

PAHAL SOLAR

Solar PV Module Manufacturer



INDO - JAPANESE PARTNERSHIP



**SMBB
Technology**



**Pre & Post EL
checking to ensure
defect free modules.**



**PID
Resistance**



**High salt mist
and ammonia
resistance.**



**IP68 High
Quality
Junction Box.**



**Enhanced
Mechanical
Load**

**MONOCRYSTALLINE N-TYPE TOPCON
(Bifacial)**

560-595 Wp

Management System Certificates

ISO 9001:2015 / Quality Management System

ISO 14001:2015 / Standards for environmental management

ISO 45001:2018 / International standards for occupational health & safety

Product Certificates

IS 14286/IEC 61215 - Design Qualifications & Type Approval

IS/IEC 61730/1 - Requirement for Construction

IS/IEC 61730/2 - Requirement for Testing

N-Type Topcon

560-595 Wp

ELECTRICAL PARAMETERS



◆ PERFORMANCE UNDER STANDARD TEST CONDITIONS (STC)

(Irradiance of = 1000 W/m², Spectrum AM = 1.5 and Cell Temperature = 25°C)

MODEL NUMBER	PSN_560	PSN_565	PSN_570	PSN_575	PSN_580	PSN_585	PSN_590	PSN_595
Capacity Rating-Pmax (Wp)	560	565	570	575	580	585	590	595
+ve Power Tolerance (W)	0-5	0-5	0-5	0-5	0-5	0-5	0-5	0-5
Rated Voltage -Vmp (V)	42.37	42.49	42.61	42.73	42.85	42.97	43.09	43.21
Rated Current-Imp (A)	13.22	13.30	13.38	13.46	13.54	13.62	13.70	13.78
Open Circuit Voltage (Voc)	50.82	50.99	51.16	51.33	51.50	51.67	51.84	52.01
Short Circuit Current (Isc)	13.92	14.00	14.08	14.16	14.24	14.32	14.40	14.48
Module Efficiency (%)	21.68	21.87	22.07	22.26	22.45	22.65	22.84	23.03

FILL FACTOR (FF) ≥ 70%

◆ PERFORMANCE UNDER NOMINAL OPERATING CELL TEMPERATURE (NOCT)

(NOCT Irradiance of = 800 W/m², Ambient Temperature of = 20°C, Wind speed 1m/s, Average NOCT = 45 ± 2°C)

Capacity Rating-Pmax(Wp)	423	427	431	434	438	442	446	450
Rated Voltage -Vmp (V)	39.96	40.07	40.19	40.30	40.41	40.53	40.64	40.75
Rated Current-Imp (A)	10.59	10.65	10.72	10.78	10.84	10.91	10.97	11.04
Open Circuit Voltage (Voc)	47.93	48.09	48.26	48.42	48.58	48.74	48.90	49.06
Short Circuit Current (Isc)	11.15	11.21	11.28	11.34	11.40	11.47	11.53	11.60
Module Efficiency (%)	16.38	16.52	16.67	16.82	16.96	17.11	17.26	17.41

FILL FACTOR (FF) ≥ 70%

BI-FACIAL : P_{MAX} WITH REAR SIDE POWER GAIN



Additional power gain from rear side compared to power of front side at STC depends on mounting structure (height, tilt angle, etc) and reflectivity of ground.

	MODEL NUMBER	PSN_560	PSN_565	PSN_570	PSN_575	PSN_580	PSN_585	PSN_590	PSN_595
5 %	Power Output (W)	588	593	599	604	609	614	620	625
	Module Efficiency (%)	22.77	22.97	23.17	23.38	23.58	23.78	23.98	24.18
10 %	Power Output (W)	616	622	627	633	638	644	649	655
	Module Efficiency (%)	23.85	24.06	24.28	24.49	24.70	24.91	25.12	25.34
15 %	Power Output (W)	644	650	656	661	667	673	679	684
	Module Efficiency (%)	24.93	25.16	25.38	25.60	25.83	26.04	26.27	26.49
20 %	Power Output (W)	672	678	684	690	696	702	708	714
	Module Efficiency (%)	26.02	26.25	26.48	26.72	26.95	27.18	27.41	27.64
25 %	Power Output (W)	700	706	713	719	725	731	738	744
	Module Efficiency (%)	27.10	27.34	27.59	27.83	28.07	28.31	28.55	28.79
30 %	Power Output (W)	728	735	741	748	754	761	767	774
	Module Efficiency (%)	28.19	28.44	28.69	28.94	29.20	29.44	29.69	29.94

