

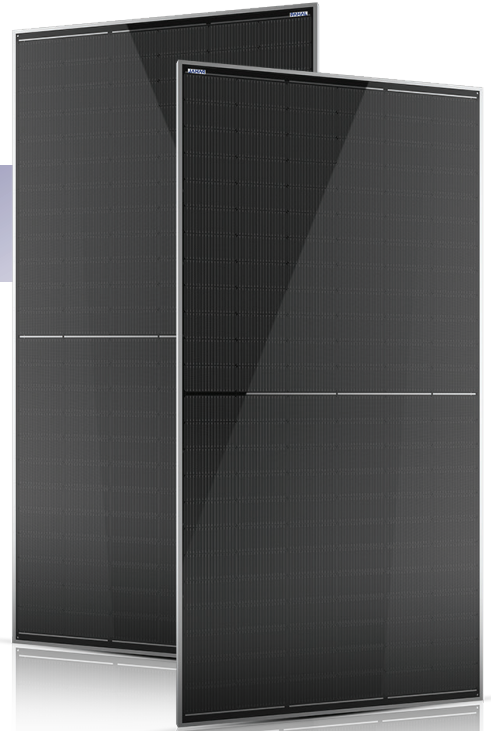
## N-TYPE TOPCon

### M10R GLASS TO GLASS

# 570Wp - 610Wp

**12** 12-year Warranty for Materials and Processing

**30** 30-year Warranty for Extra Linear Power Output



### 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

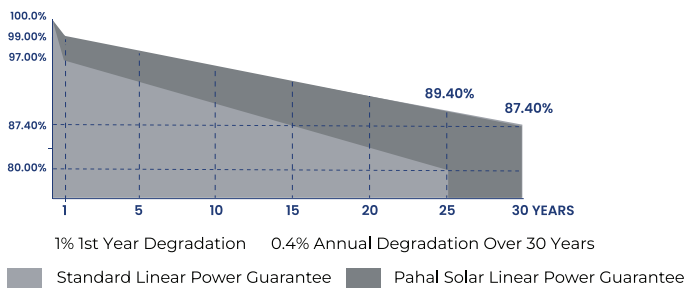
### Product Certificates

IS 14286/IEC 61215 - Design Qualifications & Type Approval

IS/IEC 61730/1 - Requirement for Construction

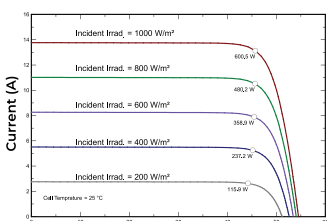
IS/IEC 61730/2 - Requirement for Testing

### LINEAR PERFORMANCE WARRANTY\*

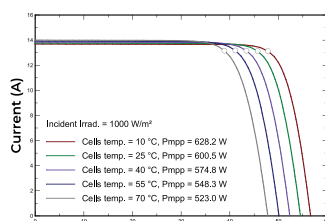


### I-V CURVE

IV Curve Variation with Irradiance(600W)



IV Curve Variation with Temperature(600W)



The Graphs Are For Reference Purposes Only



**SMBB Technology**



**IP68 High Quality Junction Box**



**Better Low Light Performance**



**Higher Module Efficiency**



**1500v System Support**



**PID Resistance**



**High Salt Mist & Ammonia Resistance.**



**Pre & Post EI Checking To Ensure Defect Free Modules.**



**Enhanced Mechanical Load Snow & Wind Loads (5400pa & 2400pa)**

# N-TYPE TOPCon M10R GLASS TO GLASS

570Wp - 610Wp

## ELECTRICAL PARAMETERS\*

### PERFORMANCE UNDER STANDARD TEST CONDITIONS (STC)

(Standard Test Environment: irradiance 1000w/m<sup>2</sup>, Cell Temperature 25°C, Spectrum AM 1.5 Test Condition is Based On The Front Side)  
Rating Tolerance at STC (Voc/Isc): ±5%

