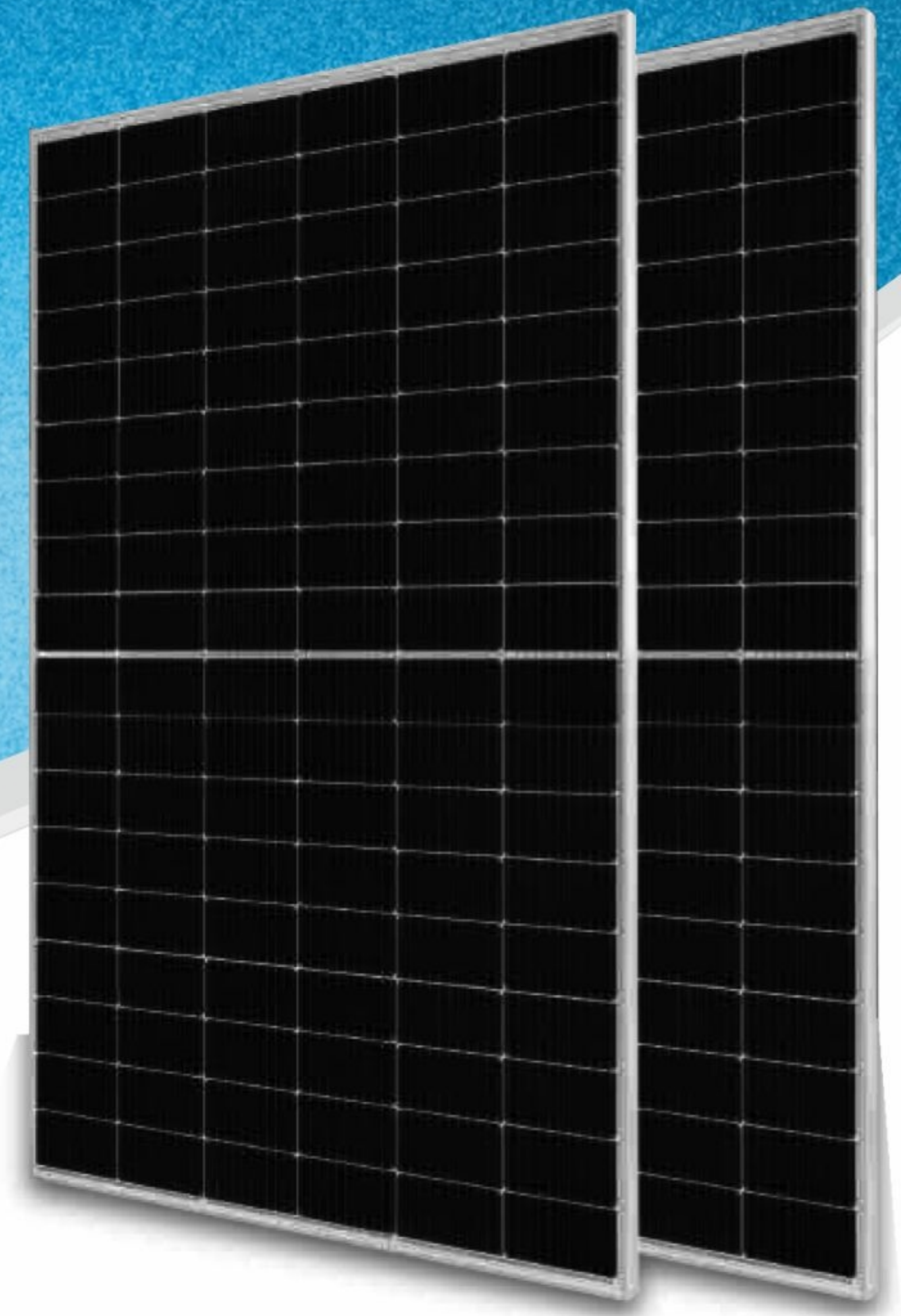




# TUNGHSU



## 182 series

## Mono solar modules

## 108 cells single-glass multi-busbar half-cut modules

# 390-415W

### ► Tunghsu components with high efficiency and high reliability

- \* Advanced production equipment, highly automated process control, world-class production technology
- \* The company has a product research and development laboratory that meets the new ISO/IEC international standards
- \* Excellent weak light performance, resistant to salt spray and ammonia corrosion.

