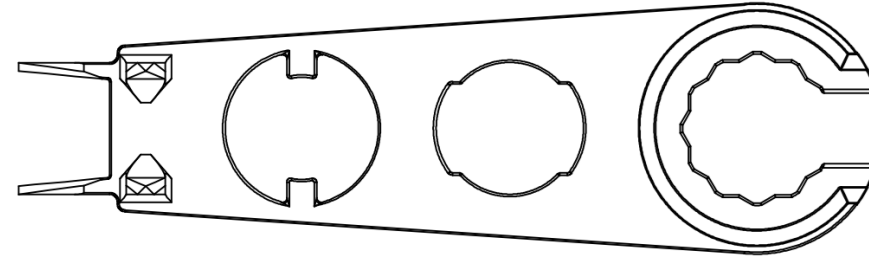
③ SOLAR POWER SOLUTION – MC4 CONNECTOR –

Technical data	
Connector system	Ø 4 mm
Rated voltage	1500 V DC (TÜV) ¹⁾
	1500 V DC (UL) ²⁾
	1500 V DC (JET) ³⁾
Rated current TÜV (85°C)	39 A (2,5 mm ² / 14 AWG)
	45 A (4,0 mm ² / 12 AWG)
	53 A (6,0 mm ² / 10 AWG)
	69 A (10,0 mm ² / 8 AWG)
Rated impulse voltage	16 kV (1500 V)
Ambient temperature range	-40°C ~ +85°C (TÜV / UL)
Upper limiting temperature	115°C (TÜV)
Degree of protection, mated	IP65 / IP68 (1h / 1m)
unmated	IP2X
Overvoltage category / Pollution degree	CAT III / 3
Contact resistance of plug connectors	≤ 0.2 mΩ
Safety class	II
Contact system	MULTILAM
Type of termination	Crimping
Contact material	Copper, tin plated
Insulation material	PA
Locking system (UL)	Locking type
Flame class	UL94-V0



Ammonia resistance (acc. to TÜV)	Q60095359
Salt mist spray test, degree of severity 6	IEC 60068-2-52
TÜV-Rheinland certified,	R60127169
in accordance with IEC 62852	
UL recognized component,	E343181
in accordance with UL 6703	
cTÜVus certified according UL 6703	CU 72141256 01
JET certified according IEC 61730-1:2004	B13T0062

