



Solarworld
Energy Solutions Ltd

SOLAR MODULES THAT
OUTSHINE
EXPECTATIONS

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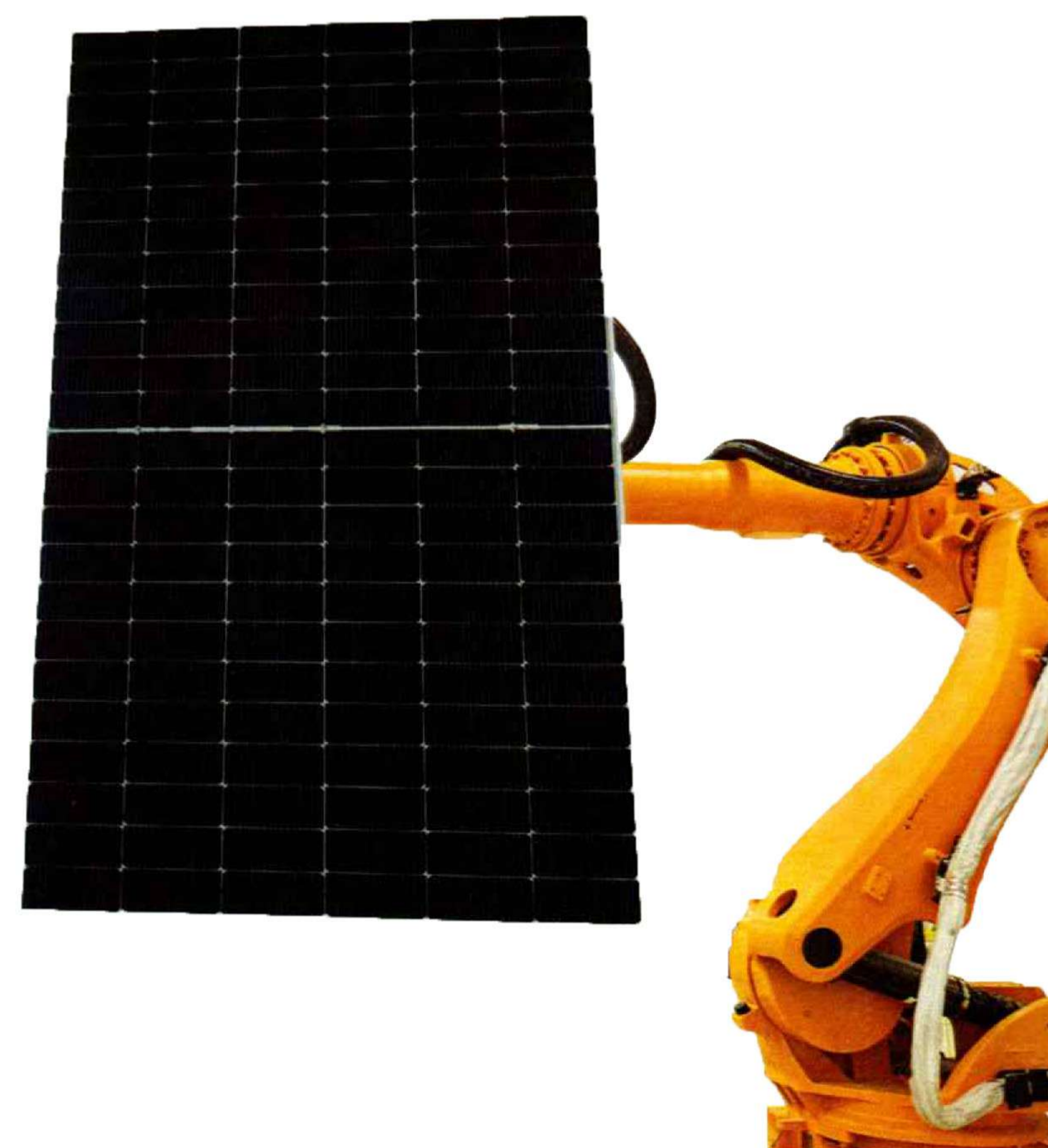
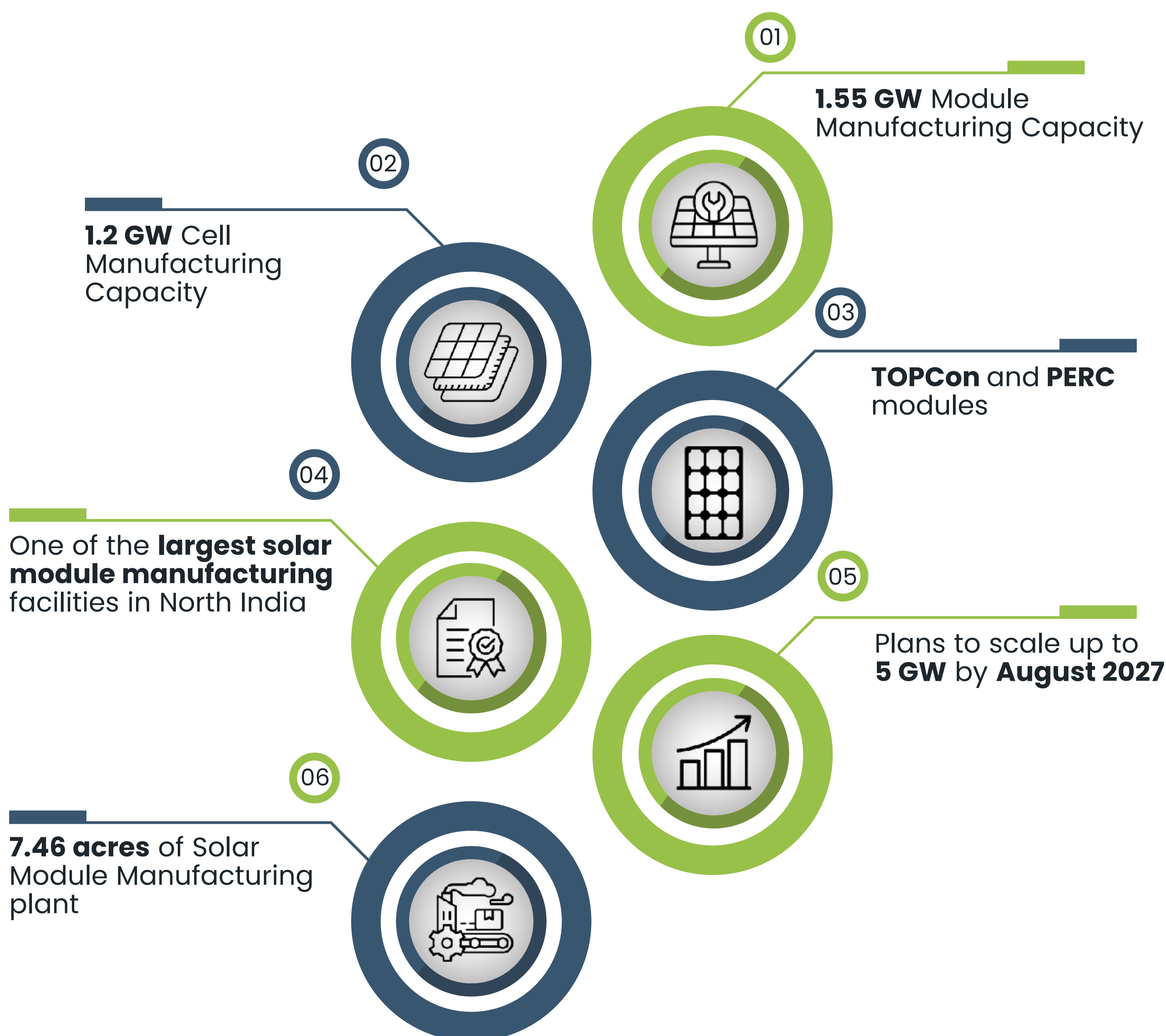
About us

Solarworld is a leading renewable energy solutions provider with over 13 years of expertise and a project portfolio exceeding 1.1 GW. We are committed to delivering the highest standards of quality, performance, and reliability, offering a comprehensive suite of services designed to meet the diverse needs of our clients.

