

N-TYPE TOPCon Technology

SUNART-PV

PHOTOVOLTAIC TECHNOLOGY

565-590WP HIGH PERFORMANCE GLASS-BACKSHEET MONOFACIAL SERIES

MBB HALF-CUT BIFACIAL TOPCon CELL
MONOCRYSTALLINE MODULE

TOPCon Cell Technology



UP TO 22.8% MODULE EFFICIENCY



HIGH OUTPUT POWER



BIFACIAL TOPCON CELL GAIN



LOW LID

SUNART PV

Lampart Lighting is which maintains its position as a leader in the lighting sector with the projects it has completed all over the world, was put into operation in 2023 with the aim of being the leading company in the Solar Panel Production Sector with our 30 years of experience and our state-of-the-art production line. Sunart Energy is a high-efficiency panel manufacturer whose mission is to develop photovoltaic R&D studies and renewable and sustainable energy. With our state-of-the-art production line, our modules have the highest quality standards.

HALF - CUT TOPCon TECHNOLOGY



Half - cell TOPCon technology modules reduce power loss, while 3 - piece junction box provides better performance in shadowing conditions.



REDUCED HOT SPOT LOSS

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



ENHANCED MECHANICAL LOAD

Excellent wind load 2400Pa & snow load 5400Pa under certain installation method



MULTI BUSBAR TECHNOLOGY

Less power loss by minimizing the shading impact



QUALIFICATIONS & CERTIFICATES

IEC 61215, IEC 61730-1/-2, IEC 61701, IEC 62716, IEC 62804 PID
ISO 45001:2018, ISO 9001:2015, ISO 14001:2015

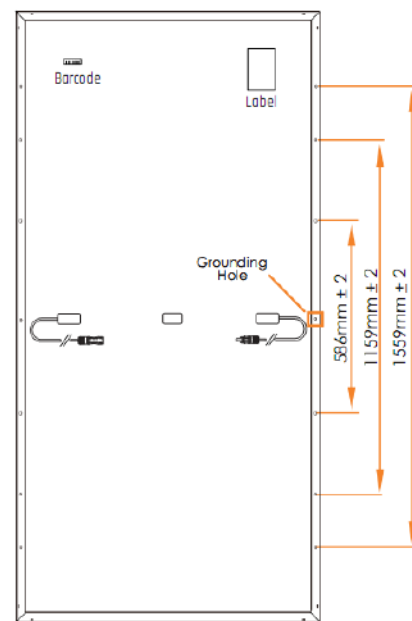
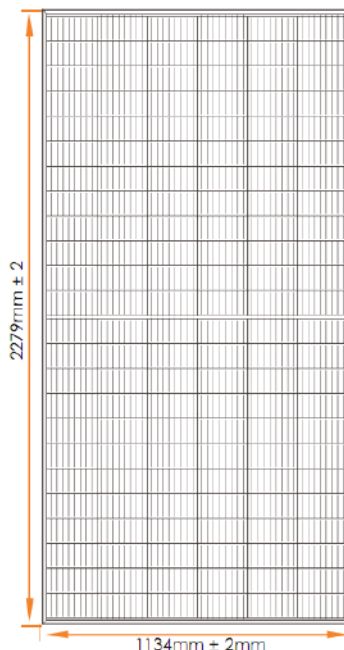


MECHANICAL DATA

| | |
|-------------------------|---|
| Cell Type | N Type TOPCon |
| Cell Size | 182x91mm |
| Number of Cells | 144 (6x24), Half Cut |
| Dimensions (LxWxH) | 2279x1134x35mm (89.7x44.6x1.38 inches) |
| Weight | 28kg ± 1kg |
| Glasses | 3.2mm, AR coating, Low iron, Tempered |
| Frame | Anodized Aluminium |
| Junction Box | IP68, 1500VDC, 3 Schottky bypass diodes |
| Cable Diameter (IEC/UL) | 4mm ² / 12AWG |
| Cable Length | Customized; (-)350/(+)350mm |
| Connector Type | MC4 / MC4 Compatible |

OPERATING PARAMETERS

| | |
|--------------------------------|----------------|
| Operating Temperature Range | -40°C to +85°C |
| Maximum System Voltage | 1500VDC (IEC) |
| Maximum Series Fuse Rating | 30A |
| Power Output Tolerances (Pmax) | 0/+5W |