**Universal
Connecting
Wrench**



For MC4 series and all kinds of MC4 capable connectors

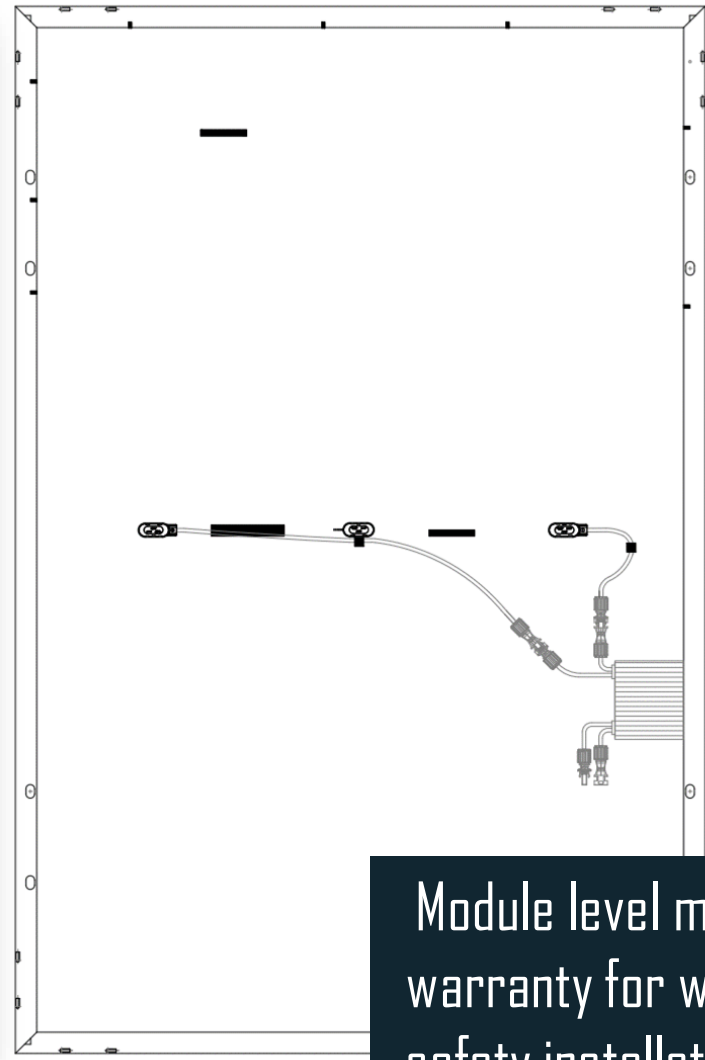
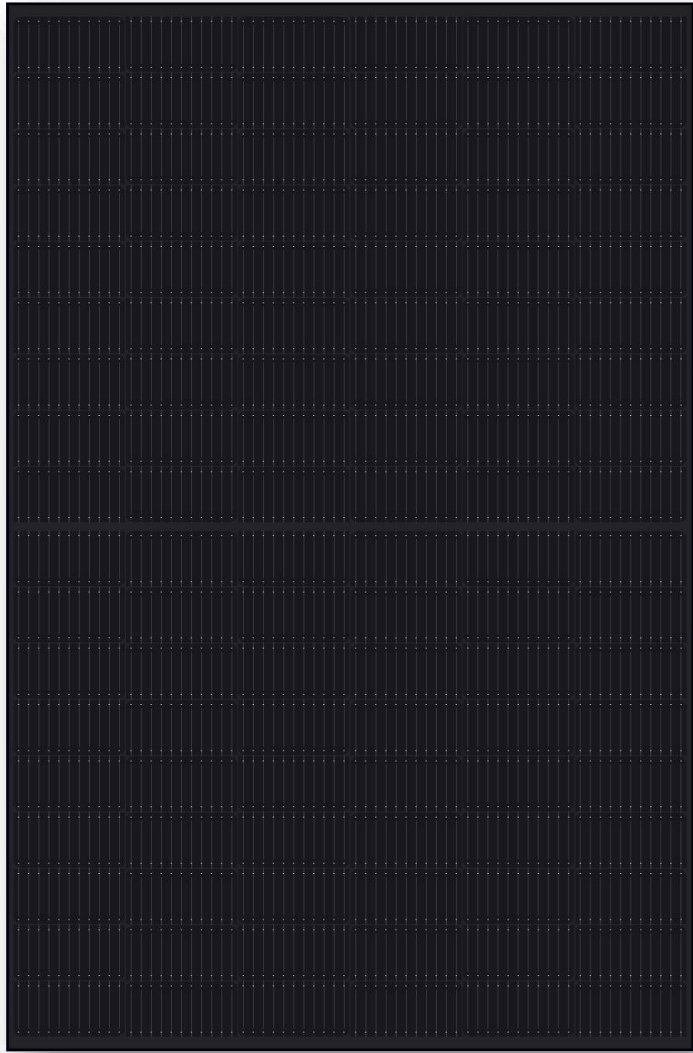
SOLAR EPOCH

®

SEGMENT 4 : SMART MODULE

④ SMART MODULE — AC MODULE —

With high efficiency, LID-resistant n-topcon solar cells (M10, 182mm), a lower temperature coefficient, SolarEpoch delivers more lifetime energy over standard solar panels.



Module level monitoring, 25+25 years warranty for workmanship and power, safety installation without high voltage

④ SMART MODULE — AC MODULE —

Model	400W-430W
Input Data(DC,PV)	
Number of Input MC4 Connector	1 set
MPPT Voltage Range	22V-48V
Operation Voltage Range	20V-50V
Maximum Input Voltage	50V
Startup Voltage	22V
Maximum Input Power	430W
Maximum Input Current	14A

Mechanical Data	
Operating Ambient Temperature Range	-40°Cto+65°C
Max Current of AC Bus Cable	20A
Waterproof Grade	IP66
Cooling Mode	Natural Convection-NoFans

