

G12R-66P

N-type Bifacial Double Glass Module

HSM-ND66-GR620~650

650W

Maximum Power Output

24.1%

Maximum Efficiency



Superior Customer Value

- Container space utilization saves shipping costs
- Low-voltage design optimizes BOS cost



High Energy Yield

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



Long-term Reliability

- Resistant to harsh environmental conditions

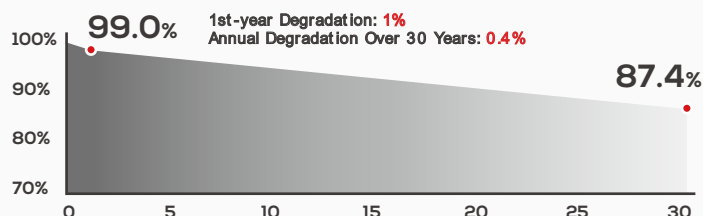
Linear Performance Warranty



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/m², Cell Temperature 25°C, AM1.5, Measuring Tolerance: ±3%
* BNPI: Front Irradiance 1000W/m², Back Irradiance 135W/m², Ambient Temperature 25°C, AM1.5, Measuring Tolerance: ±3%

Testing Condition		STC	BNPI	STC	BNPI	STC	BNPI	STC	BNPI	STC	BNPI	STC	BNPI	STC	BNPI
Maximum Power	P _{max} (W)	620	685	625	690	630	695	635	701	640	705	645	710	650	715
Open Circuit Voltage	V _{oc} (V)	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	I _{sc} (A)	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	V _{mp} (V)	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	I _{mp} (A)	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	(%)	23.0		23.1		23.3		23.5		23.7		23.9		24.1	

Electrical Characteristics with Different Bifacial Gain*

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

Bifacial Gain		5%	10%	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%
Maximum Power	P _{max} (W)	651	682	656	688	662	693	667	699	672	704	677	710	683	715
Open Circuit Voltage	V _{oc} (V)	48.94	48.94	49.16	49.16	49.38	49.38	49.60	49.60	49.82	49.82	50.04	50.04	50.26	50.26
Short Circuit Current	I _{sc} (A)	16.85	17.66	16.91	17.71	16.95	17.75	16.99	17.80	17.03	17.84	17.07	17.89	17.12	17.93
Maximum Power Voltage	V _{mp} (V)	40.98	40.98	41.18	41.18	41.40	41.40	41.62	41.62	41.84	41.84	42.06	42.06	42.28	42.28
Maximum Power Current	I _{mp} (A)	15.89	16.64	15.94	16.70	15.98	16.74	16.02	16.79	16.07	16.83	16.11	16.87	16.15	16.92

Temperature Coefficient

Nominal Module Operating Temperature*	43±2°C
Temperature Coefficient of I _{sc}	+0.045%/°C
Temperature Coefficient of V _{oc}	-0.24%/°C
Temperature Coefficient of P _{max}	-0.28%/°C

Operating Parameters

Operating Temperature	-40~+70°C
Maximum System Voltage	1500V DC
Maximum Series Fuse Rating	30A
Power Bifaciality	80±5%
Safety Protection Rating	Class II
Fire Rating	Class C

Mechanical Data

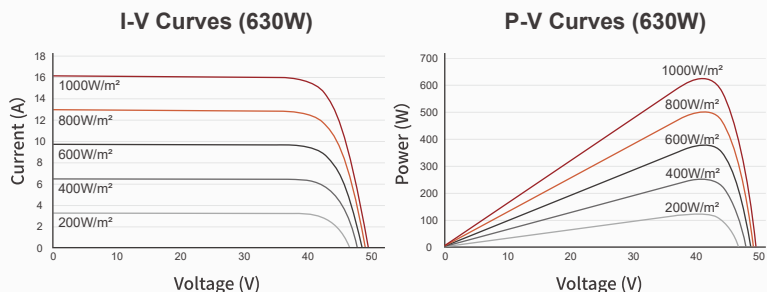
* Please refer to installation manual for details

No. of Cells	132pcs (6×22)
Dimension	2382×1134×30 mm
Weight	32.6kg ±3%
Front Glass	2.0mm, Heat Strengthened, AR coating Glass
Back Glass	2.0mm, Heat Strengthened Glass
Frame	Anodized Aluminium Alloy
J-Box	IP68, three diodes
Cables	4.0mm ² , +400mm, -200mm (can be customized)
Maximum Static Load	Front: 5400Pa/Back: 2400Pa*

Packaging Configuration

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

Curve Graph



Engineering Drawing

[Unit: mm]

