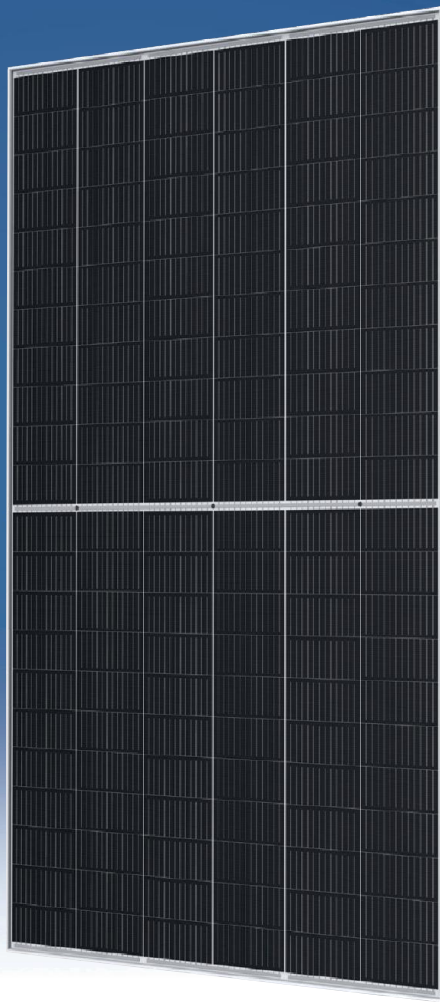




# GCL-M12/66GDF

## Bifacial Dual Glass Monocrystalline Module

635-670 W



**670 W**

Maximum Power Output

**21.6%**

Maximum Module Efficiency

**0~+5W**

Power Output Guarantee



Ideal choice for large scale ground installation



Non-destructive cutting, reduce potential micro crack risk



Selected encapsulating material and stringent production process control ensure the product is highly PID resistant and snail trails free



Additional safety, Fire class Acertified



Withstand up to 1500V system voltage effectively reduce BOS cost

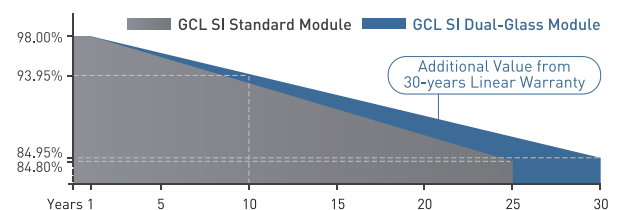


Large size silicon wafer module can reduce the cost of PV support bracket, combining manifolds, cable, land and so on, thus thinning the LCOE

### 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

### Linear Performance Warranty



12 Years Product Warranty 30 Years Linear Power Warranty

\* Please refer to GCL standard warranty for details

Additional Insurance Backed by Swiss RE



\* Please refer to GCL for details

# GCL-M12/66GDF

# Bifacial Dual Glass Monocrystalline Module 635-670 W

## Electrical Specification (STC\*)

Peak Power Watts	P <sub>max</sub> (Wp)	635	640	645	650	655	660	665	670
Maximum Power Voltage	V <sub>mp</sub> (V)	37.00	37.20	37.40	37.60	37.80	38.00	38.20	38.40
Maximum Power Current	I <sub>mp</sub> (A)	17.16	17.20	17.25	17.29	17.33	17.37	17.41	17.45
Open Circuit Voltage	V <sub>oc</sub> (V)	44.80	45.00	45.20	45.40	45.60	45.80	46.00	46.20
Short Circuit Current	I <sub>sc</sub> (A)	18.07	18.12	18.17	18.21	18.26	18.31	18.36	18.41
Module Efficiency	(%)	20.4	20.6	20.8	20.9	21.1	21.2	21.4	21.6
Power Output Tolerance	(W)	0~+5							

\* Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass 1.5

## Electrical Specification (NMOT\*)

Maximum Power	P <sub>max</sub> (Wp)	480.4	484.2	488.0	491.8	495.6	499.4	503.1	506.9
Maximum Power Voltage	V <sub>mp</sub> (V)	34.52	34.70	34.89	35.08	35.26	35.45	35.64	35.82
Maximum Power Current	I <sub>mp</sub> (A)	13.92	13.95	13.99	14.02	14.05	14.09	14.12	14.15
Open Circuit Voltage	V <sub>oc</sub> (V)	42.20	42.39	42.58	42.77	42.96	43.14	43.33	43.52
Short Circuit Current	I <sub>sc</sub> (A)	14.57	14.61	14.65	14.68	14.72	14.76	14.80	14.84

