SUNART-PV
PHOTOVOLTAIC TECHNOLOGY

530-555 WP

HIGH PERFORMANCE GLASS-GLASS SERIES
BIFACIAL SERIES

MBB HALF-CUT BIFACIAL PERC CELL
MONOCRYSTALLINE MODULE

- UP TO 21.4% MODULE EFFICIENCY
- HIGH OUTPUT POWER
- BIFACIAL PERC 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 PERC TECHNOLOGY
Half - cell PERC technology modules reduce power loss, while 3 - piece junction box provides better performance in shadowing conditions.

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

ENHANCED MECHINAL LOAD
2400Pa
5400Pa
Excelent wind load 2400Pa & snow load 5400Pa under certain installation method

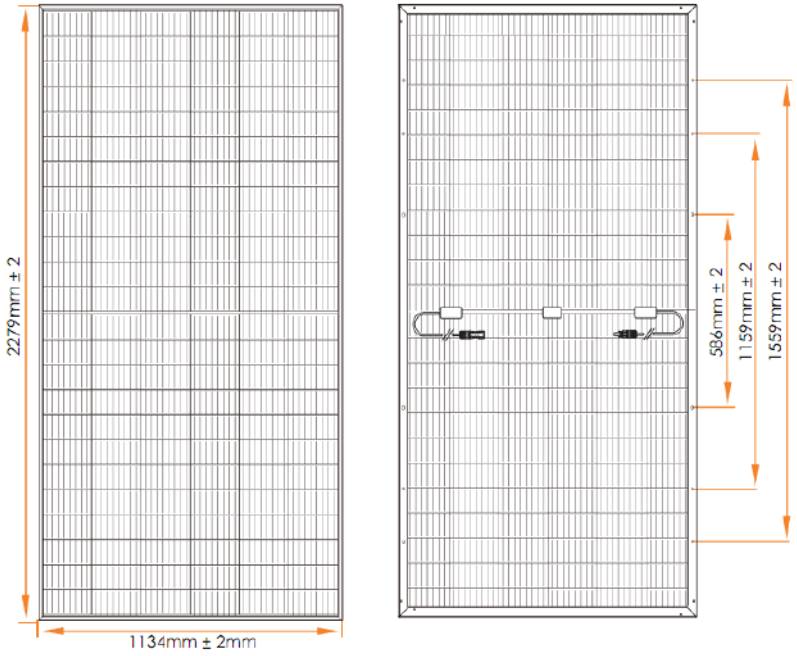
MULTI BUSBAR TECHNOLOGY
Less power loss by minimizing the shading impact

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	Monocrystalline Bifacial PERC
Cell Size	182x91mm
Number of Cells	144 (6x24), Half Cut
Dimensions (LxWxH)	2279x1134x30mm (89.7x44.6x1.18 inches)
Weight	32.5kg ± 1kg
Glasses	3.2/2.2mm,AR coating, Low iron, Tempered
Frame	Anodized Aluminium
Junction Box	IP68, 1500VDC, 3 Schottky bypass diodes
Cable Diameter (IEC/UL)	4mm2 / 12AWG
Cable Lenght	Customized; (-)350/(+)350mm
Connector Type	MC4 / MC4 Compatible



OPERATING PARAMETERS

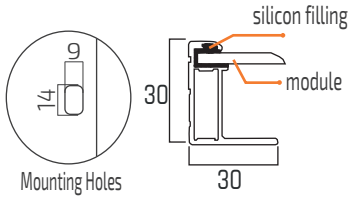
Operating Temperature Range	-40°C to +85°C
Maximum System Voltage	1500VDC (IEC)
Maximum Series Fuse Rating	30A
Power Output Tolerances (Pmax)	0/+5W
Maximum Power Bifaciality	70±5%

