

GCL- NT12R/54GDF

505-515W

**Bifacial Dual Glass
Monocrystalline Module**



515W

Maximum Power
Output

23.15%

Maximum Module
Efficiency

0~+5W

Power Binnig
Range

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
- 2×100% 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 technology: The N-type module has better reliability

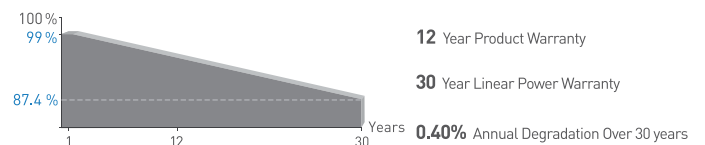


Non-destructive cutting technology to reduce the risk of micro-cracks

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



*Power degradation values above only apply to the frontside of the module and does not apply to the backside, please refer to GCL standard warranty for details

Additional Insurance Backed by Swiss RE

* Please refer to GCL for details



Electrical Specification (STC*)

Type		GCL-NT12R/54GDF 505	GCL-NT12R/54GDF 510	GCL-NT12R/54GDF 515
Maximum Power	P _{max} (W)	505	510	515
Maximum Power Voltage	V _{mp} (V)	33.36	33.55	33.75
Maximum Power Current	I _{mp} (A)	15.14	15.20	15.26
Open Circuit Voltage	V _{oc} (V)	39.45	39.60	39.78
Short Circuit Current	I _{sc} (A)	15.94	16.00	16.06
Module Efficiency	(%)	22.70	22.92	23.15

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

Electrical Specification (BNPI&BSI)

Test Condition		BNPI	BSI	BNPI	BSI	BNPI	BSI
Maximum Power	P _{max} (W)	555.0	/	560.0	/	565.0	/
Maximum Power Voltage	V _{mp} (V)	33.40	/	33.58	/	33.75	/
Maximum Power Current	I _{mp} (A)	16.62	/	16.68	/	16.74	/
Open Circuit Voltage	V _{oc} (V)	39.57	/	39.72	/	39.87	/
Short Circuit Current	I _{sc} (A)	17.59	19.61	17.65	19.67	17.71	19.73

BNPI: Irradiance: Front 1000W/m², Rear 135W/m², Cell Temperature 25°C, Air Mass 1.5BSI: Irradiance: Front 1000W/m², Rear 300W/m², Cell Temperature 25°C, Air Mass 1.5*The Measurement Tolerance for the above electrical performance parameters: P_{max} ±3%, V_{oc} ±3%, I_{sc} ±4%

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

Maximum Power	P _{max} (W)	545.4	550.9	556.2
Maximum Power Voltage	V _{mp} (V)	33.36	33.55	33.75
Maximum Power Current	I _{mp} (A)	16.35	16.42	16.48
Open Circuit Voltage	V _{oc} (V)	39.45	39.60	39.78
Short Circuit Current	I _{sc} (A)	17.22	17.28	17.34

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, 3 diodes
Cable	4.0mm ² , Portrait: +300/-200mm length can be customized
Connector	Refer to page 3 for optional connectors
Fire Rating	IEC Class C
Protection Class	Class II
Tested Load (-negative/+positive)	2400Pa/ 5400Pa*
Bifaciality	φP _{max} :80±5%, φV _{oc} :95±5%, φI _{sc} :80±5%

* For more details please check the installation manual of GCLSI

Temperature Ratings

Temperature Coefficient of I _{sc}	+0.045%/°C
Temperature Coefficient of V _{oc}	-0.25%/°C
Temperature Coefficient of P _{max}	-0.29%/°C

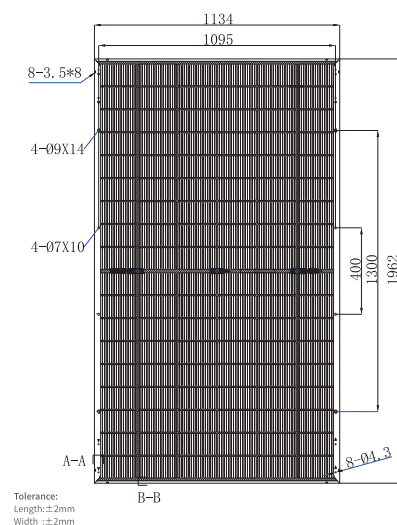
Maximum Ratings

Operational Temperature	-40~+70°C
Module (T ₉₈) max.	70°C
Maximum System Voltage	1500V DC
Max Series Fuse Rating	35A

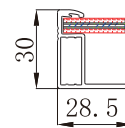
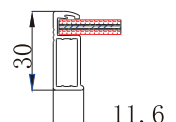
Packaging Configuration

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

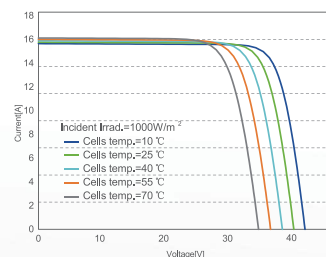
Module Dimension



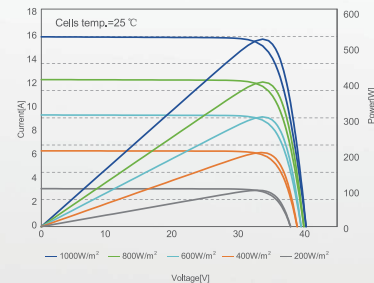
Back View

Long Frame
A-AShort Frame
B-B

I-V Curve at Different Temperature (515W)



I-V-P-V Curve at Different Irradiation (515W)



CAUTION: READ INSTALLATION MANUAL BEFORE USING THE PRODUCT

Contact Us for More Information

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Made in China



Optional / Connector

Manufacturer

Suzhou Bright Photovoltaic Electronic Technology Co.,Ltd.

Jiangsu Haitian Microelectronics Corp.

Hefei GCL System Integration New Energy Technology Co., Ltd.

Funing GCL System Integration Technology Co., Ltd.

Suzhou Xtong Photovoltaic Technologies Co., Ltd.

Stäubli Electrical Connectors AG

Specification

B01

PV-HT03x (x=0 or 1 or 2)

GCL-01 / GCL-02

PV-XT101.1

PV-XT101.2

XT2

PV-KST4-EV0 2/xy_UR (male)

PV-KBT4-EV0 2/xy_UR (female)

PV-KST4-EV02A/xy (male)

PV-KBT4-EV02A/xy (female)