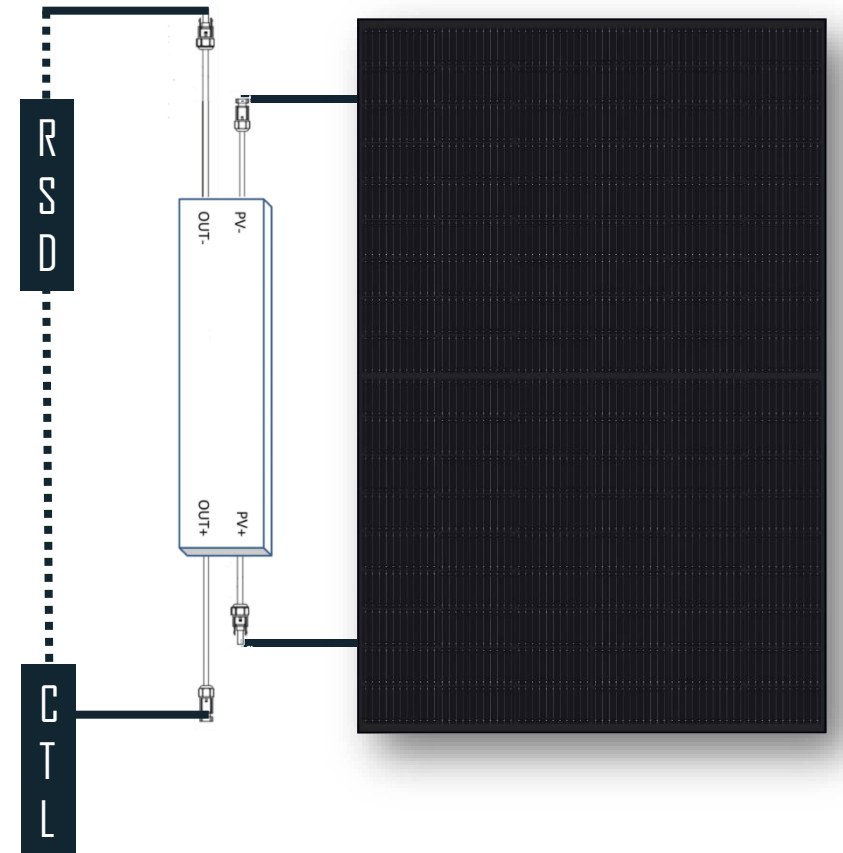
Output Data (AC)	
Single-Phase Grid Type	120V&230V
Rated Output Power	430W
Maximum Output Power	430W
Nominal Output Current	@120VAC:3A/@230VAC:1.5A
Nominal Output Voltage	120VAC/230VAC
Default Output Voltage Range	@120VAC:80V-160V/@230VAC:180V-270V
Nominal Output Frequency	50Hz/60Hz
Default Output Frequency Range	@50Hz:48Hz-51Hz/@60Hz:58Hz-61Hz
Power Factor	>0.99%
Total Harmonic Distortion	THD<5%
Maximum Units per Branch	@120VAC:5units/@230VAC:10units

Efficiency	
Peak Efficiency	95%
Nominal MPPT Efficiency	99.50%
Night Power Consumption	< 1W

