

# G-12R N-TOPCON

GLASS TO GLASS (610wp to 625wp)

NO OF CELLS - 132

## 625 w

MAXIMUM MODULE POWER

## 23.16 %

MAXIMUM MODULE EFFICIENCY

Rhine  
LET'S GO SOLAR

10+  
Yrs of  
RELIABILITY



"CLEANER ENERGY  
CLEANER TOMORROW"

HIGH ENERGY OUTPUT

ROBUST DESIGN FOR HIGH CRACK TOLERANCE

LOW TEMP. COEFFICIENT (-0.26%/°C),  
FOR HIGH YIELD IN HOT WEATHER

POSITIVE POWER TOLERANCE

LOWER SYSTEM COST & LCOE

### PRODUCT CERTIFICATIONS\*

IS14286, IEC 61215 : 2015, IEC 61730,  
IS/IEC61730, IEC61701, IEC62716,  
IEC60068-2-68, IEC 62804, IEC 61853

### FACILITY CERTIFICATES

ISO 9001 : 2015 - QUALITY MANAGEMENT SYSTEM  
ISO 14001 : 2015 - ENVIRONMENT MANAGEMENT SYSTEM  
ISO 45001 : 2018 - OCCUPATIONAL HEALTH AND SAFETY



ALMM  
APPROVED



CRS-2021-3499  
R-91008249



DCR

# TECHNICAL DATA SHEET

G12R TOPCON 132 CELL - 610 - 625 W (G TO G)

## ELECTRICAL PARAMETERS I STC

Peak Power P <sub>max</sub> (Wp)	610	615	620	625
Maximum Voltage V <sub>mpp</sub> (V)	40.95	41.18	41.37	41.52
Maximum Current I <sub>mp</sub> (A)	14.91	14.95	15	15.6
Open Circuit Voltage V <sub>oc</sub> (V)	48.54	48.68	48.92	49.18
Short Circuit Current I <sub>sc</sub> (A)	15.66	15.69	15.72	15.73
Module Efficiency (%)	22.60	22.79	22.97	23.16

1) STC:1000W/M<sup>2</sup> IRRADIANCE, 25°C CELL TEMPERATURE, AM 1.5G SPECTRUM ACCORDING TO EN 60904-3 I (2) TOLERANCE OF RATING AT STC (PMPP/ISC) [%] : 0-3/±5I ELECTRICAL MEASUREMENT UNCERTAINTY IS WITHIN ±2%

## ELECTRICAL PARAMETERS I NOCT

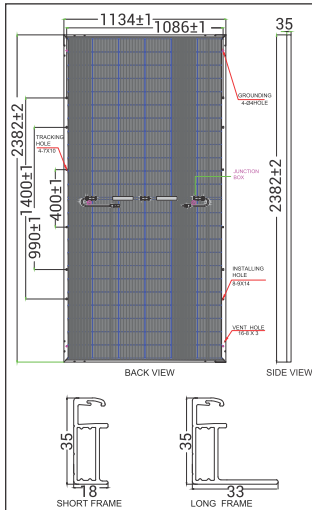
Peak Power P <sub>max</sub> (Wp)	457	461	465	468
Maximum Voltage V <sub>mpp</sub> (V)	38.45	38.67	38.85	38.99
Maximum Current I <sub>mp</sub> (A)	11.90	11.93	11.97	12.02
Open Circuit Voltage V <sup>OC</sup> (V)	45.77	45.91	46.13	46.38
Short Circuit Current I <sub>sc</sub> (A)	12.62	12.65	12.67	12.68

## BIFACIAL OUTPUT - BACKSIDE POWER GAIN @STC\* (Bifacial Factor : 80%±10%)

5%	Nominal Maximum Power (Pmax)	640 W	645 W	651 W	656 W
	Module Short Circuit Current / Efficiency	16.44 A / 23.73%	16.48 A / 23.93%	16.50 A / 24.12%	16.52 A / 24.32%
10%	Nominal Maximum Power (Pmax)	671 W	676 W	682 W	687 W
	Module Short Circuit Current / Efficiency	17.23 A / 24.86%	17.26 A / 25.07%	17.29 A / 25.27%	17.30 A / 25.47%
25%	Nominal Maximum Power (Pmax)	762 W	768 W	775 W	781 W
	Module Short Circuit Current / Efficiency	19.58 / 28.25 %	19.62 / 28.48 %	19.65 / 28.72 %	19.66 / 28.95 %