\* Irradiance 800W/m<sup>2</sup>, Ambient Temperature 20°C, Wind Speed 1m/s

## Electrical characteristics with different power bin (reference to 10% Irradiance ratio)

Total Equivalent Power	P <sub>max</sub> (Wp)	679.5	684.8	690.2	695.5	700.9	706.2	711.6	716.9
Maximum Power Voltage	V <sub>mp</sub> (V)	37.00	37.20	37.40	37.60	37.80	38.00	38.20	38.40
Maximum Power Current	I <sub>mp</sub> (A)	18.36	18.41	18.45	18.50	18.54	18.58	18.63	18.67
Open Circuit Voltage	V <sub>oc</sub> (V)	44.80	45.00	45.20	45.40	45.60	45.80	46.00	46.20
Short Circuit Current	I <sub>sc</sub> (A)	19.33	19.38	19.44	19.48	19.54	19.59	19.65	19.70
Irradiance ratio (rear/front)		10%							

## Mechanical Data

Number of Cells	132 Cells (6×22)
Dimensions of Module L*W*H (mm)	2384×1303×35mm (93.86×51.30×1.38 inches)
Weight (kg)	38.7 kg
Front Side Glass	High transparency solar glass 2.0mm (0.08 inches)
Back Side Glass	High transparency solar glass 2.0mm (0.08 inches)
Frame	Silver, anodized aluminium alloy
J-Box	IP68 Rated
Cable	4.0mm <sup>2</sup> (0.006 inches <sup>2</sup> ), Portrait: 280/280mm (11.02inches)
Number of diodes	3
Wind/ Snow Load	2400Pa/ 5400Pa*
Connector	MC Compatible
Bifaciality	70±5%

\* For more details please check the installation manual of GCLSI

## Temperature Ratings

Nominal Module Operating Temperature(NMOT)	42±2°C
Temperature Coefficient of I <sub>sc</sub>	+0.05%/°C
Temperature Coefficient of V <sub>oc</sub>	-0.28%/°C
Temperature Coefficient of P <sub>MAX</sub>	-0.35%/°C

## Maximum Ratings

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

## Packaging Configuration

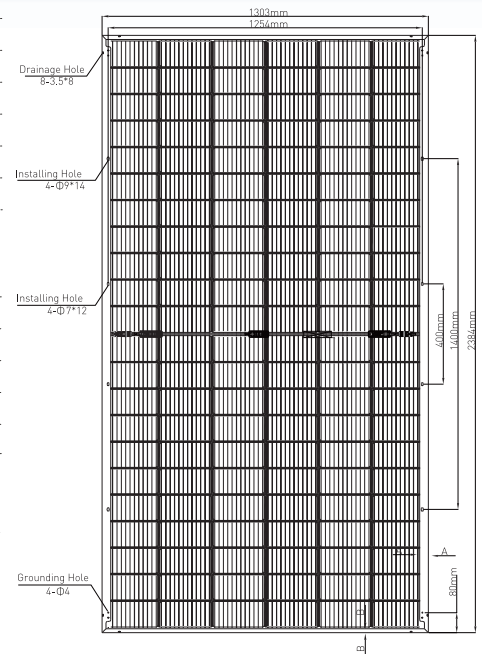
Module per box	31 pieces
Module per 40' container	527 pieces



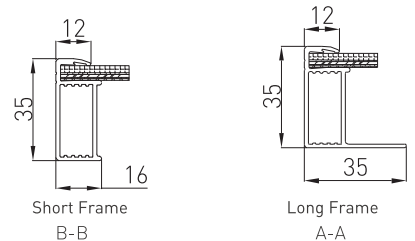
Contact Us for More Information

website: [www.gclsi.com](http://www.gclsi.com) email: [gclsisales@gclsi.com](mailto:gclsisales@gclsi.com)

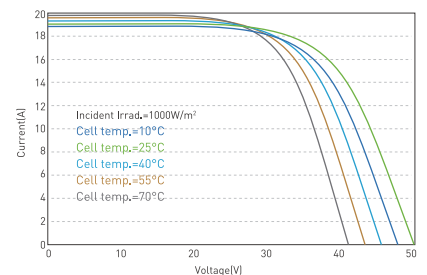
## Module Dimension



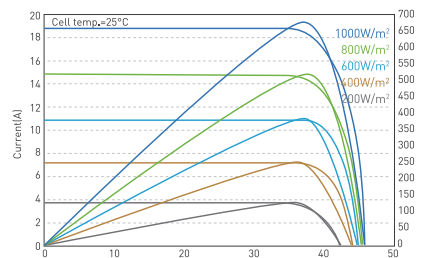
## Back View



## I-V Curve at Different Temperature (670W)



## I-V/P-V Curve at Different Irradiation (670W)



CAUTION: READ INSTALLATION MANUAL BEFORE USING THE PRODUCT