# HIGH PERFORMANCE MONOCRYSTALLINE PERC MODULE




## 1T-SLP-144-435-M/455-M

**144 CELL**
Mono PERC Module

**435-455Wp**
Power Output Range

**1500VDC**
Maximum System Voltage

**20.6%**
Maximum Efficiency

## KEY SALIENT FEATURES

- Global, Tier 1 bankable brand, with independently certified state-of-the-art automated manufacturing
- Industry leading lowest thermal co-efficient of power
- Industry leading 12 years product warranty
- Excellent low irradiance performance
- Excellent PID resistance
- Positive tight power tolerance
- Dual stage 100% EL Inspection warranting defect-free product
- Module Imp binning radically reduces string mismatch losses
- Warranted reliability and stringent quality assurances well beyond certified requirements
- Certified to withstand severe environmental conditions
  - Anti-reflective & anti-soiling surface minimise power loss from dirt and dust
  - Severe salt mist, ammonia & blown sand resistance, for seaside, farm and desert environments
  - Excellent mechanical load 2400Pa & snow load 5400Pa resistance

ISO9001
ISO14001
OHSAS18001
IEC TS 62941

### RISEN ENERGY CO., LTD.

Risen Energy is a leading, global tier 1 manufacturer of high-performance solar photovoltaic products and provider of total business solutions for residential, commercial and utility-scale power generation. The company, founded in 1986, and publicly listed in 2010, compels value generation for its chosen global customers. Techno-commercial innovation, underpinned by consummate quality and support, encircle Risen Energy's total Solar PV business solutions which are among the most powerful and cost-effective in the industry. With local market presence and strong financial bankability status, we are committed, and able, to building strategic, mutually beneficial collaborations with our partners, as together we capitalise on the rising value of green energy.

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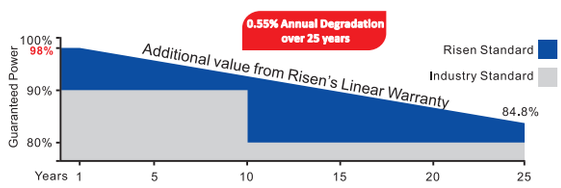
## LINEAR PERFORMANCE WARRANTY

**12 year Product Warranty / 25 year Linear Power Warranty**




★ Please check the valid version of Limited Product Warranty which is officially released by Risen Energy Co., Ltd

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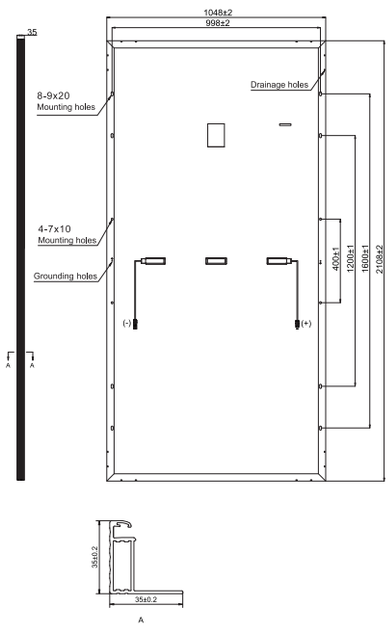
## Dimensions of PV Module