ELECTRICAL DATA WITH BIFACIAL GAIN

Module type	ART144-MB-GB-530M	ART144-MB-GB-535M	ART144-MB-GB-540M	ART144-MB-GB-545M	ART144-MB-GB-550M	ART144-MB-GB-555M
Maximum power (Pmpp/wp) *	530	535	540	545	550	555
Bifacial Gain 5% / 15% / 25% **	556 / 609 / 662	561 / 615 / 668	567 / 621 / 675	572 / 626 / 681	577 / 632 / 687	582 / 638 / 693
Open circuit voltage (Voc) *	49.40	49.70	49.90	50.10	50.30	50.45
Bifacial Gain 5% / 15% / 25% **	49.60	49.90	50.20	50.40	50.60	50.80
Short circuit current (Isc) *	13.48	13.57	13.66	13.75	13.84	13.93
Bifacial Gain 5% / 15% / 25% **	13.9 / 15.2 / 15.8	14.1 / 15.3 / 15.9	14.2 / 15.5 / 16.1	14.3 / 15.7 / 16.3	14.4 / 15.8 / 16.5	14.6 / 16.2 / 16.8
Maximum power voltage (Vmpp) *	41.55	41.76	41.93	42.10	42.27	42.45
Bifacial Gain 5% / 15% / 25% **	42.4 / 42.7 / 42.9	42.5 / 42.8 / 43.1	42.6 / 42.9 / 43.2	42.7 / 43.1 / 43.4	43.1 / 43.3 / 43.6	43.2 / 43.4 / 43.7
Maximum power current (Impp) *	12.75	12.81	12.88	12.95	13.01	13.08
Bifacial Gain 5% / 15% / 25% **	13.12 / 14.26 / 15.43	13.20 / 14.40 / 15.5	13.30 / 14.47 / 15.63	13.39 / 14.52 / 15.70	13.38 / 14.59 / 15.76	13.47 / 14.70 / 15.86
Module efficiency (%) *	20.5%	20.7%	20.9%	21.1%	21.3%	21.4%
Bifacial Gain 5% / 15% / 25% **	21.5 / 23.5 / 25.6	21.7 / 23.8 / 25.8	21.9 / 24.0 / 26.1	22.1 / 24.2 / 26.3	22.3 / 24.4 / 26.5	22.5 / 24.6 / 26.8

* STC Conditions: Irradiance 1000W/m2, Cell temperature 25C, Air Mass AM1.5 according to EN 60904-3

** Bifacial Gain: The additional gain from the back side compared to the power of the front side at standart test condition. It depends on mounting (structure, height, tilt angle etc.) and albedo of the ground.



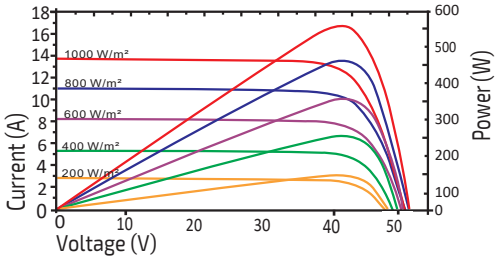
THERMAL CHARACTERISTICS

Temperature Coefficient (Pmpp)	-0.35%/°C
Temperature Coefficient (Voc)	-0.28%/°C
Temperature Coefficient (Isc)	+0.048%/°C

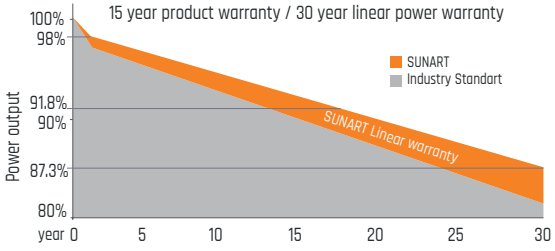
PACKAGING CONFIGURATION

	40 ft (HQ)	20 ft
Number of modules per container	792	180
Number of modules per pallet	36	36
Number of pallets per container	22	5
Box dimensions (LxWxH)	2320x1150x1290	2320x1150x1290
Box gross weight (kg)	1200	1200

I-V CHARACTERISTICS AT DIFFERENT IRRADIATIONS

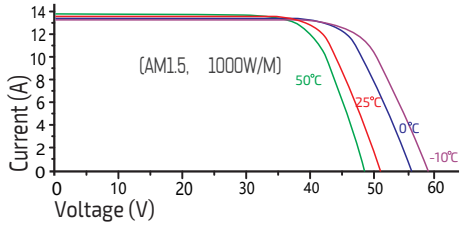


LINEAR PERFORMANCE WARRANTY



First year output	≥ 98 %
2-30 year decline	≤ 0.54 %
30 year output	≥ 86 %

I-V CHARACTERISTICS AT DIFFERENT TEMPERATURES



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