

GCL- NT12R/54GDF

490-510W

**Bifacial Dual Glass
Monocrystalline Module**



510W

Maximum Power
Output

22.92%

Maximum Module
Efficiency

0~+5W

Power Output
Guarantee

GCL Delivers Reliable Performance Over Time

- World-class manufacturer of crystalline silicon photovoltaic modules
- Fully automatic facility and world-class technology
- Rigorous quality control to meet the highest standard: ISO 9001, ISO 14001 and ISO 45001
- Tested for harsh environments (salt mist, ammonia corrosion and sand blowing test: IEC 61701, IEC 62716, DIN EN 60068-2-68)
- Long term reliability tests
- 2x100% EL inspection ensuring defect-free modules



SMBB metallization technology allows more micro-crack and Off-grid to improve reliability;



Higher product power, lower LCOE, improve project yield



N-type wafer, high quality passivation, lower Lid/Letid and annual degradation



sand blowing, salt mist and ammonia test passed to endure harsh environment

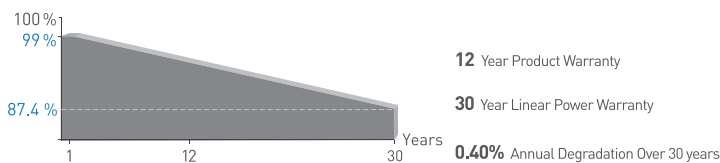


Optimized encapsulating material and strict process control ensure PID resistance



Non-destructive cutting technology to reduce the risk of micro-cracks

Linear Performance Warranty



* Please refer to GCL standard warranty for details

Additional Insurance Backed by Swiss RE

* Please refer to GCL for details



Electrical Specification (STC*)

Maximum Power	P _{max} [W]	490	495	500	505	510
Maximum Power Voltage	V _{mp} [V]	32.76	32.96	33.16	33.36	33.55
Maximum Power Current	I _{mp} [A]	14.96	15.02	15.08	15.14	15.20
Open Circuit Voltage	V _{oc} [V]	39.00	39.15	39.30	39.45	39.60
Short Circuit Current	I _{sc} [A]	15.76	15.82	15.88	15.94	16.00
Module Efficiency	(%)	22.02	22.25	22.47	22.70	22.92

* Irradiance 1000W/m², Cell Temperature 25°C, Air Mass 1.5

Electrical Specification (NOCT*)

Maximum Power	P _{max} [W]	368.7	372.4	376.2	379.9	383.7
Maximum Power Voltage	V _{mp} [V]	30.60	30.78	30.96	31.14	31.32
Maximum Power Current	I _{mp} [A]	12.05	12.10	12.15	12.20	12.25
Open Circuit Voltage	V _{oc} [V]	36.76	36.89	37.02	37.15	37.28
Short Circuit Current	I _{sc} [A]	12.73	12.78	12.83	12.88	12.93

* Irradiance 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s

Electrical characteristics with different power bin (reference to 10% Irradiance ratio on module rear)

Maximum Power	P _{max} [W]	529.4	534.6	540.2	545.4	550.9
Maximum Power Voltage	V _{mp} [V]	32.76	32.96	33.16	33.36	33.55
Maximum Power Current	I _{mp} [A]	16.16	16.22	16.29	16.35	16.42
Open Circuit Voltage	V _{oc} [V]	39.00	39.15	39.30	39.45	39.60
Short Circuit Current	I _{sc} [A]	17.02	17.09	17.15	17.22	17.28

Mechanical Data

Number of Cells	108 Cells (6×18)
Dimensions of Module L*W*H (mm)	1962×1134×30mm (77.24×44.65×1.18 inches)
Weight (kg)	27.3kg
Front Side Glass	High transparency solar glass 2.0mm
Back Side Glass	High transparency solar glass 2.0mm
Frame	Anodized aluminium alloy
J-Box	IP68 Rated
Cable	4.0mm ² , Portrait: +300/-200mm length can be customized
Number of diodes	3
Wind/ Snow Load	2400Pa/ 5400Pa*
Connector	MC Compatible
Bifaciality(%)	80±5

* For more details please check the installation manual of GCLSI

Temperature Ratings

Nominal Operating Cell Temperature (NOCT)	45±2°C
Temperature Coefficient of I _{sc}	+0.045%/°C
Temperature Coefficient of V _{oc}	-0.25%/°C
Temperature Coefficient of P _{MAX}	-0.29%/°C

Packaging Configuration

Module per box	36 pieces
Module per 40' HQ	864 pieces

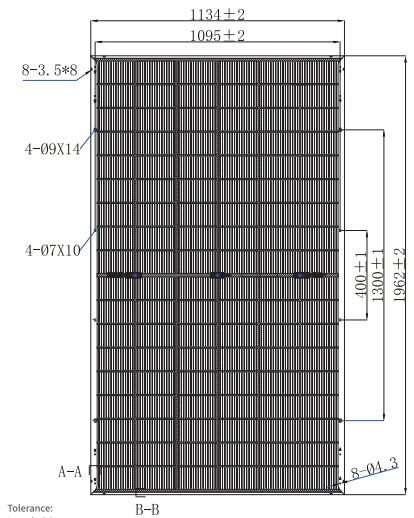
Maximum Ratings

Operational Temperature	-40~+85°C
Maximum System Voltage	1500V DC
Max Series Fuse Rating	35A

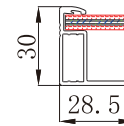
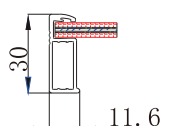
Optional

Connector: ☐ Original MC4

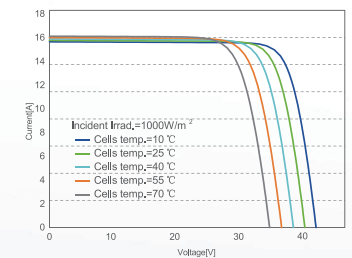
Module Dimension

Tolerance:
Length:±2mm
Width :±2mm

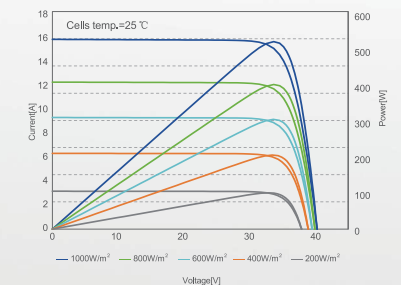
Back View

Long Frame
A-AShort Frame
B-B

I-V Curve at Different Temperature (510W)



I-V/P-V Curve at Different Irradiation (510W)



CAUTION: READ INSTALLATION MANUAL BEFORE USING THE PRODUCT

Contact Us for More Information

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