PRODUCT WARRANTY : 12 Years

PERFORMANCE WARRANTY : Output power 90% for 12 years and 80% for 30 years

MAX. OPERATING CONDITIONS



Operating Temperature	-40 °C to +85 °C
Max.System Voltage	1500 V
Max.Series Fuse Rating	25 A
NOCT Temperature	45° ± 2

TEMPERATURE CO-EFFICIENTS

Tk Isc %/°C	0.0171
Tk Voc %/°C	-0.2804
Tk Pmax %/°C	-0.3506

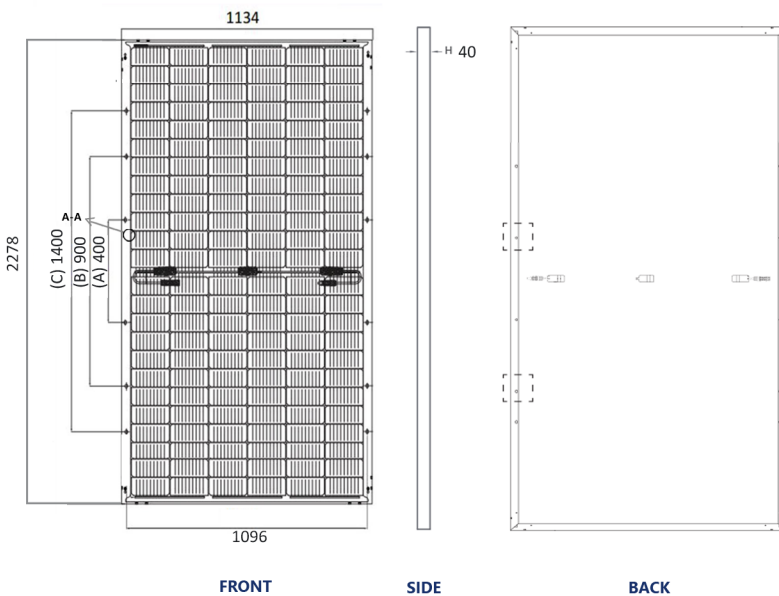
N-Type Topcon

560-595 W_p

MECHANICAL SPECIFICATIONS

Matrix / No. of Cells	144cell 2*(12*6) / N-Type (Topcon)
Cell Size (mm)	182*91
Cell Busbar	16
Dimensions (LXWXH) (mm)	2278*1134*40
Weight (kg)	28.2
Frame	Silver Anodized Aluminium Alloy
Glass	AR Coating Low Iron Tempered
Encapsulant	EVA/POE/EPE (PID free and UV Resistant)
Backsheet	Transparent Backsheet
Junction Box	Split JB - IP68, MC4 Compatible
Cable Length	400 mm or customised length
Safety Class Rating	Class II
Mechanical Load Test	5400 Pa - Front / 2400 Pa - Back
X-Pitch (mm)	1096
Y-Pitch (mm)	(A) 400 (B) 900 (C) 1400
Application Class Rating	Class A

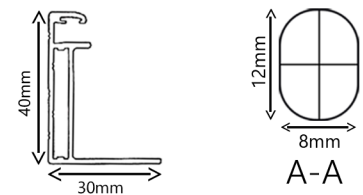
DRAWING (MEASUREMENTS ARE IN MM)



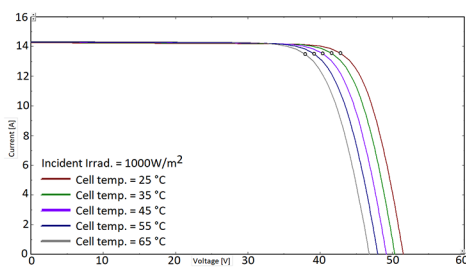
PACKING STANDARD

Frame Size	40 mm	
Vehicle	19ft	32ft
No. of Modules	192	432
No. of Pallets	8	16
Module per Pallet / Weight	24/677	27/761

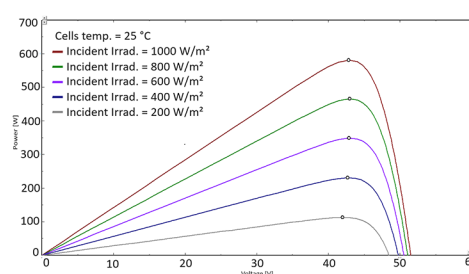
Length : +/- 2mm
Width : +/- 2mm
Height : +/- 1mm



I-V CURVE WITH TEMPERATURE



P-V CURVE WITH IRRADIANCE



I-V CURVE WITH IRRADIANCE

