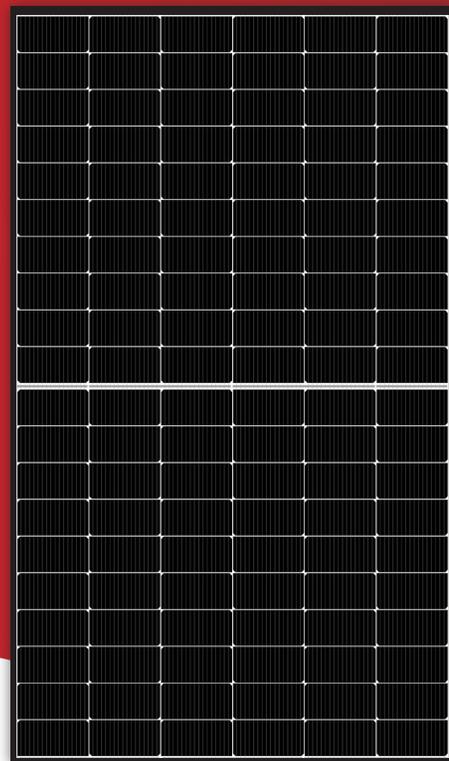


Tangra™ S

465-485W

N-type High Efficiency Half-Cell Mono Module
(Black Frame)



30 years lifespan brings 10-30% additional power generation comparing with conventional P-type module



N-type solar cell has no LID naturally which can increase power generation



Excellent low irradiance performance.



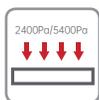
Better light trapping and current collection to improve module power output and reliability.



Industry leading lowest thermal co-efficient of power.



Optimized electrical design and lower operating current for reduced hot spot loss and better temperature coefficient.

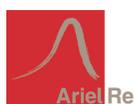


Certified to withstand: wind load (2400 Pa) and snow load (5400 Pa).



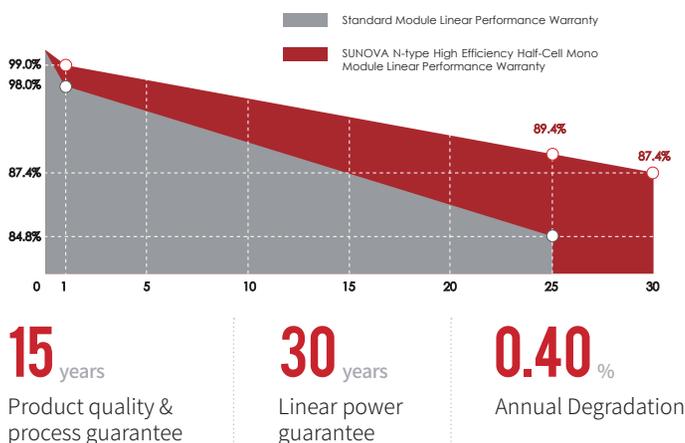
100% triple EL test enabling remarkable reduction of hidden crack rate of modules

PERFORMANCE INSURANCE



* Optional performance warranty insurance. Please contact our local sales staff for more information.

LINEAR PERFORMANCE WARRANTY



COMPREHENSIVE CERTIFICATES



ISO 9001: Quality Management System

ISO 14001: Environmental Management System Standard

ISO 45001: International Occupational Health and Safety Assessment System Standard

SA 8000: 2014 Social Accountability Management System

* Different markets have different certification requirements. Also, the products are under rapid innovation. Please confirm the certification status with regional sales representatives.