④ SMART MODULE – RSD MODULE –

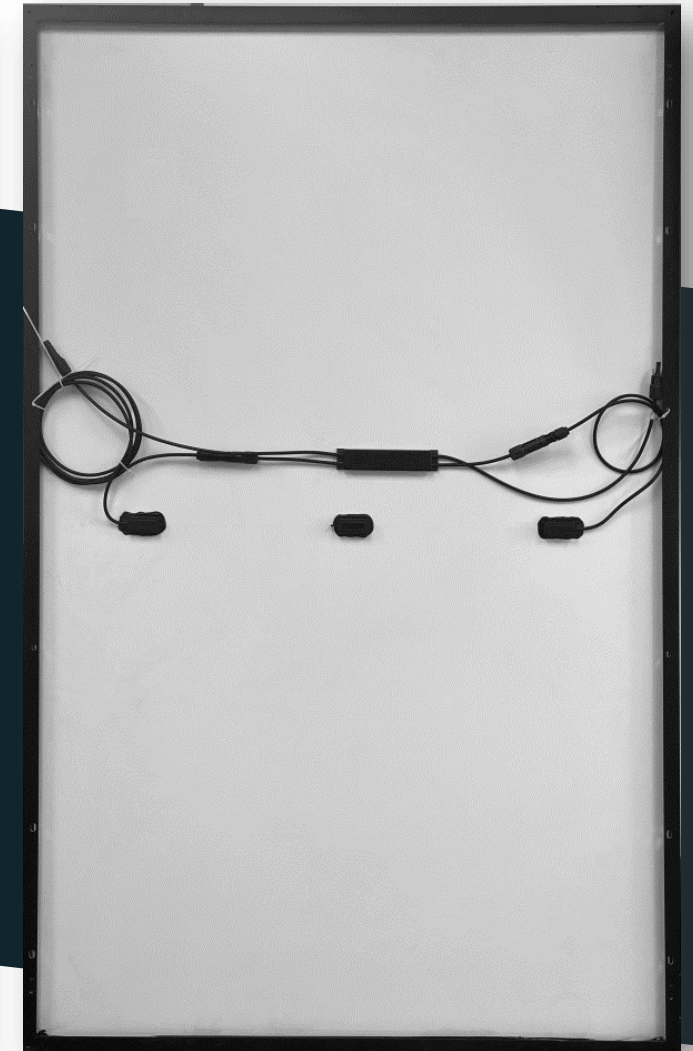
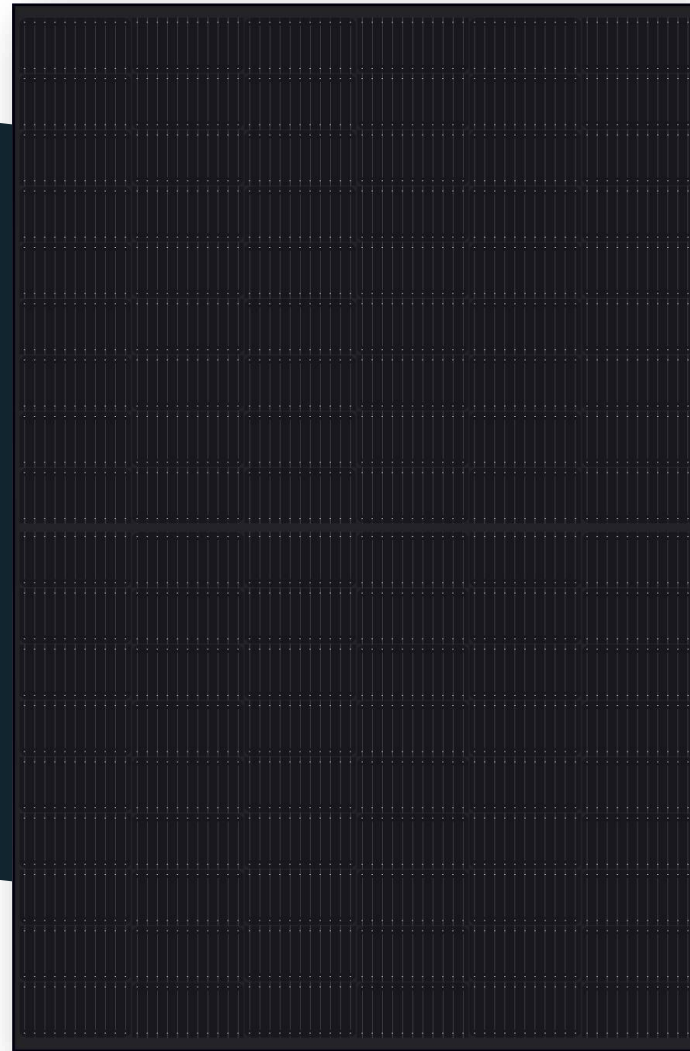
Parameters

Working Voltage	< 80V
Working Current	< 30A
Starting working voltage	15V
Shutdown working voltage	5V
environment temperature range	-40°C ~ 85°C
working temperature range	-40°C ~ 150°C
humidity range	0% ~ 99%
shutdown time	< 2s
power up time	15s
string length	≤30pcs
cable	4mm ² /12AWG
connectors	socket = positive/ plug = negative
safety certificate	UL1741 IEC62109-1
safety level	II
protection level	IP68(1m/1h)
flame retardant level	5VA
warning	Do not dis-connect under load