As one of India's top solar module manufacturers, our state-of-the-art facilities in Roorkee, Uttarakhand, boast an annual production capacity of 1.55 GW. We offer a wide portfolio of high-efficiency monocrystalline bifacial and N-Type TOPCon solar modules, utilizing advanced technology to drive cost efficiencies and enhance performance.

Our services encompass end-to-end Solar EPC (Engineering, Procurement, and Construction), Solar Park Development, and the deployment of both Rooftop and Ground-Mounted Solar Projects. We provide customized energy solutions for government organizations, industries, commercial enterprises, and institutions. We're a trusted partner to industry leaders such as NTPC, SJVN, RVPNL, GUVNL, Haldiram's, Coca-Cola Bottlers, and KRBL, consistently demonstrating our ability to deliver complex energy projects with precision and excellence.

In addition to our manufacturing and EPC capabilities, we specialize in advanced Grid-Class Energy Storage Systems, available in 20-ft and 40-ft containerized formats. These systems are designed to boost energy resilience and ensure grid stability. As an Independent Power Producer (IPP), Solarworld is actively developing a 650 MWh battery storage project contributing to India's clean energy transition and self-reliance.





Solarworld
Energy Solutions Ltd

Product Offerings

SOLAR MODULES

144 cells | Topcon Bifacial 16BB

AURIGA | 570-600Wp



Maximum Efficiency
23.23%

156 cells | Topcon Bifacial 16BB

ALTAIR | 600-645Wp



Maximum Efficiency
23.07%

132 cells | Topcon Bifacial 16BB

SIRIUS | 585-640Wp



Maximum Efficiency
23.69%

132 cells | Topcon Bifacial 18BB

AQUILA | 650-715Wp

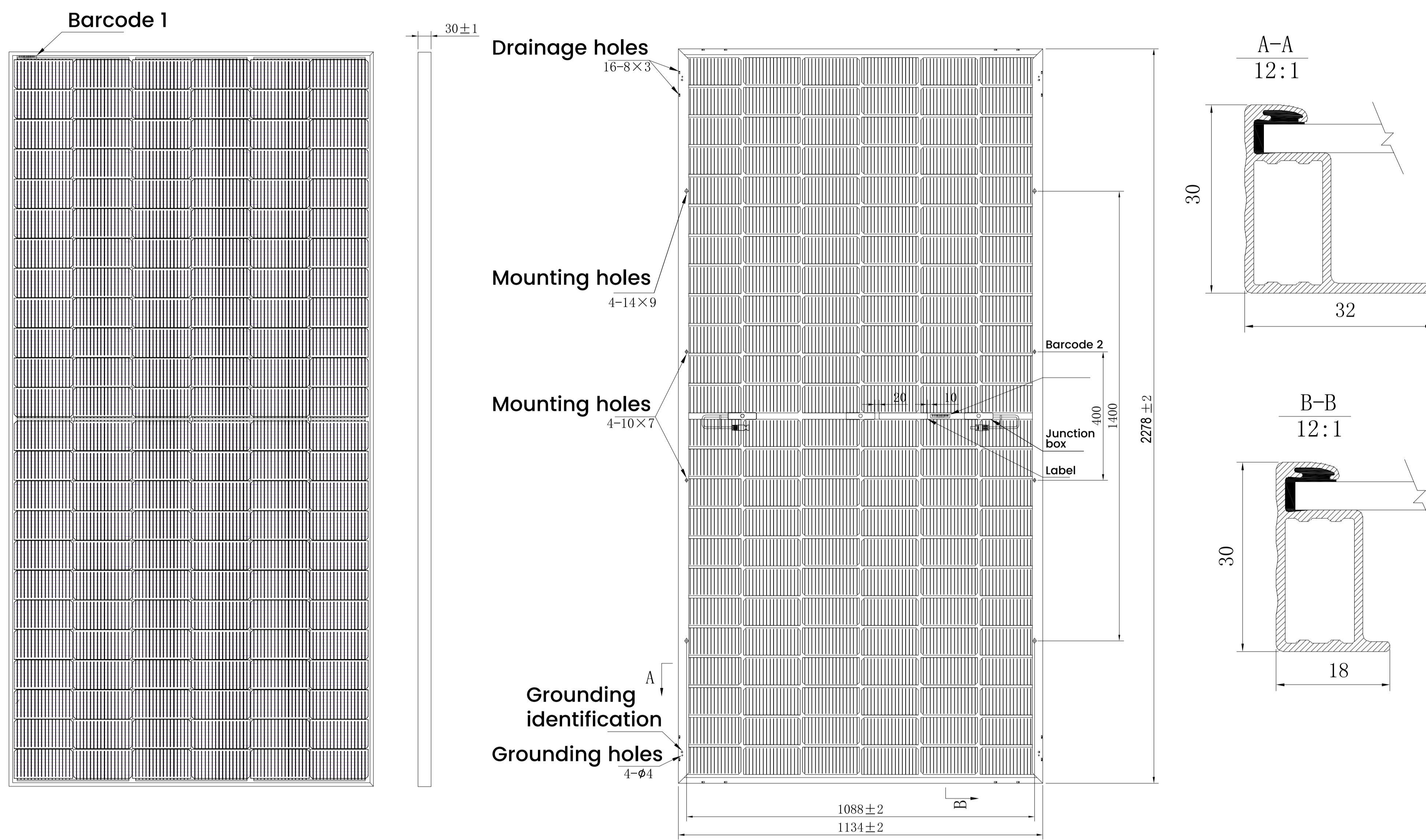


Maximum Efficiency
23.02%



AURIGA

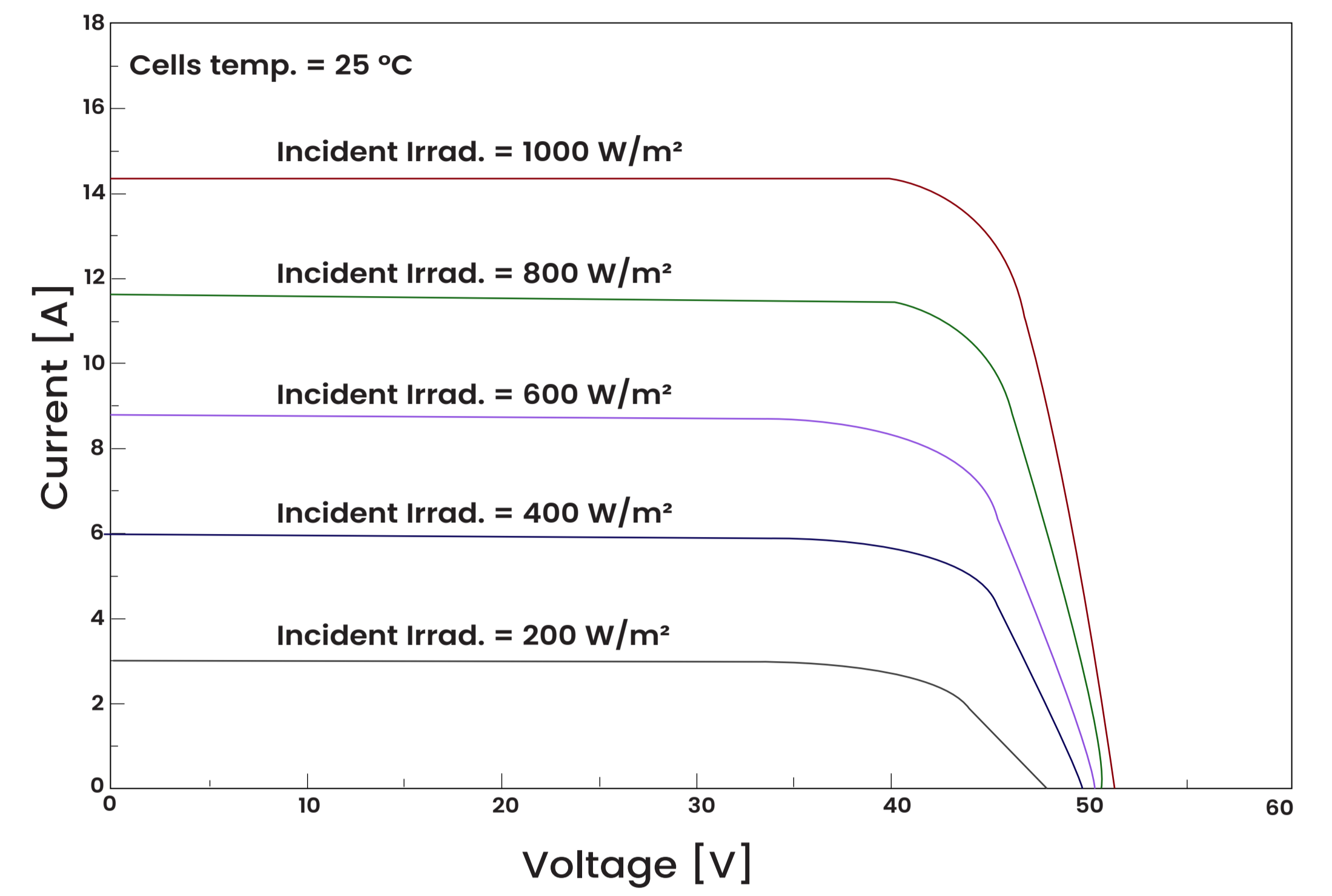
Dimensions of PV Module (mm)



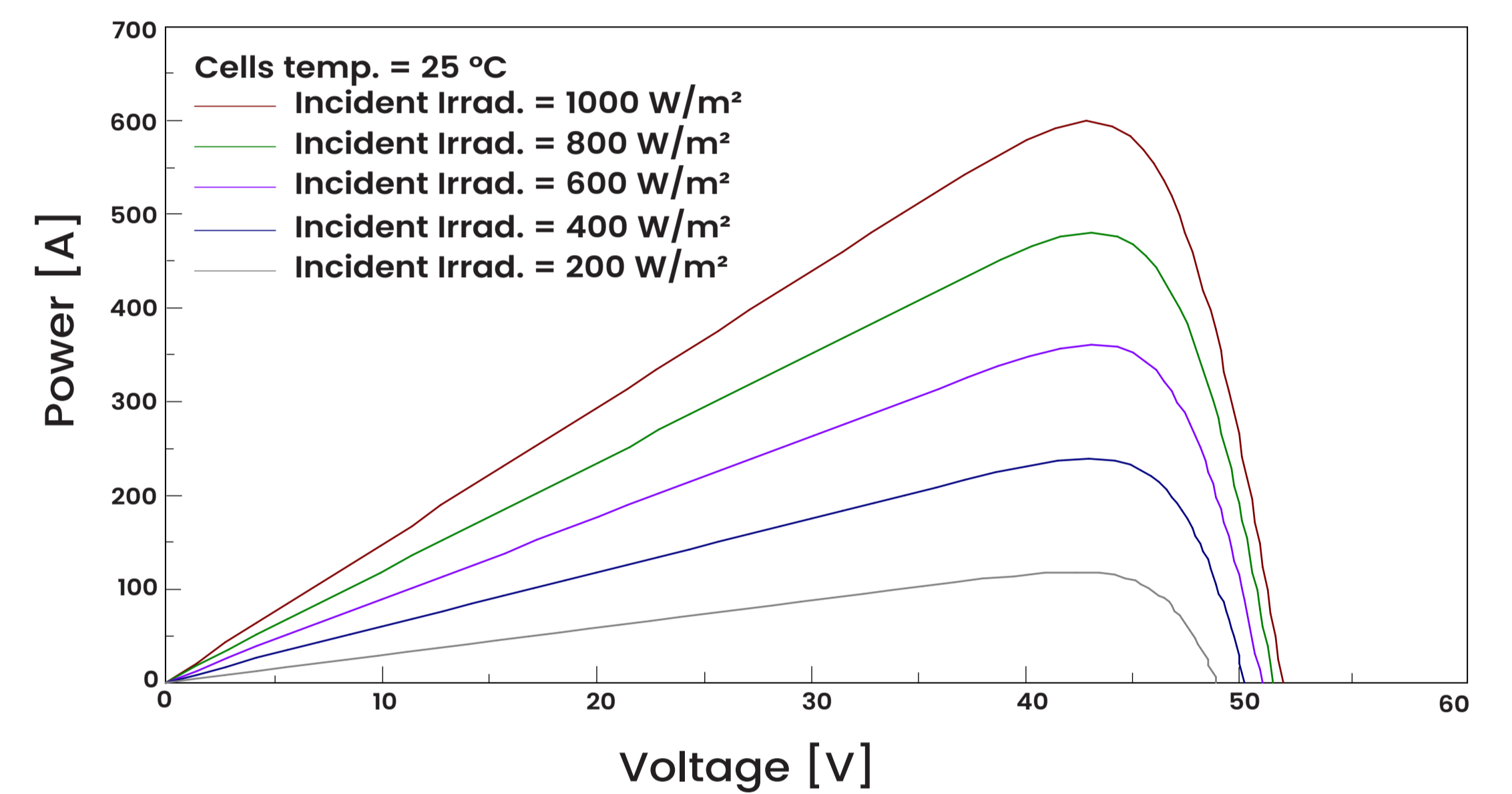
Front View

Back View

I-V Curves of PV Module (600W)



P-V Curves of PV Module (600W)



Electrical Characteristics STC*							
Nominal Power Watt Pmax(W)*	570	575	580	585	590	595	600
Maximum Power Voltage Vmp(V)	42.40	42.60	42.80	43.00	43.20	43.50	43.70
Maximum Power Current Imp(A)	13.45	13.50	13.56	13.61	13.66	13.71	13.76
Open Circuit Voltage Voc(V)	51.10	51.30	51.50	51.70	51.90	52.10	52.30
Short Circuit Current Isc(A)	14.23	14.29	14.35	14.41	14.46	14.51	14.56
Module Efficiency (%)	22.07	22.26	22.45	22.65	22.84	23.03	23.23

*The data above is for reference only and the actual data is in accordance with the practical testing
*STC (Standard Test Condition): Irradiance 1000W/m², Module Temperature 25±2°C, AM 1.5
*Measuring uncertainty: ±3%.

