



# 430~445W

**M10 solar panels** Aquaman series

Mono SMBB TOPCon large size half cut  
double glass solar panel

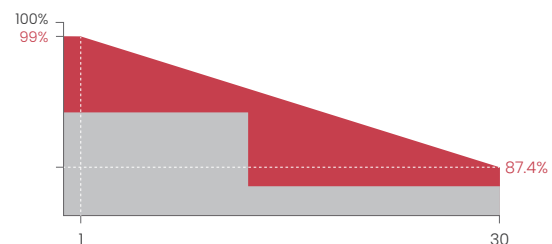
Products can match different installation conditions, taking into account high adaptability and high compatibility. With mature support and inverter scheme, customized design for distributed scenarios.

## MODULE CHARACTER

-  Exceptional PID Resistance
-  Salt mist resistance/Ammonia resistance /dust and hail resistance
-  Production process reliability test
-  0~+5W Positive Tolerance
-  Lower LID / LETID
-  Reduce BOS cost increase ROI
-  Non-destructive cutting
-  Double-sided electricity generation

## CERTIFICATION

IEC61215/IEC61730  
ISO9001:Quality Management System  
ISO14001:Environmental Management System  
ISO45001:Occupational Health and Safety Management System



Linear performance warranty



Product warranty

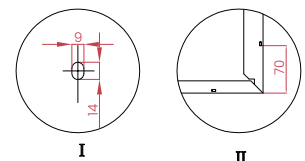
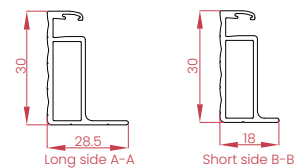
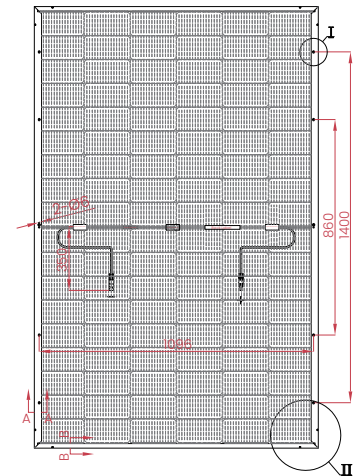
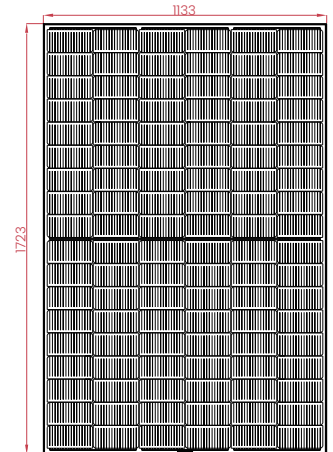
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⚠ If any update, Sunrise would not make further notice. Sunrise reserves the right of final interpretation.