Passing the certification test of the PV standards.

- \* Certified by international quality management and environmental management system
- \* Application grade:A, Safe grade: II , Fireproofing grade:C

### ► Comprehensive Products And System Certificates

IEC61215/IEC61730/UL1703/IEC61701/IEC62716

ISO 9001: Quality Management System

ISO 14001: Environmental Management System

ISO 45001: Occupation Health and Safety Management System

GB/T 23001-2017: Management system with Integration of Information Technology and Industrialization



### Non-destructive cutting

Higher battery bending strength and module mechanical performance



### Higher customer value

Up to 25% extra power gain, lower BOS cost and LCOE



### High-efficiency PERC+ battery technology

Higher module power and efficiency, lower power attenuation

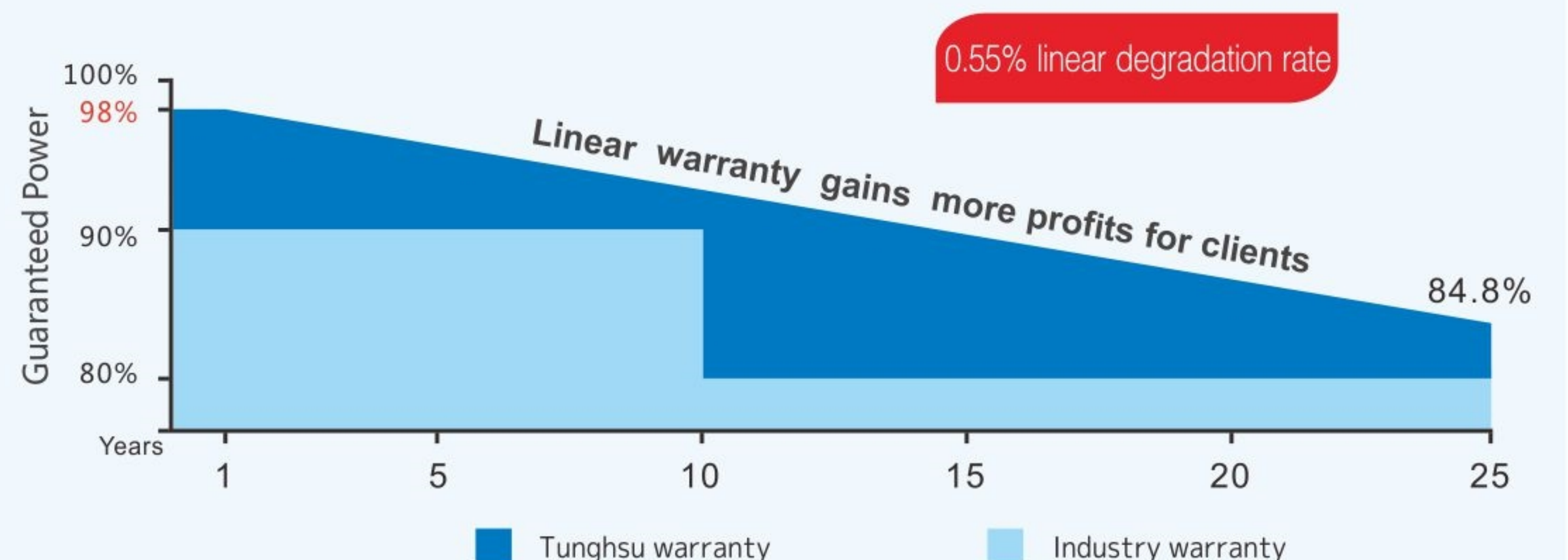


### Certified to withstand the most challenging environmental conditions

2400 Pa wind load  
5400 Pa snow load

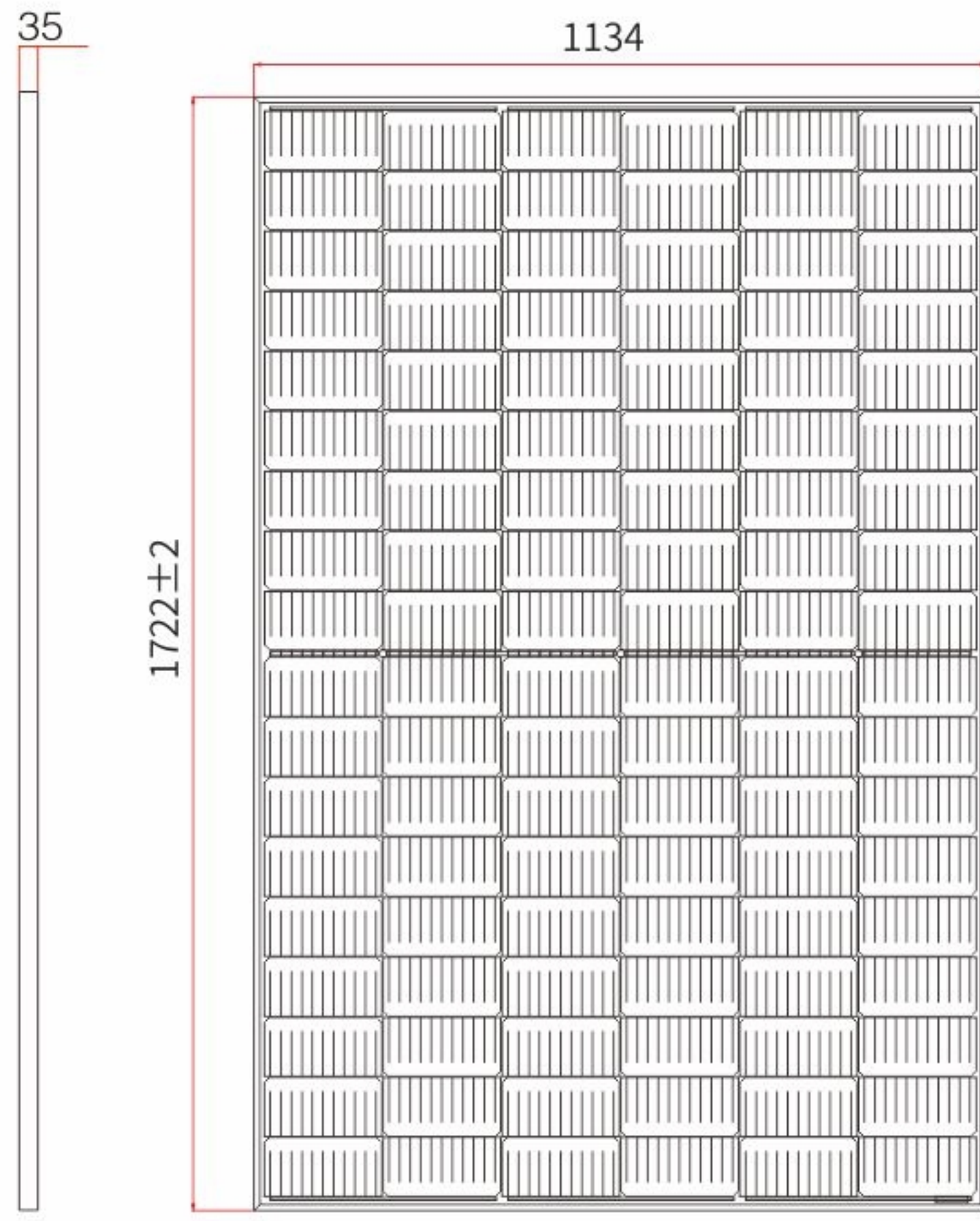
### Industry-leading linear warranty

\*15 Year Product Warranty \*25Year Linear Power Warranty

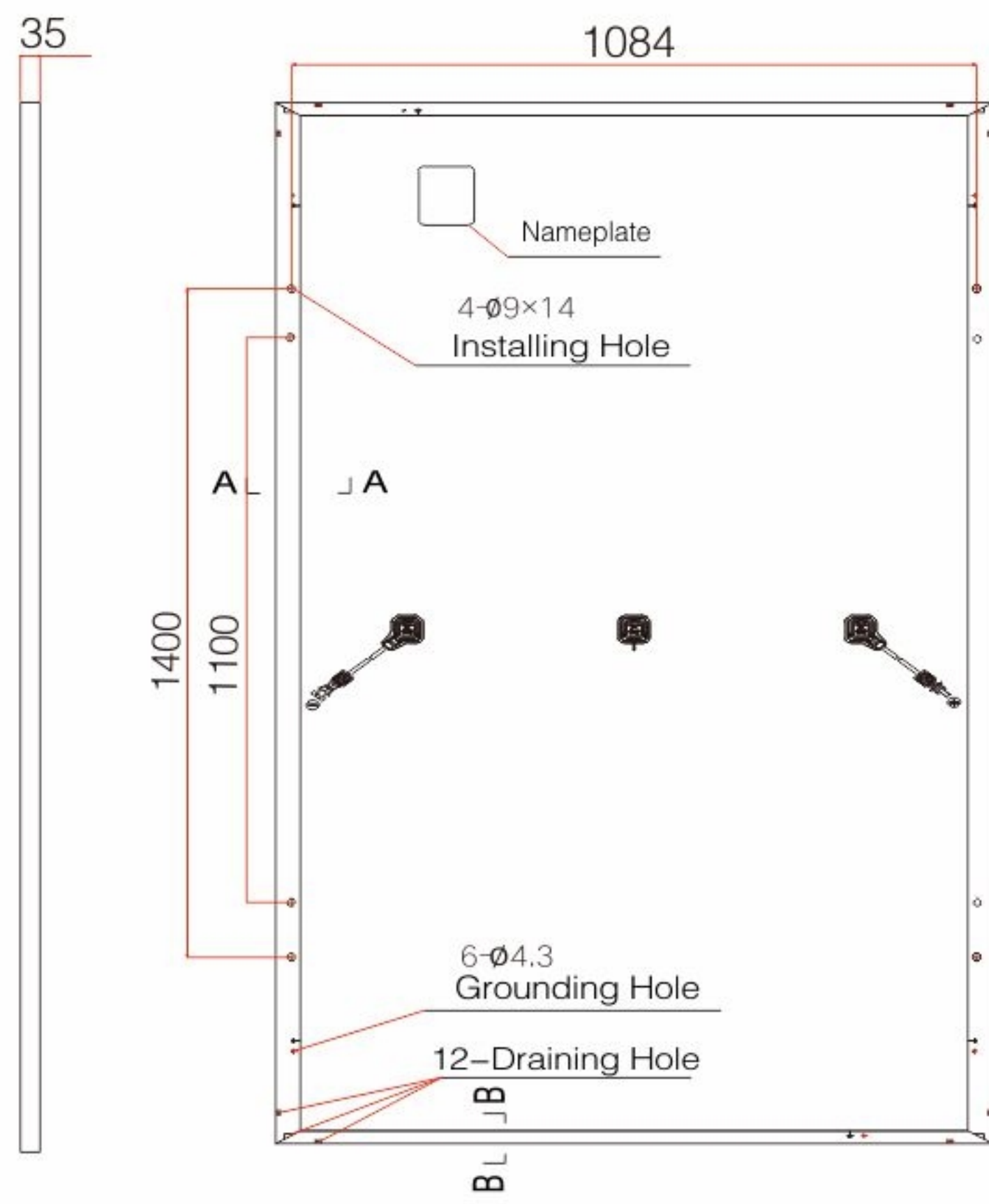




### DIMENSIONS OF PV MODULE(mm)

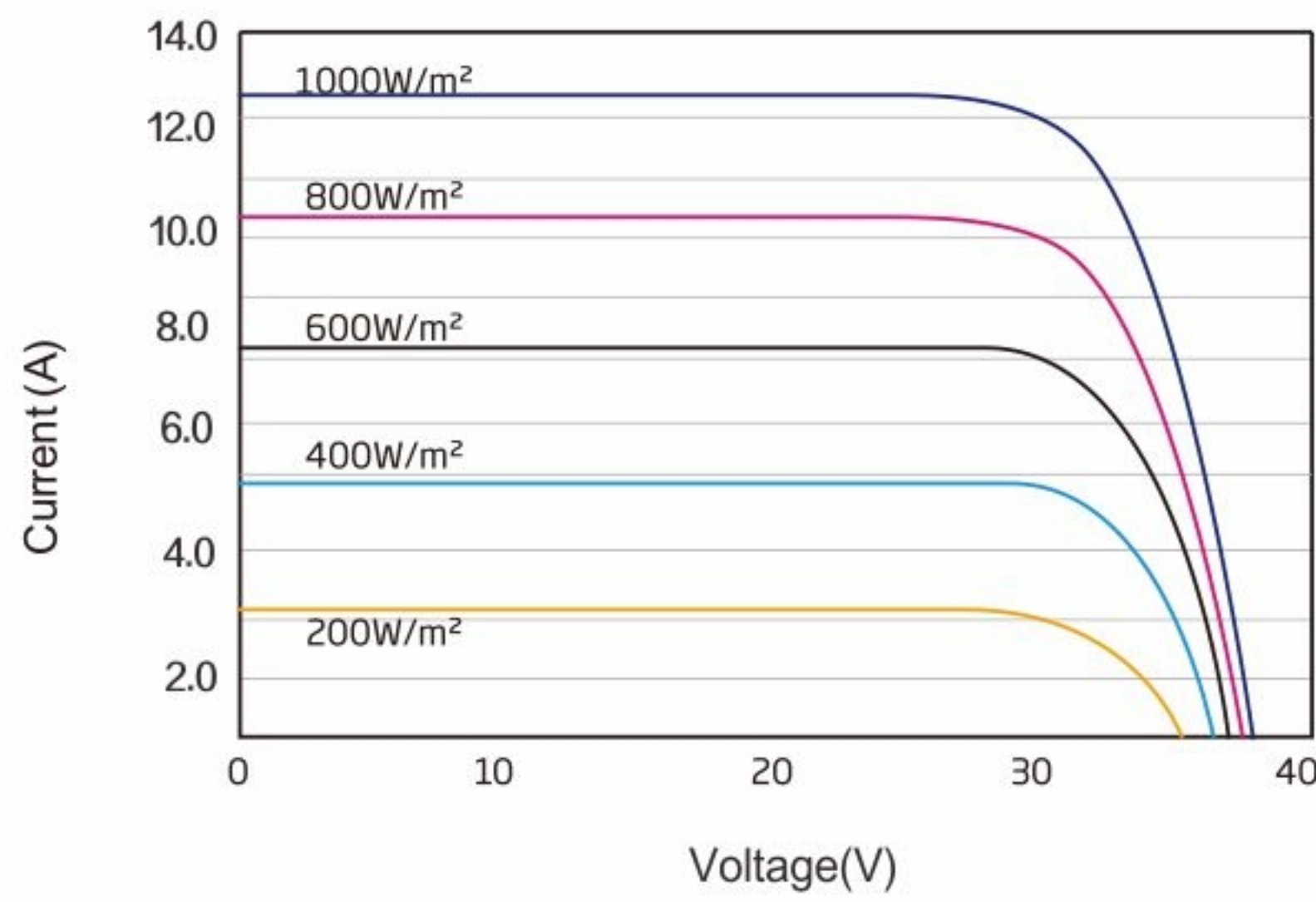


Front View

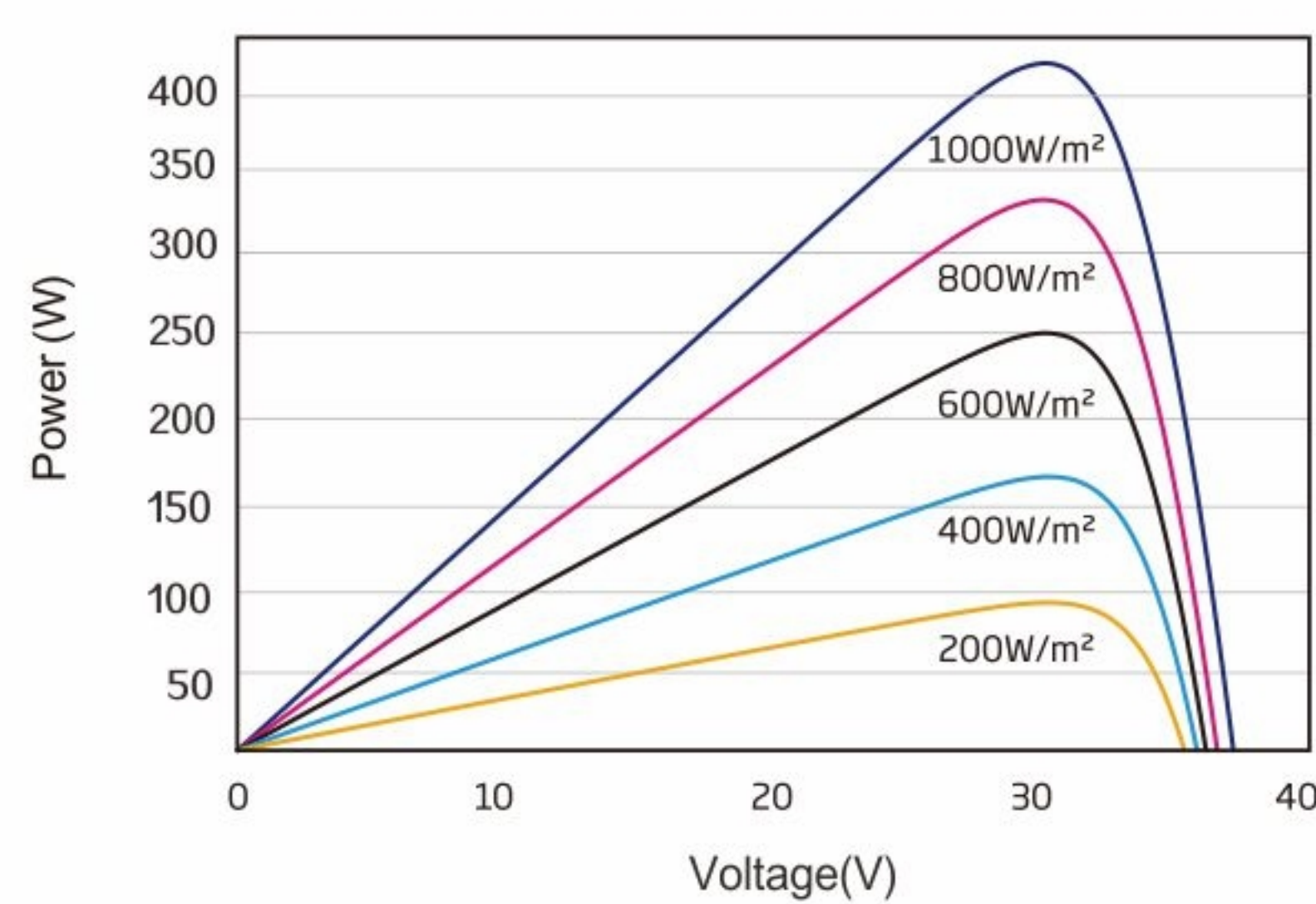


Back View