MODEL NUMBER	PSN_GB570	PSN_GB575	PSN_GB580	PSN_GB585	PSN_GB590	PSN_GB595	PSN_GB600	PSN_GB605	PSN_GB610
Max. Power - Pmax (Wp)	570	575	580	585	590	595	600	605	610
+ve Power Tolerance(w)	0~+5	0~+5	0~+5	0~+5	0~+5	0~+5	0~+5	0~+5	0~+5
Max Power Voltage-Vmp (V)	44.86	45.05	45.24	45.43	45.62	45.81	46.00	46.19	46.38
Max. Power Current-Imp (A)	12.72	12.77	12.83	12.88	12.94	12.99	13.05	13.10	13.16
Open-circuit Voltage-Voc (V)	53.54	53.70	53.86	54.02	54.18	54.34	54.50	54.66	54.82
Short-circuit Current-Isc (A)	13.47	13.52	13.57	13.62	13.67	13.72	13.77	13.82	13.87
Module Efficiency STC (%)	22.07	22.26	22.45	22.65	22.84	23.03	23.23	23.42	23.61
Fill Factor (FF)	79.10	79.25	79.40	79.55	79.69	79.84	79.98	80.13	80.27

\*Power Output Tolerance 0~+3%

### PERFORMANCE UNDER NOMINAL OPERATING CELL TEMPERATURE (NOCT)

(Standard Test Environment: Irradiance 800w/m<sup>2</sup>, Ambient Temperature 20°C, Spectrum AM 1.5, Wind Speed 1 m/s Test Condition is Based On The Front Side)  
Average power reduction of 4.5% at 200w/m<sup>2</sup> as per IEC 60904-1. Measuring Uncertainty±3%

MODEL NUMBER	PSN_GB570	PSN_GB575	PSN_GB580	PSN_GB585	PSN_GB590	PSN_GB595	PSN_GB600	PSN_GB605	PSN_GB610
Max. Power - Pmax (Wp)	432	436	439	443	447	451	455	458	462
Max Power Voltage-Vmp (V)	42.86	43.04	43.22	43.40	43.58	43.76	43.95	44.13	44.31
Max. Power Current-Imp (A)	10.08	10.12	10.17	10.21	10.25	10.30	10.34	10.39	10.43
Open-circuit Voltage-Voc (V)	51.15	51.30	51.45	51.61	51.76	51.91	52.07	52.22	52.37
Short-circuit Current-Isc (A)	10.68	10.72	10.76	10.80	10.83	10.87	10.91	10.95	10.99
Module Efficiency (%)	16.72	16.87	17.01	17.16	17.30	17.45	17.59	17.74	17.89
Fill Factor (FF)	79.10	79.25	79.40	79.55	79.69	79.84	79.98	80.13	80.27

## BI-FACIAL: PMAX WITH REAR SIDE POWER GAIN\*

Additional power gain from rear side compared to power of front side at STC depend on mounting structure (height, tilt angle, etc) and reflectivity of ground.  
The Bifacial Gains Are Dependent On The Power Plant Design And Location

	MODEL NUMBER	PSN_GRC570	PSN_GRC575	PSN_GRC580	PSN_GRC585	PSN_GRC590	PSN_GRC595	PSN_GRC600	PSN_GRC605	PSN_GRC610
5%	Power Output (W)	599	604	609	614	620	625	630	635	641
	Module Efficiency (%)	23.17	23.37	23.57	23.78	23.98	24.18	24.39	24.59	24.79
10%	Power Output (W)	627	633	638	644	649	655	660	666	671
	Module Efficiency (%)	24.27	24.48	24.70	24.91	25.12	25.34	25.55	25.76	25.98
15%	Power Output (W)	656	661	667	673	679	684	690	696	702
	Module Efficiency (%)	25.37	25.60	25.82	26.04	26.27	26.49	26.71	26.93	27.16
20%	Power Output (W)	684	690	696	702	708	714	720	726	732
	Module Efficiency (%)	26.48	26.71	26.94	27.18	27.41	27.64	27.87	28.10	28.34
25%	Power Output (W)	713	719	725	731	738	744	750	756	763
	Module Efficiency (%)	27.58	27.82	28.07	28.31	28.55	28.79	29.03	29.28	29.52
30%	Power Output (W)	741	748	754	761	767	774	780	787	793
	Module Efficiency (%)	28.68	28.94	29.19	29.44	29.69	29.94	30.19	30.45	30.70