Mechanical Data	
Solar cells	N-type Monocrystalline
Cells orientation	144 [2x(12x2)]
Module dimension	2278x1134x30 mm (With Frame)
Weight	31.5±1.0 kg
Glass	2.0 mm+2.0mm, High Transmission, AR Coated Heat Strengthened Glass
Junction box	IP 68, 3 diodes
Cables	4 mm², 350 mm (With Connectors)
Connectors*	MC4-compatible

*Please refer to regional datasheet for specified connector

Electrical Characteristics NMOT*							
Maximum Power Pmax(Wp)	430.69	434.47	438.25	442.03	445.80	449.58	453.36
Maximum Power Voltage Vmp(V)	39.96	40.15	40.34	40.53	40.72	41.00	41.19
Maximum Power Current Imp(A)	10.77	10.81	10.85	10.89	10.93	10.97	11.01
Open Circuit Voltage Voc(V)	48.21	48.40	48.59	48.77	48.96	49.15	49.34
Short Circuit Current Isc(A)	11.49	11.54	11.58	11.63	11.67	11.71	11.75

*NMOT: Irradiance 800W/m², Ambient Temperature 20°C, AM 1.5, Wind Speed 1m/s

Temperature Ratings	
NMOT	44°C ±2°C
Temperature coefficient of Pmax	(-0.30±0.03)%/°C
Temperature coefficient of Voc	-0.25%/°C
Temperature coefficient of Isc	0.046%/°C
Refer. Bifacial Factor	(80±10)%

*Remark: Do not connect Fuse in Combiner Box with two or more strings in parallel connection

Electrical Characteristics with 25% Rear Side Power Gain*							
Front power Pmax/W	570	575	580	585	590	595	600
Total power Pmax/W	713	719	725	731	738	744	750
Vmp/V(Total)	42.40	42.60	42.80	43.00	43.20	43.50	43.70
Imp/A(Total)	16.81	16.88	16.95	17.01	17.08	17.14	17.20
Voc/V(Total)	51.10	51.30	51.50	51.70	51.90	52.10	52.30
Isc/A(Total)	17.79	17.86	17.94	18.01	18.08	18.14	18.20

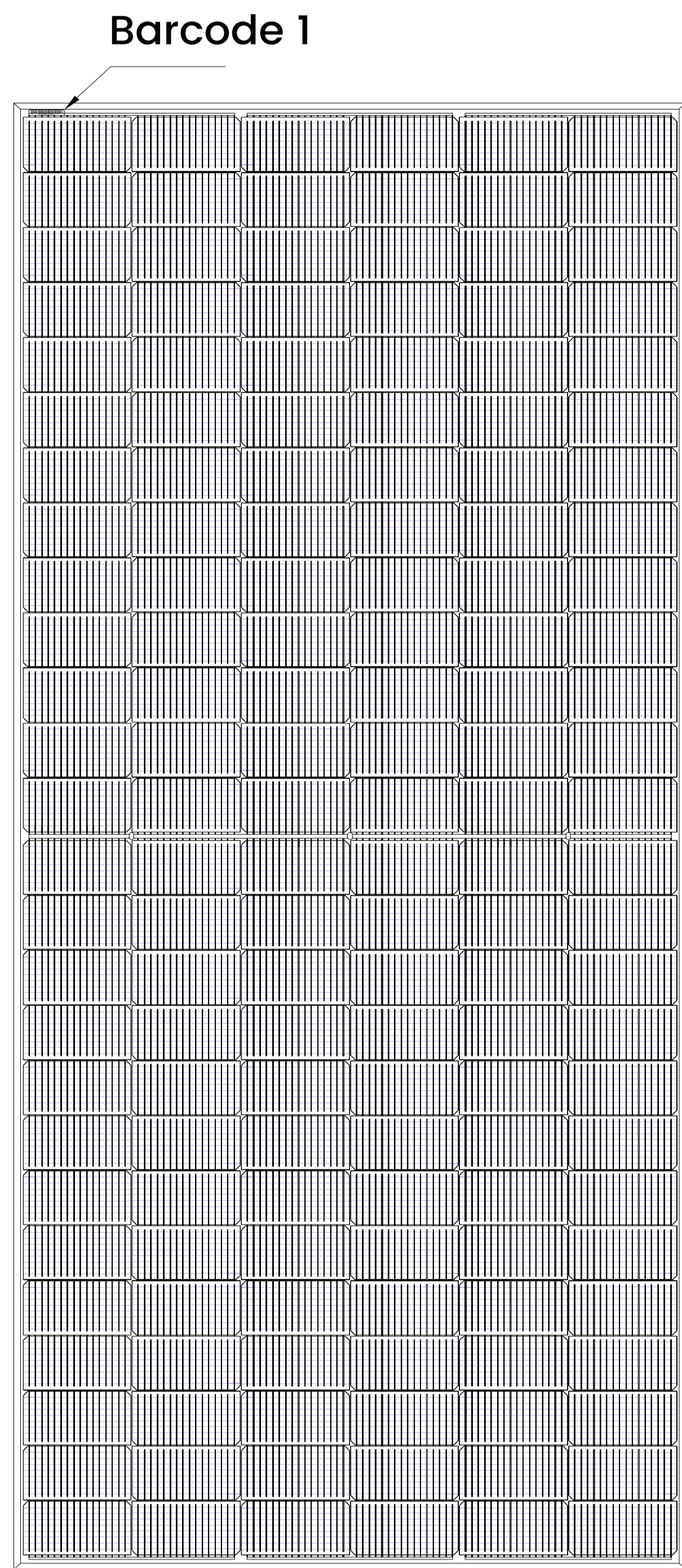
Working conditions	
Maximum system voltage	1500 V DC
Operating temperature	-40°C~+85°C
Maximum series fuse	35 A
Front Side Maximum Static Loading	Up to 5400Pa
Rear Side Maximum Static Loading	Up to 2400Pa

*Remark: Electrical data in this catalog do not refer to a single module and they are not part of the offer. They only serve for comparison among different module types.
*Caution: Please be kindly advised that PV modules should be handled and installed by qualified people who have professional skills and please carefully read the safety and installation instructions before using our PV modules.