### I-V CURVES OF PV MODULE(405W)



### P-V CURVES OF PV MODULE(405W)



### ELECTRICAL DATA (STC)

Peak Power Watts- $P_{MAX}$ (Wp)	390	395	400	405	410	415
Power Output Tolerance- $P_{MAX}$ (W)	0~ +5					
Maximum Power Voltage- $V_{MPP}$ (V)	30.64	30.84	31.01	31.21	31.45	31.61
Maximum Power Current- $I_{MPP}$ (A)	12.73	12.81	12.90	12.98	13.04	13.13
Open Circuit Voltage- $V_{OC}$ (V)	36.85	36.98	37.07	37.23	37.32	37.45
Short Circuit Current- $I_{SC}$ (A)	13.61	13.70	13.79	13.87	13.95	14.02
Module Efficiency $\eta_m$ (%)	20.0	20.2	20.5	20.7	21.0	21.3

STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass AM1.5.

### ELECTRICAL DATA (NOCT)

Maximum Power- $P_{MAX}$ (Wp)	294	298	302	306	310	314
Maximum Power Voltage- $V_{MPP}$ (V)	28.87	29.08	29.26	29.47	29.72	29.89
Maximum Power Current- $I_{MPP}$ (A)	10.18	10.25	10.32	10.38	10.43	10.50
Open Circuit Voltage- $V_{OC}$ (V)	34.62	34.75	34.88	35.12	35.23	35.37
Short Circuit Current- $I_{SC}$ (A)	10.89	10.96	11.03	11.10	11.16	11.22

NOCT: Irradiance at 800W/m<sup>2</sup>, Ambient Temperature 20°C, Wind Speed 1m/s.

### MECHANICAL DATA

Solar Cells	Monocrystalline
Cell Orientation	108 cell (6x18)
Module Dimensions	1722x1134x35mm( 67.80x 44.65x 1.38 inches)
Weight	22.0kg(48.50 lb)
Front Glass	3.2mm (0.13 inches), High Transmission, Strengthened Coated Glass
Encapsulant Material	EVA
Backsheet	White
