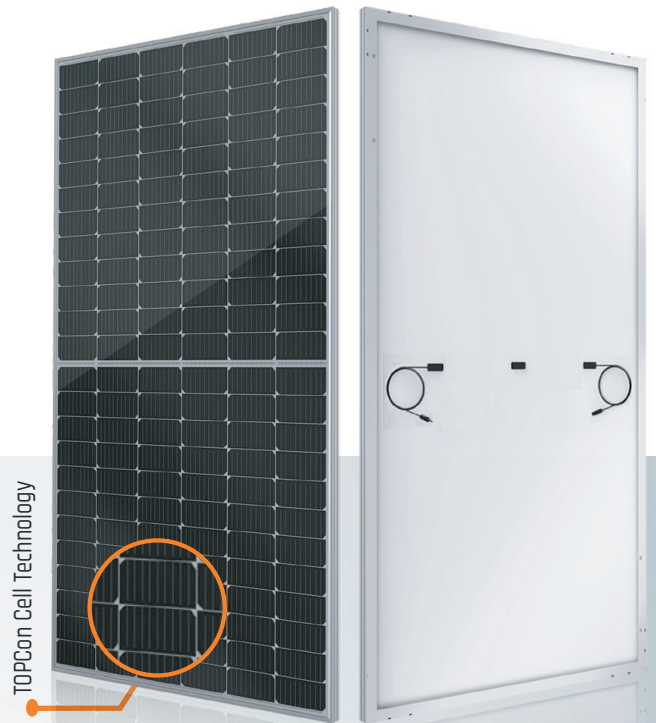


N-TYPE
TOPCon Technology



565-590WP
HIGH PERFORMANCE GLASS-BACKSHEET
MONOFACIAL SERIES

MBB HALF-CUT BIFACIAL TOPCon CELL
MONOCRYSTALLINE MODULE



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 34 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 MECHINAL LOAD

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



MULTI BUSBAR TECHNOLOGY

Less power loss by minimizing the shading impact



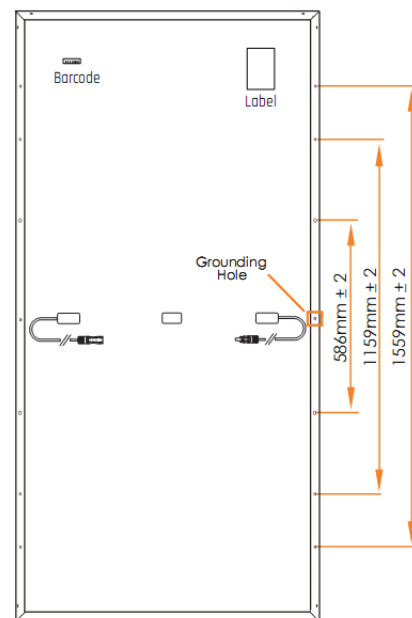
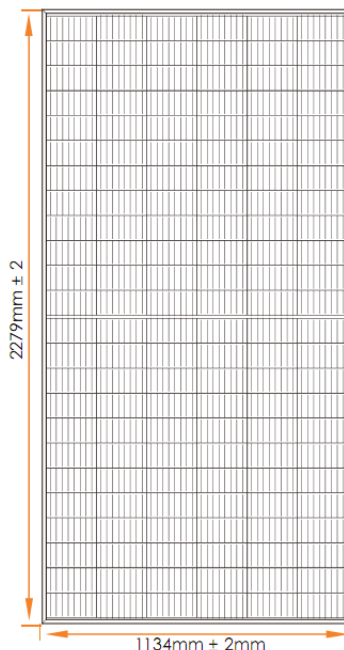
QUALIFICATIONS & CERTIFICATES

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	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

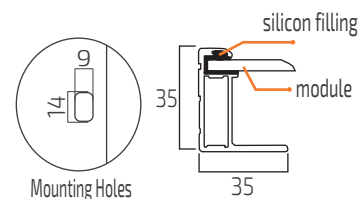
ELECTRICAL DATA

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 (Pmpp/wp)	565	430	570	434	575	438	580	442	585	445	590	449
Open circuit voltage (Voc)	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 (Isc)	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 (Vmpp)	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 (Impp)	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 25C, Air Mass AM1.5 according to EN 60904-3
 NMOT: Irradiance 800W/m², Ambient Temperature 20C, Wind Speed 1m/s
 Module Efficiency (%): Round off to the nearest number.

THERMAL CHARACTERISTICS

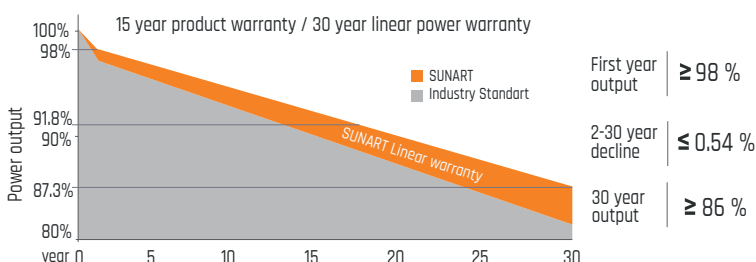
Temperature Coefficient (Pmpp)	-0.35%/°C
Temperature Coefficient (Voc)	-0.28%/°C
Temperature Coefficient (Isc)	+0.048%/°C



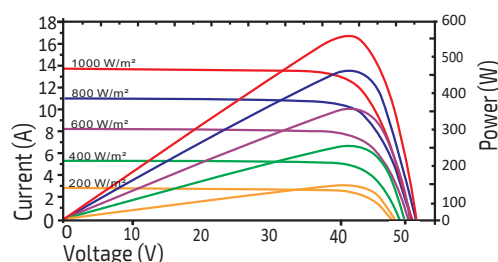
PACKAGING CONFIGURATION

	40 ft (HQ)	20 ft
Number of modules per container	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

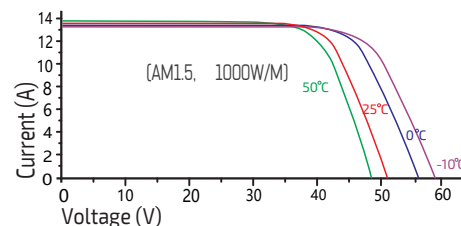
LINEAR PERFORMANCE WARRANTY



I-V CHARACTERISTICS AT DIFFERENT IRRADIATIONS



I-V CHARACTERISTICS AT DIFFERENT TEMPERATURES



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