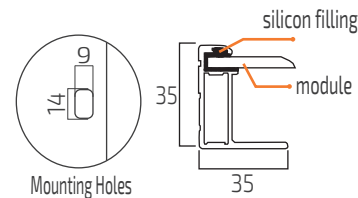
ELECTRICAL DATA

| Module type | ART144-MB-GB-M | | ART144-MB-GB-M | | ART144-MB-GB-M | | ART144-MB-GB-M | | ART144-MB-GB-M | | ART144-MB-GB-M | |
|--|----------------|-------|----------------|-------|----------------|-------|----------------|-------|----------------|-------|----------------|-------|
| | STC | NMOT | STC | NMOT | STC | NMOT | STC | NMOT | STC | NMOT | STC | NMOT |
| Maximum power (P _{mp} /wp) | 565 | 430 | 570 | 434 | 575 | 438 | 580 | 442 | 585 | 445 | 590 | 449 |
| Open circuit voltage (V _{oc}) | 50.70 | 48.00 | 50.85 | 48.15 | 51.05 | 48.35 | 51.25 | 48.50 | 51.40 | 48.63 | 51.60 | 48.72 |
| Short circuit current (I _{sc}) | 13.90 | 11.14 | 13.95 | 11.21 | 14.03 | 11.31 | 14.09 | 11.41 | 14.12 | 11.53 | 14.21 | 11.65 |
| Maximum power voltage (V _{mp}) | 42.65 | 40.00 | 42.76 | 40.11 | 42.95 | 40.19 | 43.13 | 40.27 | 43.31 | 40.39 | 43.47 | 40.48 |
| Maximum power current (I _{mp}) | 13.25 | 10.75 | 13.33 | 10.82 | 13.39 | 10.90 | 13.45 | 10.98 | 13.51 | 11.02 | 13.59 | 11.10 |
| Module efficiency (%) | 21.8% | | 22% | | 22.2% | | 22.4% | | 22.6% | | 22.8% | |

STC: Irradiance 1000W/m², Cell temperature 25°C, Air Mass AM1.5 according to EN 60904-3
 NMOT: Irradiance 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s
 Module Efficiency (%): Round off to the nearest number.

THERMAL CHARACTERISTICS

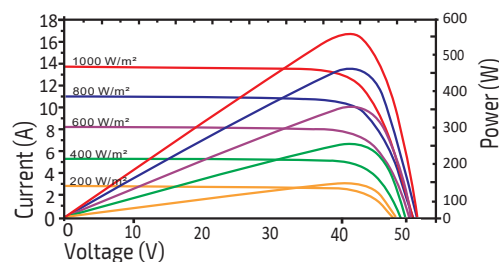
| | |
|--|------------|
| Temperature Coefficient (P _{mp}) | -0.35%/°C |
| Temperature Coefficient (V _{oc}) | -0.28%/°C |
| Temperature Coefficient (I _{sc}) | +0.048%/°C |



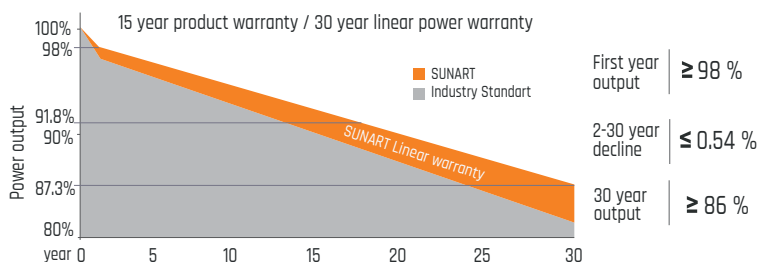
PACKAGING CONFIGURATION

| | 40 ft (HQ) | 20 ft |
|---------------------------------|----------------|----------------|
| Number of modules per container | 682 | 155 |
| Number of modules per pallet | 31 | 31 |
| Number of pallets per container | 22 | 5 |
| Box dimensions (LxWxH) | 2320x1150x1300 | 2320x1150x1300 |
| Box gross weight (kg) | 920 | 920 |

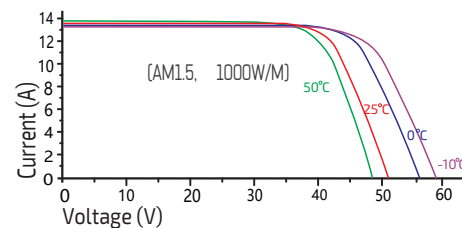
I-V CHARACTERISTICS AT DIFFERENT IRRADIATIONS



LINEAR PERFORMANCE WARRANTY



I-V CHARACTERISTICS AT DIFFERENT TEMPERATURES



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