[Note : The bifacial gain depends on the power plant design and site conditions. Electrical component rating should be selected as per actual Bifacial gain at site (module currents indicated below)]

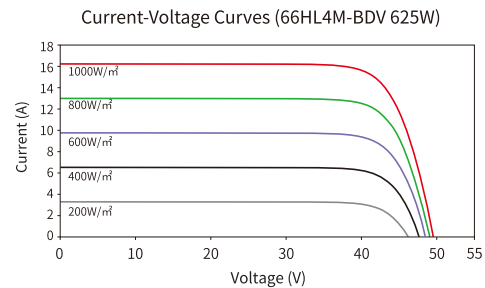
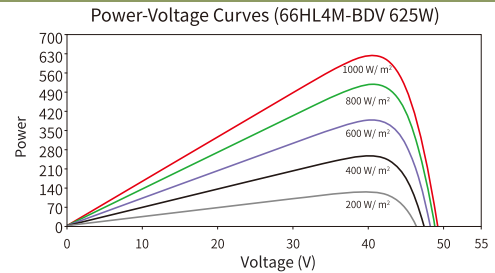
### DIMENSIONS IN MM



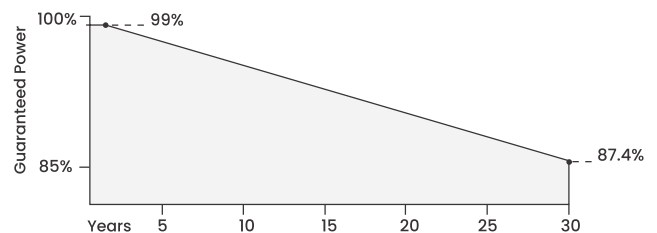
### MECHANICAL DATA

Solar Cells	N-type TOPCON bifacial solar cell
No. of cells	132 Half Cut Solar Cells
Module imensions	2382x1134x35 mm
Weight	32.3 kg
Front Glass	2 mm (0.098 inches) AR Coating Semi-Tempered Glass
Back Glass	2 mm (0.098 inches) AR Coating Semi-Tempered Glass
Frame	35mm (1.57 inches) Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0 mm <sup>2</sup> (0.006 inches) Length can be customized
Connector	TS4 Plus / TS4
Application Class	Class A (Safety Class II)

### IV CURVE



### LINEAR PERFORMANCE WARRANTY



### PERMISSIBLE OPERATING CONDITION

Temperature Range	-40°C to + 85°C
Maximum System Voltage	1500 VDC
NOCT	45±2°C
Hail Resistance	Max. diameter of 25 mm with velocity 23 m/s

### TEMPERATURE COEFFICIENTS (TC)

Temperature Coefficients - β (Voc)	-0.25%/°C
Temperature Coefficients - α(Isc)	0.045%/°C
Temperature Coefficients - γ (Pmax)	-0.28%/°C

### PACKING STANDARD

	20 FT	40 FT
No. of Modules per Container.	279	620
No. of Pallets per Container.	09	20
No. of Module per Pallet/Weight :	31 Nos	
Pallet Dimensions in mm :	2420 (L)*1130(W)*1275(H)	

### WARRANTY

Product Warranty**	12 years
Performance Warranty **	Linear Power Warranty for 30 years with 1% for 1st year degradation and 0.4% from 2 <sup>nd</sup> year to year 30

\* The specifications and key features contained in this datasheet may deviate slightly from our actual products due to the on-going product innovation. RHINE SOLAR LTD. have the right to make necessary changes at any time without further notice.

Please be kindly advised that PV modules should be handled and installed by qualified installer and please carefully read the safety and installation instructions before using our PV modules.

## RHINE SOLAR LIMITED

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