

Spirit series



M10 (182mm)

525W/530W/535W/540W/545W/550W

144 CELLS MBB HALF-CELL MONO PV MODULE

SINGLE GLASS REGULAR TYPE



525-550W

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 customer value



High-efficiency PERC+ cell technology



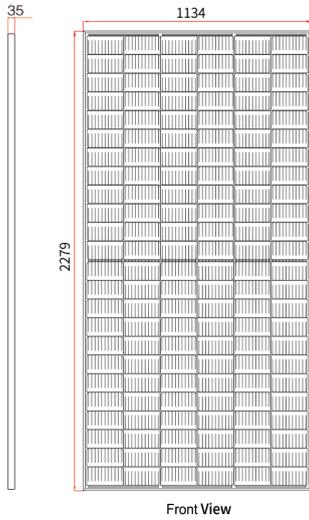
Certified to withstand the most challenging environmental conditions

Industry-leading linear warranty

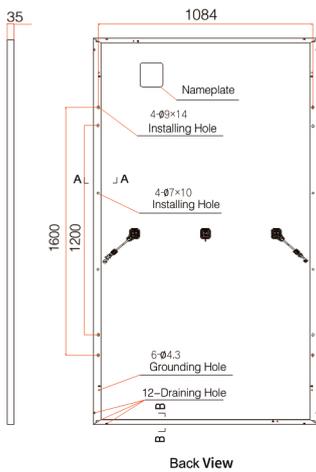
+15 Year Product Warranty +25Year Linear Power Warranty



DIMENSIONS OF PV MODULE(mm)

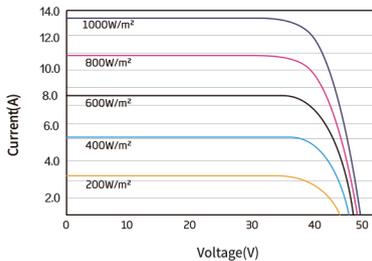


Front View

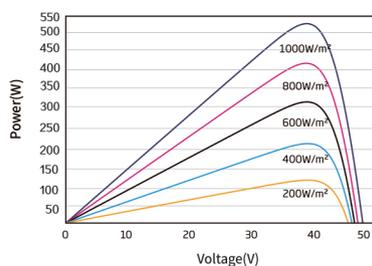


Back View

I-V CURVES OF PV MODULE(540W)



P-V CURVES OF PV MODULE(540W)



ELECTRICAL DATA (STC)

| | | | | | | |
|---------------------------------------|--------|-------|-------|-------|-------|-------|
| Peak Power Watts- P_{MAX} (Wp) | 525 | 530 | 535 | 540 | 545 | 550 |
| Power Output Tolerance- P_{MAX} (W) | 0~ + 5 | | | | | |
| Maximum Power Voltage- V_{MPP} (V) | 41.15 | 41.31 | 41.47 | 41.64 | 41.80 | 41.96 |
| Maximum Power Current- I_{MPP} (A) | 12.76 | 12.83 | 12.90 | 12.97 | 13.04 | 13.11 |
| Open Circuit Voltage- V_{OC} (V) | 49.15 | 49.30 | 49.45 | 49.60 | 49.75 | 49.90 |
| Short Circuit Current- I_{SC} (A) | 13.65 | 13.72 | 13.79 | 13.86 | 13.93 | 14.00 |
| Module Efficiency η_m (%) | 20.3 | 20.5 | 20.7 | 20.9 | 21.1 | 21.3 |

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AML5.

ELECTRICAL DATA (NOCT)

| | | | | | | |
|--------------------------------------|-------|-------|-------|-------|-------|-------|
| Maximum Power- P_{MAX} (Wp) | 397 | 401 | 405 | 408 | 412 | 416 |
| Maximum Power Voltage- V_{MPP} (V) | 38.36 | 38.57 | 38.78 | 38.99 | 39.20 | 39.43 |
| Maximum Power Current- I_{MPP} (A) | 10.35 | 10.39 | 10.43 | 10.47 | 10.51 | 10.55 |
| Open Circuit Voltage- V_{OC} (V) | 46.05 | 46.18 | 46.31 | 46.43 | 46.55 | 46.68 |
| Short Circuit Current- I_{SC} (A) | 10.97 | 11.01 | 11.05 | 11.09 | 11.13 | 11.17 |

NOCT: Irradiance at 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s.

MECHANICAL DATA

| | |
|----------------------|--|
| Solar Cells | Monocrystalline |
| Cell Orientation | 144 cell (6x24) |
| Module Dimensions | 2279x1134x35mm(89.72x 44.65x 1.38 inches) |
| Weight | 28.5kg(62.83 lb) |
| Front Glass | 3.2mm (0.13 inches), High Transmission, Strengthened Coated Glass |
| Encapsulant Material | EVA/POE |
| Backsheet | White |
| Frame | 35 mm (1.38 inches) Anodized Aluminium Alloy |
| J-Box | IP 68 rated |
| Cables | 4.0mm ² , 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: 31 pieces |
| Modules per 40' container: 620 pieces |

Note: Read the safety and installation instructions before using the product.
Affirm: With technological progress and product updates, the technical parameters of Anhui RiChao's later component products may deviate from the technical parameters contained in this specification. Anhui RiChao 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 RiChao New Energy Technology Co., Ltd.