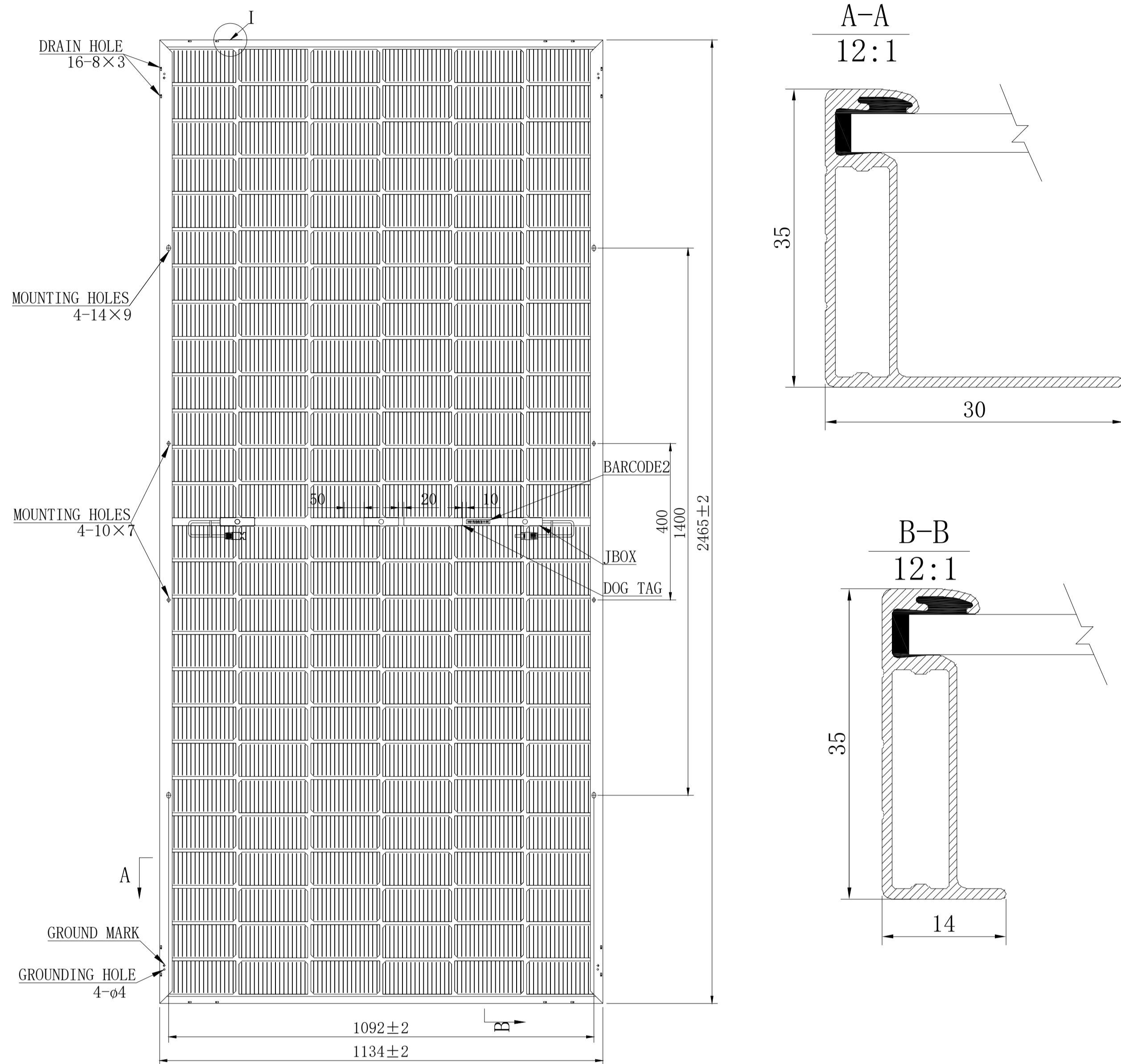


ALTAIR

Dimensions of PV Module (mm)