[Bi-Faciality factor: 80% ± 10%]

### MECHANICAL SPECIFICATIONS

Matrix/No. of Cells	2* (12*6)/144 Half-Cut Cells
Cell Type	N-type Topcon Bifacial Solar Cell
Module Size (LXWXH) mm	2278 X 1134 X 40
Module Weight (KG)	33Kg±3%
Frame	Anodized Aluminium Alloy (6005, Temper T6, Silver Colour)
Front Glass (Material / Thickness)	2 mm Low Iron HTAR/AR semi-tempered glass
Back Glass (Material / Thickness)	2 mm Low Iron Printed semi-tempered glass(white coating)
Encapsulant	EPE(PID free and UV Resistant)
Junction Box/Connector	Split JB - IP68 (3 bypass diodes) , MC4 Compatible
Cables	400mm length including connectors(4 mm <sup>2</sup> )
Application Class Rating	Class A (Safety class II)
Fire safety class	Class C (IEC 61730)
Mechanical Load Test	5400 Pa (Front) / 2400 Pa (Back)
X-Pitch (mm)	1092mm
Y-Pitch (mm)	A) 400 (B)1100 (C)1400

### TEMPERATURE CO-EFFICIENTS

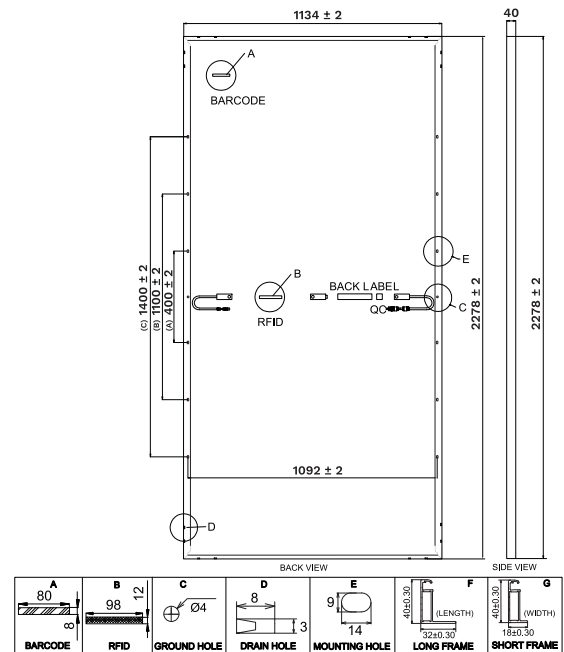
Temperature Coefficients of Pmax (γ <sub>Pmp</sub> )	-0.2697%/°C
Temperature Coefficients of Voc(β <sub>Voc</sub> )	-0.2231%/°C
Temperature Coefficients of Isc(α <sub>Isc</sub> )	0.0370%/°C

### PACKING STANDARD

FRAME SIZE	40mm
Vehicle	22ft 40ft
No. of Modules	250 550
No. of Pallets	10 22
Module per Pallet / Weight	25/880

### OPERATING CONDITIONS

Operating Temperature (°C)	-40 °C to +85 °C
Max. System Voltage (V)	1500 VDC
Max. Series Fuse Rating (A)	30 A
NOCT Temperature (°C)	45 ± 2 °C



\*All Dimensions Are In mm

Caution: Please read safety and installation instructions before using the product. The electrical data given here is for reference purpose only. \*Warranty: Linear performance warranty for 30 years, with degradation up to 1% in 1st year and 0.4 %/year from year 2 to year 30. Please read Pahal Solar warranty documents thoroughly. Disclaimer: Specifications included in the datasheet are subject to change without prior notice owing to continuous innovation in the Product Development and R&D Activities. PAHAL SOLAR PVT. LTD. reserves the right to make any adjustments to the information described here. Datasheet contained in this specification do not form a representative of a single module data. @T&C Apply.