## ENGINEERING DRAWINGS



Length: ±2mm  
 Width : ±2mm  
 Thickness : ±1mm  
 Pitch-row : ±2mm

| Module Type                                    | SR-54M 430NHLProD     |        | SR-54M 435NHLProD |        | SR-54M 440NHLProD |        | SR-54M 445NHLProD |        |
|--|-----------------------|--------|-------------------|--------|-------------------|--------|-------------------|--------|
|  | Module Efficiency (%) | 22.03  |                   | 22.29  |                   | 22.54  |                   | 22.8   |
| Tolerance (W)                                  | 0~+5                  |        | 0~+5              |        | 0~+5              |        | 0~+5              |        |
| Test Environment                               | STC                   | NOCT   | STC               | NOCT   | STC               | NOCT   | STC               | NOCT   |
| Maximum Power Pmax(W)                          | 430                   | 324.39 | 435               | 328.16 | 440               | 331.93 | 445               | 335.70 |
| Open Circuit Voltage Voc(V)                    | 38.56                 | 36.83  | 38.79             | 37.05  | 39.02             | 37.27  | 39.25             | 37.49  |
| Short Circuit Current Isc(A)                   | 14.25                 | 11.51  | 14.34             | 11.57  | 14.41             | 11.64  | 14.50             | 11.71  |
| Maximum Power Voltage Vm(V)                    | 31.86                 | 29.90  | 32.05             | 30.07  | 32.24             | 30.25  | 32.43             | 30.43  |
| Maximum Power Current Im(A)                    | 13.50                 | 10.88  | 13.57             | 10.94  | 13.65             | 11.01  | 13.73             | 11.07  |
| Cell Type (mm)                                 | M10 TOPCon            |        |                   |        |                   |        |                   |        |
| Number of Cells (Pcs)                          | 108(6×18)             |        |                   |        |                   |        |                   |        |
| Maximum System Voltage (V)                     | DC1500                |        |                   |        |                   |        |                   |        |
| Temp.Coeff.of Voc (%/°C)                       | -0.249                |        |                   |        |                   |        |                   |        |
| Temp.Coeff.of Isc (%/°C)                       | 0.045                 |        |                   |        |                   |        |                   |        |
| Temp.Coeff.of Pm (%/°C)                        | -0.3                  |        |                   |        |                   |        |                   |        |
| Operating Temperature (°C)                     | -40 to 85             |        |                   |        |                   |        |                   |        |
| Nominal Operating Cell Temperature (NOCT) (°C) | 45±2                  |        |                   |        |                   |        |                   |        |
| Max.Series Fuse (A)                            | 30                    |        |                   |        |                   |        |                   |        |
| Pressure Bearing (Pa)                          | 5400                  |        |                   |        |                   |        |                   |        |
| Wind Bearing (Pa)                              | 2400                  |        |                   |        |                   |        |                   |        |

STC: Irradiance 1000W/m<sup>2</sup>, Cell temperature 25°C, AM1.5  
 NOCT: Irradiance 800W/m<sup>2</sup>, Ambient temperature 20°C, Wind speed 1m/s

| Different backside power gains(440W) | 10%   | 15%   | 20%   | 25%   |
|--------------------------------------|-------|-------|-------|-------|
| Peak Power Pmax(W)                   | 484   | 506   | 528   | 550   |
| Open Circuit Voltage Voc(V)          | 39.03 | 39.05 | 39.06 | 39.07 |
| Short Circuit Current Isc(A)         | 15.85 | 16.57 | 17.28 | 18.00 |
| Maximum Power Voltage Vm(V)          | 32.25 | 32.26 | 32.27 | 32.28 |
| Maximum Power Current Im(A)          | 15.01 | 15.69 | 16.36 | 17.04 |

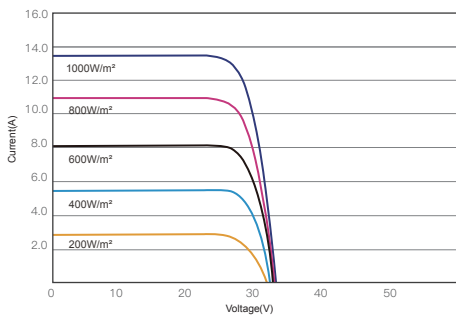
### MATERIAL DETAILS

|       |   |                     |  |
|-------|---|---------------------|--|
| Frame | Anodized aluminum                                       | Cable&Connector     | 4mm <sup>2</sup> , EVO2 or EVO2 compatible |
| Cell  | 6×18pcs mono solar cell                                 | Junction Box        | Ip≥68, TÜV&UL                              |
| Glass | 2×2.0mm Anti-Reflection Coating Heat Strengthened Glass | Net length of Cable | 350mm or as customer's requirements        |

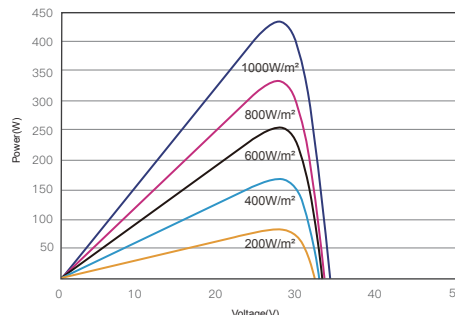
### PACKING DETAILS

|                  |                |         |              |
|------------------|----------------|---------|--------------|
| Dimension        | 1723×1133×30mm | Weight  | 23.9kg       |
| Loading Capacity | 936pcs/40'HC   | Packing | 36pcs/pallet |

### IV CURVES



I-V CURVES OF PV MODULE(435W)



P-V CURVES OF PV MODULE(435W)