ELECTRIC CHARACTERISTICS

| Model of modules | SS-465-60MDH(T) | | SS-470-60MDH(T) | | SS-475-60MDH(T) | | SS-480-60MDH(T) | | SS-485-60MDH(T) | |
|--------------------------------------|-----------------|-------|-----------------|-------|-----------------|-------|-----------------|-------|-----------------|-------|
| | STC | NOCT |
| Maximum power — P_{mp} (W) | 465 | 346 | 470 | 350 | 475 | 354 | 480 | 358 | 485 | 361 |
| Open-circuit voltage — V_{oc} (V) | 42.75 | 34.30 | 42.88 | 34.40 | 43.01 | 34.51 | 43.14 | 34.61 | 43.27 | 34.72 |
| Short-circuit current — I_{sc} (A) | 13.36 | 10.10 | 13.43 | 10.18 | 13.51 | 10.25 | 13.58 | 10.33 | 13.65 | 20.41 |
| Maximum power voltage — V_{mp} (V) | 36.64 | 40.36 | 36.75 | 40.48 | 36.86 | 40.60 | 36.97 | 40.73 | 37.09 | 40.85 |
| Maximum power current — I_{mp} (A) | 12.69 | 10.79 | 12.79 | 10.85 | 12.89 | 10.91 | 12.98 | 10.97 | 13.08 | 11.03 |
| Module efficiency — η_m (%) | 21.6 | | 21.8 | | 22.0 | | 22.2 | | 22.5 | |
| Power tolerance (W) | (0,+5) | | | | | | | | | |
| Maximum system voltage (V) | 1500 | | | | | | | | | |
| Maximum rated fuse current (A) | 25 | | | | | | | | | |
| Current operating temperature (°C) | -40~+85 °C | | | | | | | | | |

STC (Standard Testing Conditions): Irradiance 1000W/m², Cell Temperature 25 °C, Spectra at AM1.5

NOCT (Nominal Operating Cell Temperature): Irradiance 800W/m², Ambient Temperature 20°C, Spectra at AM1.5, Wind at 1m/s

STRUCTURAL CHARACTERISTICS

| | |
|---------------------------|--|
| Module dimensions (L*W*H) | 1903 x 1134 x 30mm |
| Weight | 24.0kg |
| Number of cells | 120 cells |
| Cell | N-type Monocrystalline 182x91 mm |
| Glass | Tempered, 3.2 mm AR, High transmittance, Low iron |
| Frame | Black Anodized aluminum alloy |
| Junction box | IP68, 3 bypass diodes |
| Output wire | 4.0 mm ² , wire length: 300mm/1200mm/customized |
| Connector | MC4 Compatible |
| Mechanical load | Snow load: 5400 Pa / Wind load: 2400 Pa |

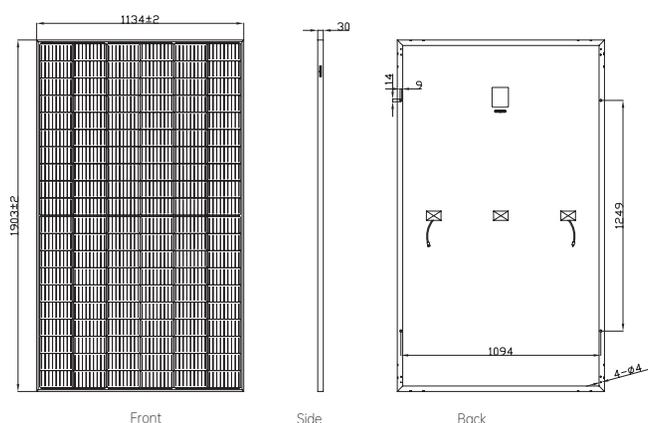
TEMPERATURE RATINGS

| | |
|---------------------------------------|-------------|
| Temperature coefficient (P_{max}) | -0.30 %/°C |
| Temperature coefficient (V_{oc}) | -0.26 %/°C |
| Temperature coefficient (I_{sc}) | +0.046 %/°C |
| Nominal operating cell temperature | 43±2 °C |

PACKAGING CONFIGURATION

| | |
|--------------------|------|
| Container | 40HQ |
| Quantity/pallet | 36 |
| Pallets/container | 24 |
| Quantity/container | 864 |

MODULE DIMENSIONS (MM)



* The unmarked tolerance is ±1 mm
Length shown in mm