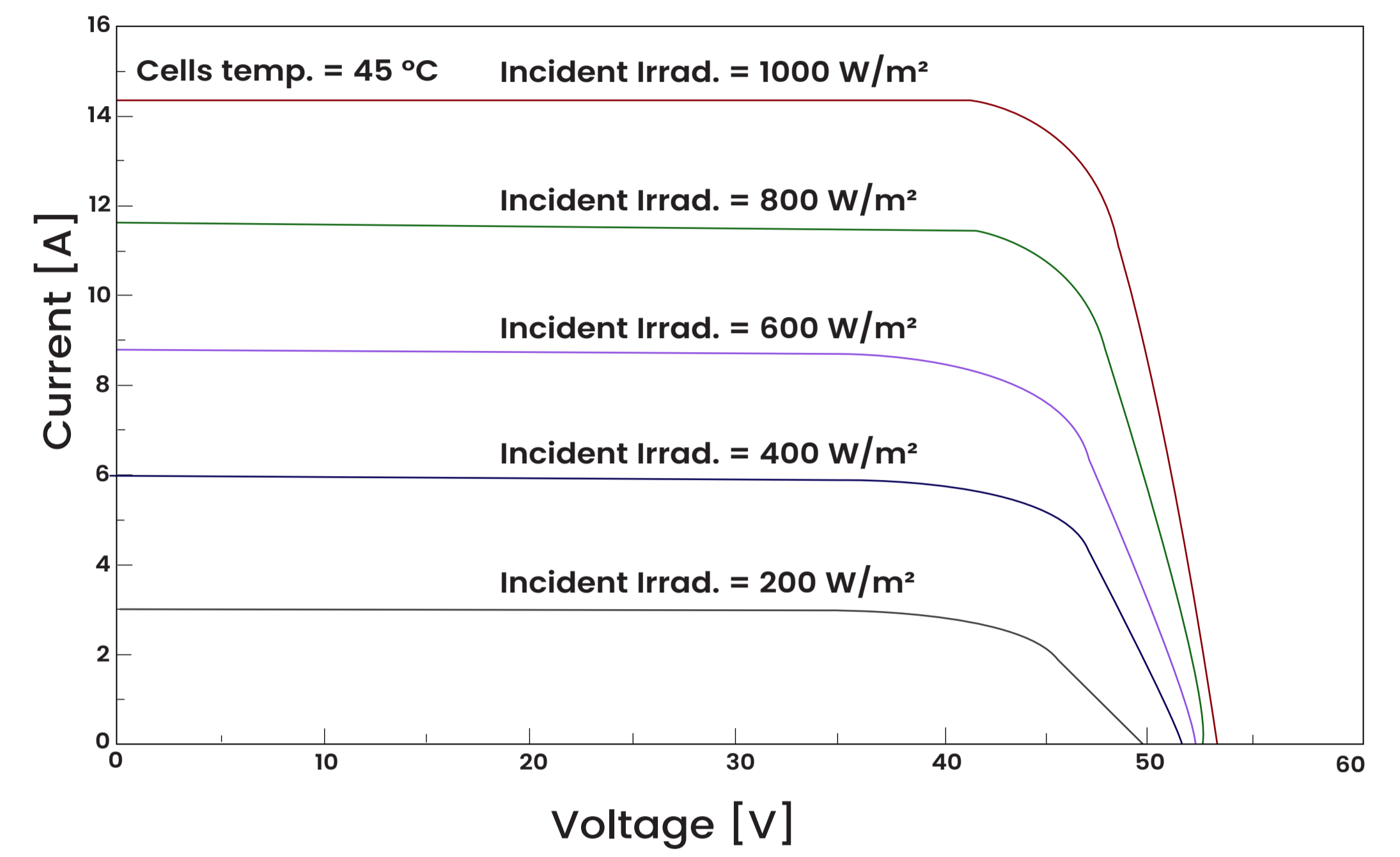


Front View

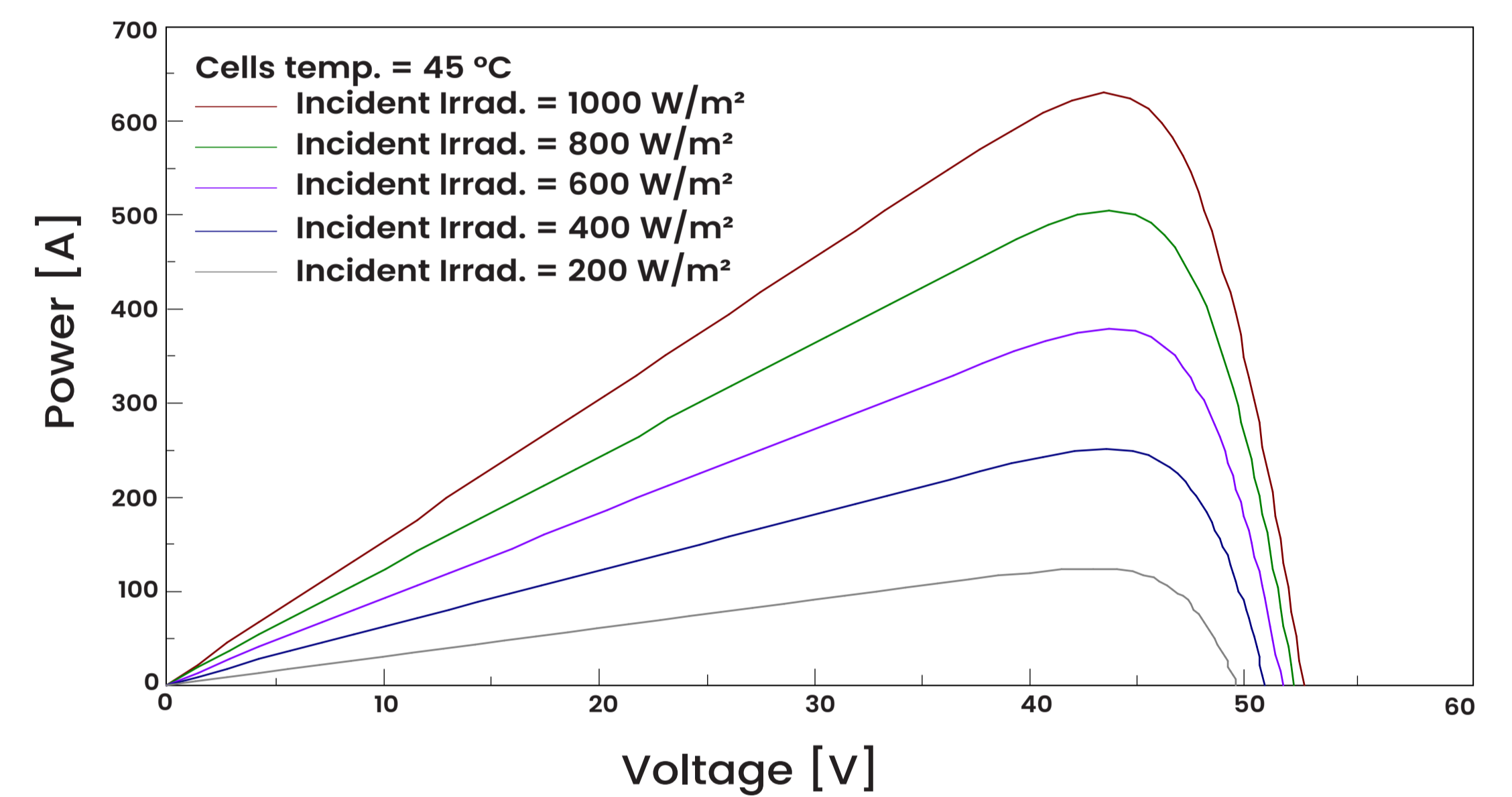


Back View

I-V Curves of PV Module (645W)



P-V Curves of PV Module (645W)



Electrical Characteristics STC*							
Nominal Power Watt Pmax(W)*	615	620	625	630	635	640	645
Maximum Power Voltage Vmp(V)	45.80	46.00	46.20	46.40	46.60	46.80	47.00
Maximum Power Current Imp(A)	13.43	13.48	13.53	13.58	13.63	13.68	13.73
Open Circuit Voltage Voc(V)	55.40	55.60	55.80	56.00	56.20	56.40	56.60
Short Circuit Current Isc(A)	14.19	14.25	14.31	14.37	14.43	14.49	14.55
Module Efficiency (%)	22.00	22.18	22.36	22.54	22.72	22.90	23.07

*The data above is for reference only and the actual data is in accordance with the practical testing
 *STC (Standard Test Condition): Irradiance 1000W/m², Module Temperature 25±2°C, AM 1.5
 *Measuring uncertainty: ±3%.

Mechanical Data	
Solar cells	N-type Monocrystalline
Cells orientation	156 [2x(13x6)]
Module dimension	2465x1134x35 mm (With Frame)
Weight	34.5±1.0 kg
Glass	2.0 mm+2.0mm, High Transmission, AR Coated Tempered Glass
Junction box	IP 68, 3 diodes
Cables	4 mm² ,350 mm (With Connectors)
Connectors*	MC4-compatible

*Please refer to regional datasheet for specified connector

Electrical Characteristics NMOT							
Maximum Power Pmax(Wp)	464.69	468.47	472.25	476.03	479.81	483.58	487.36
Maximum Power Voltage Vmp(V)	43.17	43.36	43.54	43.73	43.92	44.11	44.30
Maximum Power Current Imp(A)	10.75	10.79	10.83	10.87	10.91	10.95	10.99
Open Circuit Voltage Voc(V)	52.26	52.45	52.64	52.83	53.02	53.21	53.40
Short Circuit Current Isc(A)	11.46	11.50	11.55	11.60	11.65	11.70	11.75

*NMOT: Irradiance 800W/m², Ambient Temperature 20°C, AM 1.5, Wind Speed 1m/s

Temperature Ratings	
NMOT	44°C ±2°C
Temperature coefficient of Pmax	(-0.30±0.03)%/°C
Temperature coefficient of Voc	-0.25%/°C
Temperature coefficient of Isc	0.046%/°C

*Remark: Do not connect Fuse in Combiner Box with two or more strings in parallel connection

Electrical Characteristics (Rear Power Gain)								
5%	Maximum Power: Pmax (W)	645.75	651	656.25	661.5	666.75	672	677.25
	Module Efficiency(%)	23.10	23.29	23.48	23.66	23.85	24.04	24.23
15%	Maximum Power: Pmax(W)	676.5	682	687.5	693	698.5	704	709.5
	Module Efficiency(%)	24.20	24.40	24.59	24.79	24.99	25.19	25.38
25%	Maximum Power: Pmax(W)	768.75	775	781.25	787.5	793.75	800	806.25
	Module Efficiency(%)	27.50	27.73	27.95	28.17	28.40	28.62	28.84