Frame	35 mm (1.38 inches) Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	4.0mm <sup>2</sup> , 350mm photovoltaic special cable, or customized
Connector	MC4、QC4

### TEMPERATURE RATING

NOCT (Nominal Operating Cell Temperature)	45°C (± 2°C)
Temperature Coefficient of $P_{MAX}$	- 0.350%/°C
Temperature Coefficient of $V_{OC}$	- 0.275%/°C
Temperature Coefficient of $I_{SC}$	0.045%/°C

### LIMIT PARAMETERS

Operational Temperature	-40~+85°C
Maximum System Voltage	1500V DC (IEC)
Max Series Fuse Rating	25A

(DO NOT connect Fuse in Combiner Box with two or more strings in parallel connection)

### WARRANTY

15 year Product Workmanship Warranty
25 year Linear Power Warranty

### PACKAGING CONFIGURATION

Modules per box: 31pieces
Modules per 40' container:806 pieces

Note: Read the safety and installation instructions before using the product.

Affirm: With technological progress and product updates, the technical parameters of Tunghsu Kangtu's later component products may deviate from the technical parameters contained in this specification. Tunghsu Kangtu has the right to adjust various technical parameters at any time without notifying the customer. The final interpretation right of this technical specification belongs to Anhui Tunghsu Kangtu Solar Technology Co., Ltd.



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