

# GCL- M12/66H



**660-680 W**

**Monocrystalline Module**

**680 W**

Maximum Power Output

**21.89%**

Maximum Module Efficiency

**0~+5W**

Power Output Guarantee



SIZE  
**210mm**

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



Optimized system performance due to module level current sorting



Ideal choice for large scale ground installation



Non-destructive cutting, reduce potential micro crack risk

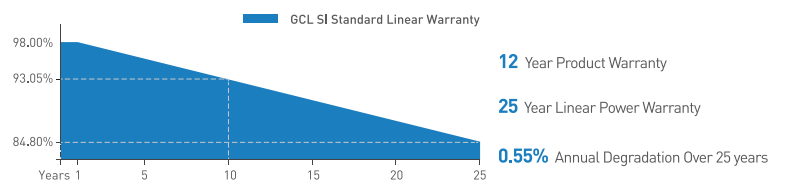
## GCL Delivers Reliable Performance Over Time

- World-class manufacturer of crystalline silicon photovoltaic modules
- Fully automatic facility and world-class technology
- Long term reliability tests
- 2x100% EL inspection ensuring defect-free modules

## Comprehensive System and Product Certifications

- IEC61215, IEC61730
- ISO9001:2015 Quality management systems
- ISO14001:2015 Environmental management systems
- ISO45001:2018 Occupational health and safety management systems
- IEC62941:2019 Terrestrial photovoltaic (PV) modules - Quality system for PV module manufacturing

## 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 <sub>max</sub> (W)	660	665	670	675	680
Maximum Power Voltage	V <sub>mp</sub> (V)	37.80	38.00	38.20	38.40	38.60
Maximum Power Current	I <sub>mp</sub> (A)	17.46	17.50	17.54	17.58	17.62
Open Circuit Voltage	V <sub>oc</sub> (V)	45.60	45.80	46.00	46.20	46.40
Short Circuit Current	I <sub>sc</sub> (A)	18.55	18.60	18.65	18.70	18.75
Module Efficiency	(%)	21.25	21.41	21.57	21.73	21.89

\* Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass 1.5  
P<sub>max</sub> Tolerance: ±3%

Electrical Specification (NOCT\*)

Maximum Power	P <sub>max</sub> (W)	499.4	503.1	506.9	510.7	514.6
Maximum Power Voltage	V <sub>mp</sub> (V)	35.26	35.45	35.64	35.82	36.01
Maximum Power Current	I <sub>mp</sub> (A)	14.16	14.19	14.22	14.26	14.29
Open Circuit Voltage	V <sub>oc</sub> (V)	42.96	43.14	43.33	43.52	43.71
Short Circuit Current	I <sub>sc</sub> (A)	14.96	15.00	15.04	15.08	15.11

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

Mechanical Data

Number of Cells	132 Cells (6×18)
Dimensions of Module L*W*H (mm)	2384×1303×35mm (93.86×51.30×1.38 inches)
Weight (kg)	34.2 kg
Glass	High transparency tempered glass 3.2 mm (0.13 inches)
Backsheet	White
Frame	Anodized aluminium alloy
J-Box	IP68 Rated
Fire Rating	IEC Class C
Protection Class	Class II
Cable	4.0mm <sup>2</sup> , Portrait: +300/-200mm length can be customized
Number of diodes	3
Wind/ Snow Load	2400Pa/ 5400Pa*

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

Temperature Ratings

Nominal Operating Cell Temperature (NOCT)	45±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	30A

Packaging Configuration

Module per box	31 pieces
Module per 40' container	558 pieces

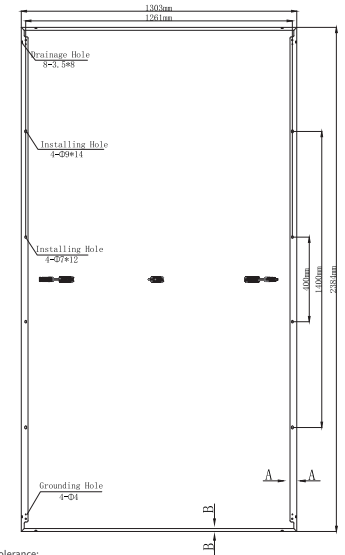
Tolerance

Sorting Tolerance	0~+5W
V <sub>oc</sub> Tolerance	±3%
I <sub>sc</sub> Tolerance	±4%

Connector

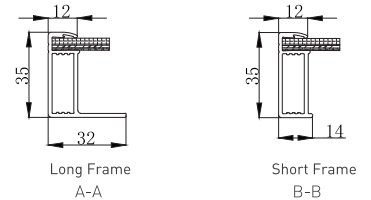
QC	QC4.10-cd	Renhe	05-8
Bright	B01 / B05x	UKT	PV-C002
Haitian	PV-HT03	Zhonghuan	PV-ZH202B
Tonglin	TL-CABLE01S	Zerun	Z4S-abcde
ChuangYuan	PV-CY20L / PV-CY03L		
Xtong	PV-XT101.1 / PV-XT101.2 / XT2		
Staubli	PV-KST4-EV02/xy-UR / PV-KST4-EV02A/xy PV-KBT4-EV02/xy-UR / PV-KBT4-EV02A/xy		

Module Dimension

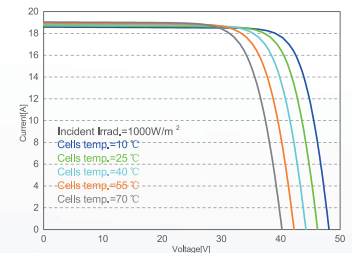


Tolerance:  
Length:±2mm  
Width:±2mm

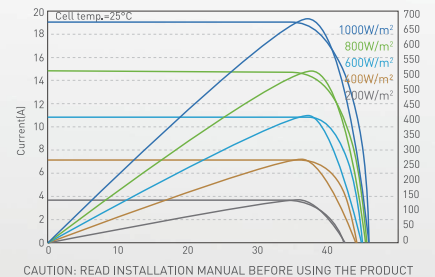
Back View



I-V Curve at Different Temperature (675W)



I-V/P-V Curve at Different Irradiation (675W)



CAUTION: READ INSTALLATION MANUAL BEFORE USING THE PRODUCT

Contact Us for More Information

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