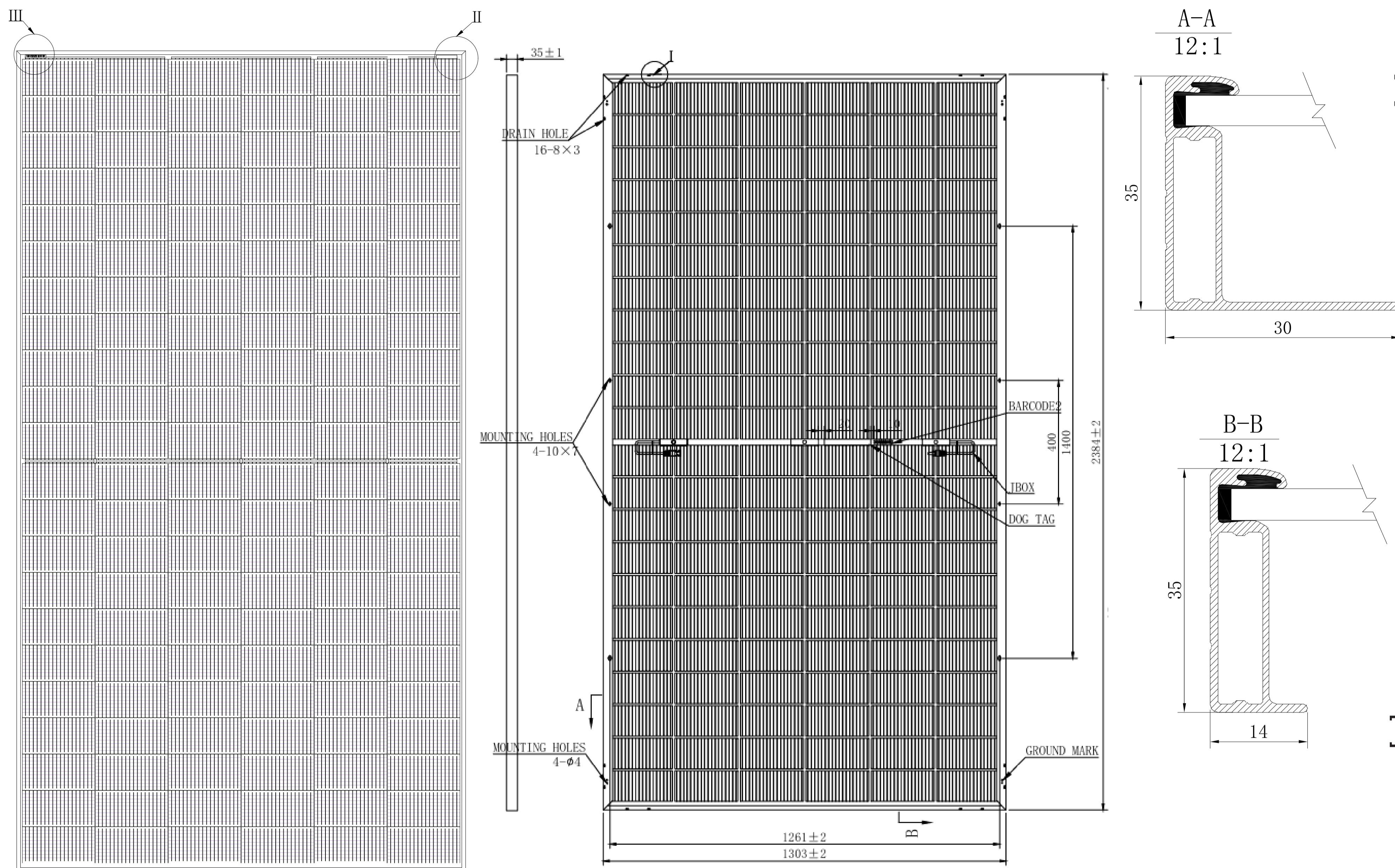
Working conditions	
Maximum system voltage	1500 V DC
Operating temperature	-40°C~+85°C
Maximum series fuse	35 A
Front Side Maximum Static Loading	Up to 5400Pa
Rear Side Maximum Static Loading	Up to 2400Pa

*Remark: Electrical data in this catalog do not refer to a single module and they are not part of the offer. They only serve for comparison among different module types.
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AQUILA

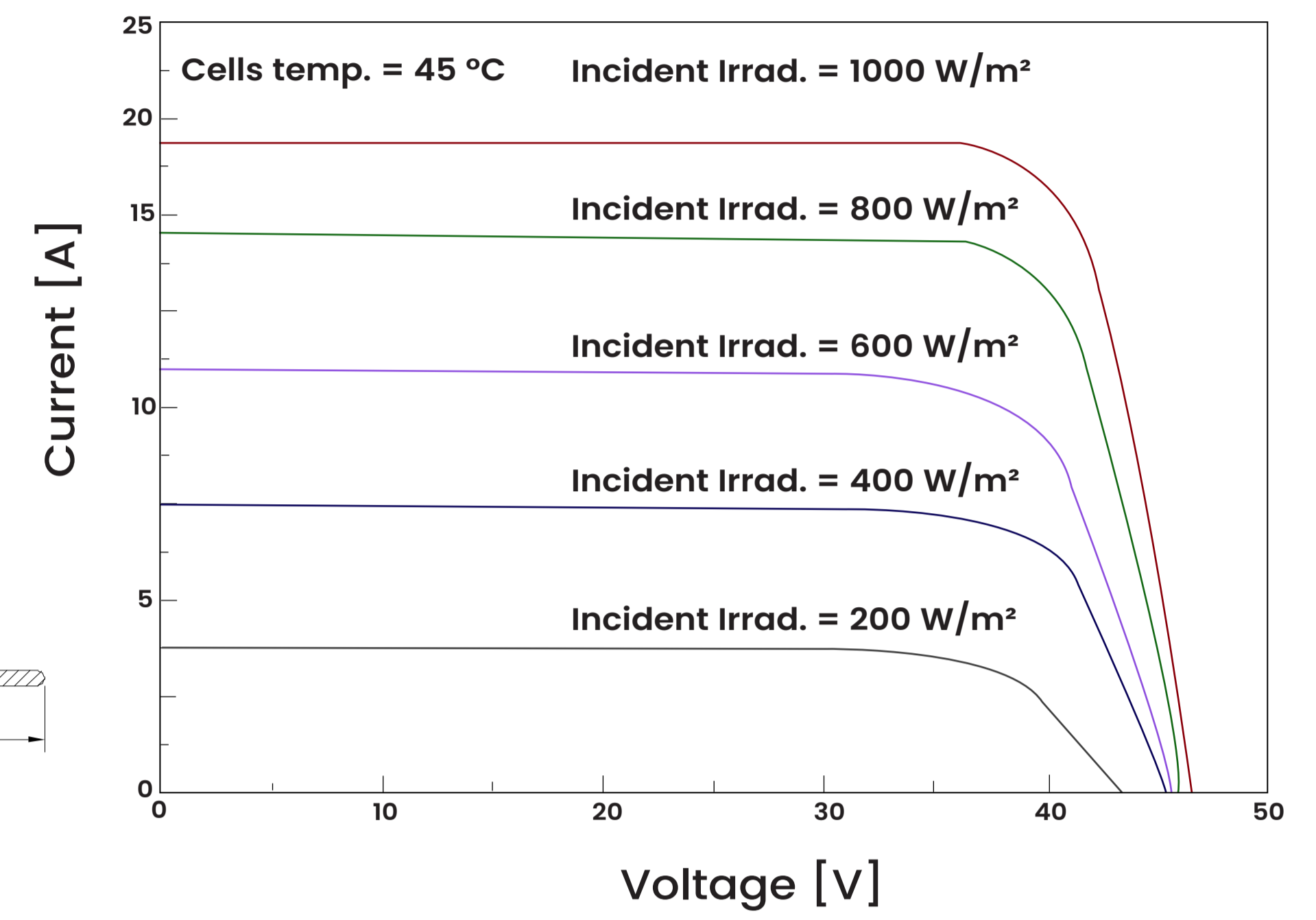
Dimensions of PV Module (mm)