④ SMART MODULE – RSD MODULE –

Rapid shut down - Module!
Pre - installed in the factory
 $1+1 > 2$ - Functions
 $1+1 < 2$ - Prices



SOLAR EPOCH

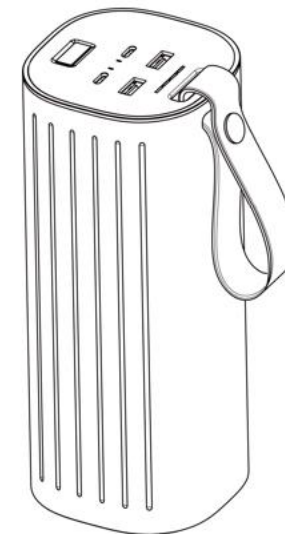
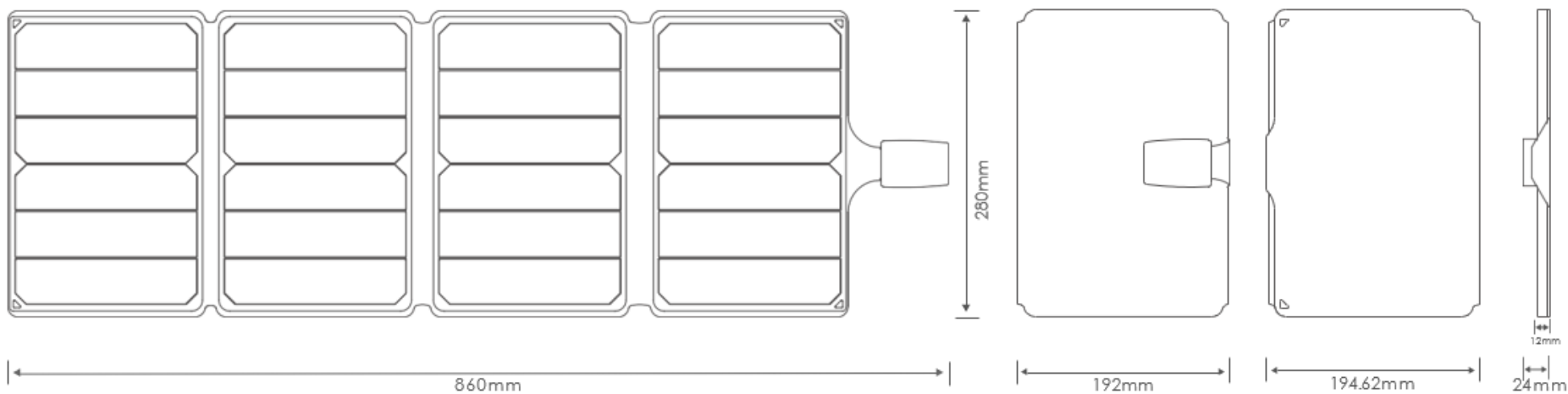
®

SEGMENT 5 : PORTABLE/OFF ROAD



Unique Designed Modules & Devices

⑤ SOLAR POWER SOLUTION – INNOVATIONS –



Unique Designed Modules & Devices

Module Type	SDEP-36M
Max. Power Output P _{max} (w)	36
Power Tolerance	0~+3%
Max. Power Voltage V _{map} (V)	13.44
Max. Power Current I _{mp} (A)	2.68
Open Circuit Voltage V _{oc} (V)	6.2
Short Circuit Current I _{sc} (A)	2.83
Cell Efficiency(%)	23

⑤ SOLAR POWER SOLUTION — PORTABLE HUB —



Wave Form : Pure sine wave

Output:

4 AC : 220V 50hz/110V 60Hz;

3 DC : 12V; Type-c :5V/3A

4 USB : 5V/3A

Special Design :

1.Cigarette Igniting function

2.Support Solar Panel Charging (18V 50W~350W)

3. Can Be Used During Charging

Package: Colorful Box

Product Size :251*159*158mm

Package Size : 320*230*210mm

Gross Weight : 6.0kg

Net Weight:4.8Kg

CHANGE LIFE FROM EVERY MOMENT
OF YOUR LIGHT ON
WITH SOLAR POWER

SOLAR EPOCH

®

