

## G12R-66P

### N-type Bifacial Double Glass Module

HSM-ND66-GR615~650

**650W**  
Maximum Power Output

**24.1%**  
Maximum Efficiency



#### Superior Customer Value

- Container space utilization saves shipping costs
- Low-voltage design optimizes BOS cost
- Optimized for diverse installation needs

#### High Energy Yield

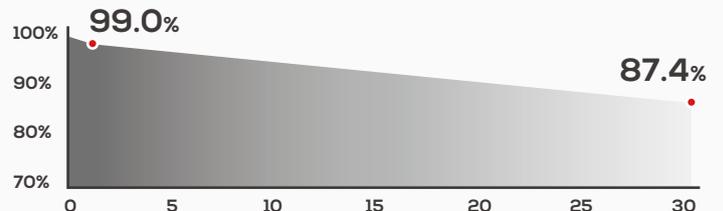
- Consistent high yield in varying conditions
- Enhanced thermal resistance and bifacial power generation

#### Long-term Reliability

- Advanced weather-resistant encapsulation
- Aluminium alloy frame and heat strengthened glass
- Resistant to harsh environmental conditions

### Linear Performance Warranty

15 Years Product Warranty 30 Years Linear Performance Warranty



#### Comprehensive Products and System Certificates



IEC 61215 / IEC 61730 ISO 9001:2015 ISO 45001:2018 ISO 14001:2015

**Electrical Parameters (STC\* & BNPI\*)**

\* STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, AM1.5, Measuring Tolerance: ±2%  
\* BNPI: Back Irradiance 135W/m<sup>2</sup>, Cell temperature 25°C, Atmospheric quality AM 1.5G, Wind speed 1m/s

Testing Condition		STC	BNPI														
Maximum Power	Pmax (W)	615	679	620	685	625	690	630	695	635	701	640	705	645	710	650	715
Open Circuit Voltage	Voc (V)	48.72	48.86	48.94	49.11	49.16	49.30	49.38	49.50	49.60	49.74	49.82	49.96	50.04	50.18	50.26	50.40
Short Circuit Current	Isc (A)	16.00	17.66	16.05	17.73	16.10	17.77	16.14	17.81	16.18	17.86	16.22	17.89	16.26	17.93	16.30	17.97
Maximum Power Voltage	Vmp (V)	40.79	40.79	40.98	41.00	41.18	41.20	41.40	41.40	41.62	41.63	41.84	41.83	42.06	42.03	42.28	42.23
Maximum Power Current	Imp (A)	15.08	16.65	15.13	16.71	15.18	16.75	15.22	16.79	15.26	16.84	15.30	16.86	15.34	16.90	15.38	16.94
Module Efficiency	(%)	22.8		23.0		23.1		23.3		23.5		23.7		23.9		24.1	

**Electrical Characteristics with 10% Bifacial Gain\***

\* The additional gain from the back side depends on mounting (structure, height, tilt angle etc.) and albedo of the ground

Maximum Power	Pmax (W)	677	682	688	693	699	704	710	715
Open Circuit Voltage	Voc (V)	48.72	48.94	49.16	49.38	49.60	49.82	50.04	50.26
Short Circuit Current	Isc (A)	17.60	17.66	17.71	17.75	17.80	17.84	17.89	17.93
Maximum Power Voltage	Vmp (V)	40.79	40.98	41.18	41.40	41.62	41.84	42.06	42.28
Maximum Power Current	Imp (A)	16.59	16.64	16.70	16.74	16.79	16.83	16.87	16.92

**Temperature Coefficient**

Nominal Module Operating Temperature*	43±2°C
Temperature Coefficient of Isc	+0.045%/°C
Temperature Coefficient of Voc	-0.24%/°C
Temperature Coefficient of Pmax	-0.28%/°C

**Operating Parameters**

Operating Temperature	-40~+85°C
Maximum System Voltage	1500V DC
Maximum Series Fuse Rating	30A
Power Bifaciality	80±5%

**Mechanical Data**

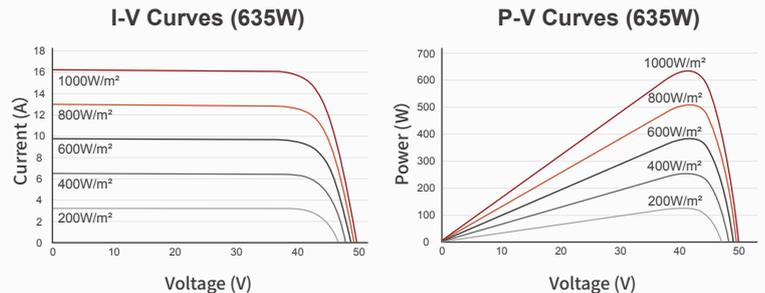
\* Please refer to installation manual for details

No. of Cells	132pcs (6×22)
Dimension	2382×1134×30 mm
Weight	32.6 kg ±3%
Front Glass	2.0mm, Heat Strengthened, AR coating Glass
Back Glass	2.0mm, Heat Strengthened Glass
Frame	Anodized Aluminium Alloy
J-Box	IP68
Cables	4.0mm <sup>2</sup> , +300mm, -200mm (can be customized)
Maximum Static Load	Front: 5400Pa/Back: 2400Pa*
Fire Rating	IEC Class C

**Packaging Configuration**

Modules per Pallet	36pcs
Modules per 40'HQ Container	720pcs
Pallets per 40'HQ Container	20pcs

**Curve Graph**



**Engineering Drawing**

[Unit: mm]