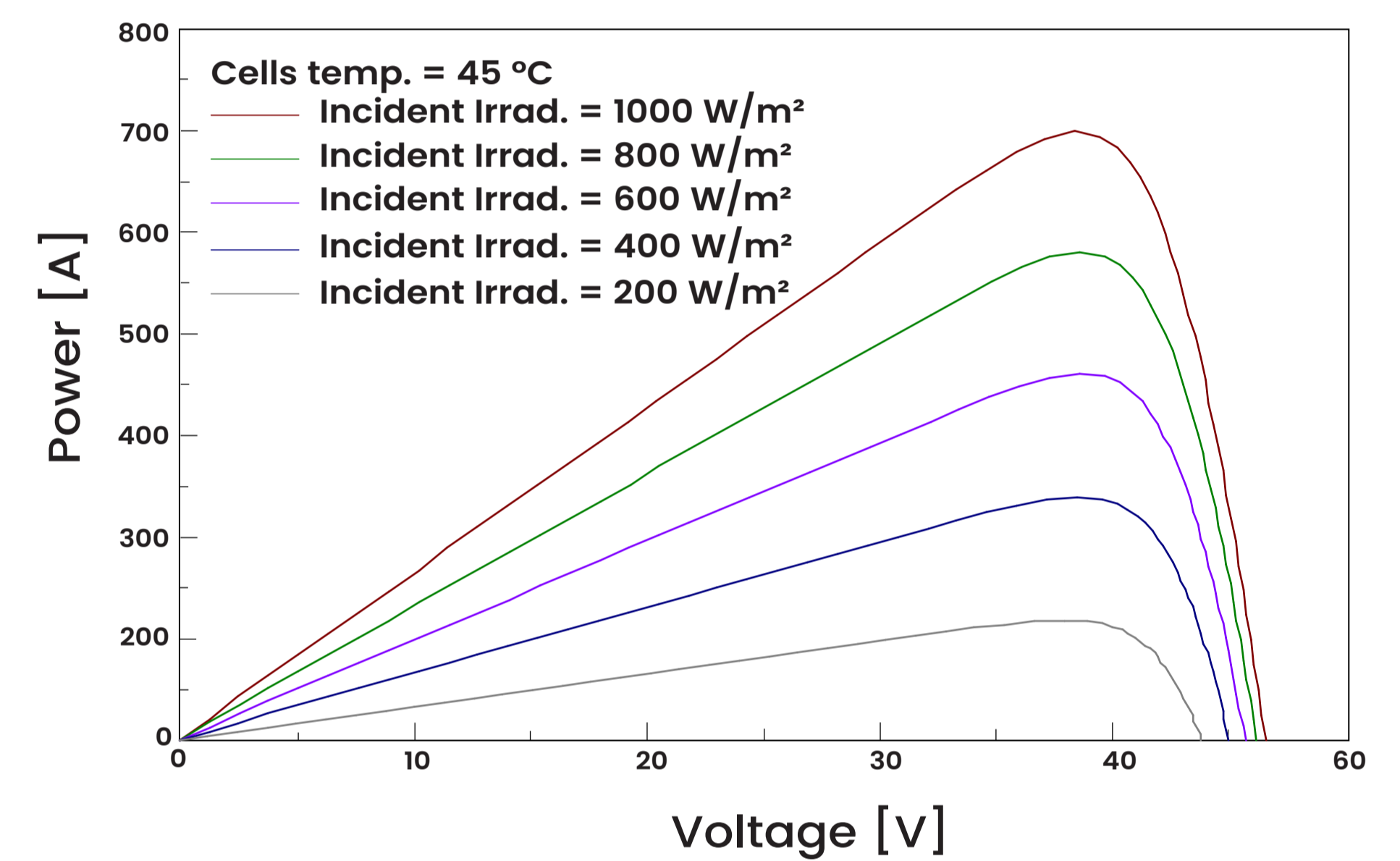
Back View

Front View

I-V Curves of PV Module (715W)



P-V Curves of PV Module (715W)



Electrical Characteristics | STC*

Nominal Power Watt Pmax(W)*	685	690	695	700	705	710	715
Maximum Power Voltage Vmp(V)	39.89	40.09	40.29	40.49	40.68	40.90	41.12
Maximum Power Current Imp(A)	17.18	17.21	17.25	17.29	17.33	17.36	17.40
Open Circuit Voltage Voc(V)	47.98	48.18	48.38	48.58	48.77	48.85	48.90
Short Circuit Current Isc(A)	18.20	18.23	18.27	18.31	18.36	18.37	18.39
Module Efficiency (%)	22.05	22.21	22.37	22.53	22.70	22.86	23.02

*The data above is for reference only and the actual data is in accordance with the practical testing
 *STC (Standard Test Condition): Irradiance 1000W/m², Module Temperature 25±2°C, AM 1.5
 *Measuring uncertainty: ±3%.

Electrical Characteristics | NMOT

Maximum Power Pmax(Wp)	517.59	521.36	525.14	528.92	532.70	536.48	540.25
Maximum Power Voltage Vmp(V)	37.60	37.80	38.00	38.20	38.40	38.60	38.80
Maximum Power Current Imp(A)	13.77	13.80	13.83	13.85	13.87	13.90	13.93
Open Circuit Voltage Voc(V)	45.26	45.45	45.64	45.83	46.01	46.09	46.13
Short Circuit Current Isc(A)	14.69	14.72	14.75	14.78	14.82	14.83	14.85

*NMOT: Irradiance 800W/m², Ambient Temperature 20°C, AM 1.5, Wind Speed 1m/s

Electrical Characteristics | (Rear Power Gain)

5%	Maximum Power: Pmax (W)	719.25	724.5	729.75	735	740.25	745.5	750.75
	Module Efficiency(%)	23.15	23.32	23.49	23.66	23.83	24.00	24.17
15%	Maximum Power: Pmax(W)	753.5	759	764.5	770	775.5	781	786.5
	Module Efficiency(%)	24.26	24.43	24.61	24.79	24.96	25.14	25.32
25%	Maximum Power: Pmax(W)	822	828	834	840	846	852	858
	Module Efficiency(%)	26.46	26.66	26.85	27.04	27.23	27.43	27.62

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Mechanical Data

Solar cells	TOPCon
Cells orientation	132 [2x(11x6)]
Module dimension	2384x1303x35 mm (With Frame)
Weight	38.5±1.0 kg
Glass	2.0 mm+2.0mm, High Transmission, AR Coated Tempered Glass
Junction box	IP 68, 3 diodes
Cables	4.0 mm², 360 mm (With Connectors)
Connectors*	MC4-compatible

*Please refer to regional datasheet for specified connector

Temperature Ratings

NMOT	41°C ±3°C
Temperature coefficient of Pmax	-0.29%/°C
Temperature coefficient of Voc	-0.25%/°C
Temperature coefficient of Isc	0.05%/°C

*Remark: Do not connect Fuse in Combiner Box with two or more strings in parallel connection

Working conditions

Maximum system voltage	1500 V DC
Operating temperature	-40°C~+85°C
Maximum series fuse	35 A
Front Side Maximum Static Loading	Up to 5400Pa
Rear Side Maximum Static Loading	Up to 2400Pa



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Energy Solutions Ltd

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