Unit: mm




## ELECTRICAL DATA (STC)

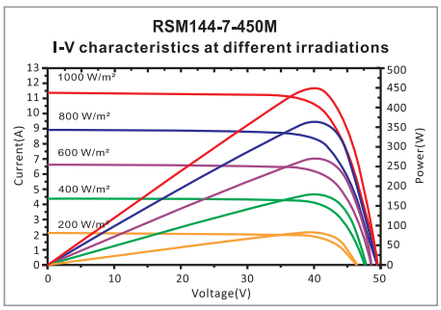
| Model Number | T1-SLP-144-435-M | T1-SLP-144-440-M | T1-SLP-144-445-M | T1-SLP-144-450-M | T1-SLP-144-455-M |
|---|---|---|---|---|---|
| Rated Power in Watts-Pmax(Wp) | **435** | **440** | **445** | **450** | **455** |
| Open Circuit Voltage-Voc(V) | 49.40 | 49.50 | 49.60 | 49.70 | 49.80 |
| Short Circuit Current-Isc(A) | 11.20 | 11.30 | 11.40 | 11.50 | 11.60 |
| Maximum Power Voltage-Vmpp(V) | 41.05 | 41.13 | 41.25 | 41.30 | 41.40 |
| Maximum Power Current-Impp(A) | 10.60 | 10.70 | 10.80 | 10.90 | 11.00 |
| Module Efficiency (%) ⋆ | 19.7 | 19.9 | 20.1 | 20.4 | 20.6 |

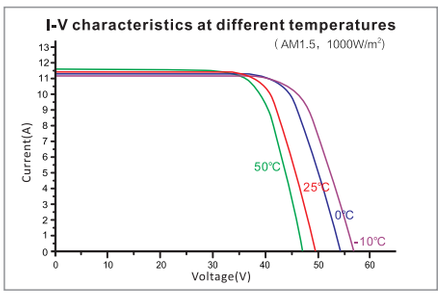
STC: Irradiance 1000 W/m², Cell Temperature 25°C, Air Mass AM1.5 according to EN 60904-3.
⋆ Module Efficiency (%): Round-off to the nearest number

## ELECTRICAL DATA (NMOT)

| Model Number | T1-SLP-144-435-M | T1-SLP-144-440-M | T1-SLP-144-445-M | T1-SLP-144-450-M | T1-SLP-144-455-M |
|---|---|---|---|---|---|
| Maximum Power-Pmax (Wp) | 325.2 | 329.6 | 333.9 | 338.2 | 342.5 |
| Open Circuit Voltage-Voc (V) | 45.45 | 46.18 | 46.39 | 46.43 | 46.61 |
| Short Circuit Current-Isc (A) | 9.18 | 9.27 | 9.35 | 9.43 | 9.51 |
| Maximum Power Voltage-Vmpp (V) | 37.60 | 37.80 | 37.90 | 38.00 | 38.10 |
| Maximum Power Current-Impp (A) | 8.65 | 8.72 | 8.81 | 8.90 | 8.99 |

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




## MECHANICAL DATA

| | |
|---|---|
| Solar cells | Monocrystalline 166×83mm |
| Cell configuration | 144 cells (6×12+6×12) |
| Module dimensions | 2108×1048×35mm |
| Weight | 24.5kg |
| Superstrate | High Transmission, Low Iron, Tempered ARC Glass |
| Substrate | White Back-sheet |
| Frame | Anodized Aluminium Alloy type 6063-T5, Silver Color |
| J-Box | Potted, IP68, 1500VDC, 3 Schottky bypass diodes |
| Cables | 4.0mm² (12AWG), Positive(+)350mm, Negative(-)350mm (Connector Included ) |
| Connector | Risen Twinsel PV-SY02, IP68 |

## TEMPERATURE & MAXIMUM RATINGS

| | |
|---|---|
| Nominal Module Operating Temperature (NMOT) | 44°C±2°C |
| Temperature Coefficient of Voc | -0.29%/°C |
| Temperature Coefficient of Isc | 0.05%/°C |
| Temperature Coefficient of Pmax | -0.37%/°C |
| Operational Temperature | -40°C~+85°C |
| Maximum System Voltage | 1500VDC |
| Max Series Fuse Rating | 20A |
| Limiting Reverse Current | 20A |

**Our Partners:**

## PACKAGING CONFIGURATION

| | 40ft(HQ) | 20ft |
|---|---|---|
| Number of modules per container | 682 | 155 |
| Number of modules per pallet | 31 | 31 |
| Number of pallets per container | 22 | 5 |
| Packaging box dimensions (LxWxH) in mm | 2140×1135×1180 | 2140×1135×1180 |
| Box gross weight[kg] | 815 | 815 |

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

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