

GCL- NT10R/54BGDF



435-450W

**Bifacial Dual Glass
Monocrystalline Module**

450W

Maximum Power Output

22.5%

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

Long term reliability tests

2×100% EL inspection ensuring defect-free modules



Highly transparent self-cleaning glass brings additional yield and easy maintenance



Ideal choice for residential rooftop



N type technology: The N-type module has better reliability and lower LID/LETID



Special cutting and soldering technology leads to low hotspot risk

Comprehensive System and Product Certifications

IEC61215, IEC61730

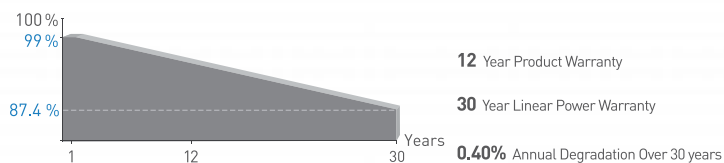
ISO9001:2015 Quality management systems

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&BNPI) | GCL-NT10R/54BGDF xxx(435-450)

Testing Conditions		STC	BNPI	STC	BNPI	STC	BNPI	STC	BNPI
Maximum Power	Pmax[W]	435	480	440	485	445	490	450	495
Maximum Power Voltage	Vmp[V]	32.71	/	32.96	/	33.21	/	33.46	/
Maximum Power Current	Imp[A]	13.30	/	13.35	/	13.40	/	13.45	/
Open Circuit Voltage	Voc[V]	39.25	39.35	39.50	39.60	39.75	39.85	40.00	40.10
Short Circuit Current	Isc[A]	13.80	15.11	13.85	15.15	13.90	15.20	13.95	15.25
Module Efficiency	(%)	21.8		22.0		22.3		22.5	

*STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass 1.5 *BNPI: Irradiance of front 1000W/m², rear 135W/m²

*Measurement uncertainty: ±3%[Pmax], Voc Tolerance: ±3%, Isc Tolerance: ±4%

Electrical Specification (NOCT*)

Maximum Power	Pmax [W]	328.2	331.7	335.2	338.7
Maximum Power Voltage	Vmp [V]	31.02	31.23	31.44	31.65
Maximum Power Current	Imp [A]	10.58	10.62	10.66	10.70
Open Circuit Voltage	Voc[V]	36.98	37.22	37.46	37.70
Short Circuit Current	Isc [A]	11.14	11.18	11.22	11.26

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

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

Maximum Power	Pmax [W]	469.7	475.3	480.5	486.0
Maximum Power Voltage	Vmp [V]	32.71	32.96	33.21	33.46
Maximum Power Current	Imp [A]	14.36	14.42	14.47	14.53
Open Circuit Voltage	Voc[V]	39.25	39.50	39.75	40.00
Short Circuit Current	Isc [A]	14.90	14.96	15.01	15.07

Mechanical Data

Number of Cells	108 Cells (6×18)
Dimensions of Module L*W*H (mm)	1762×1134×30mm (69.37×44.65×1.18 inches)
Weight (kg)	21.5kg
Front Side Glass	1.6mm (0.06 inches), High transparency solar glass
Back Side Glass	1.6mm (0.06 inches), Black glazed mesh glass
Frame	Black, anodized aluminium alloy
J-Box	IP68 Rated
Cable	4.0mm ² , Portrait: +300/-200mm length can be customized
Fire rating	IEC Class C
Wind/ Snow Load	2400Pa/ 5400Pa*
Protection Class	ClassII
Bifaciality	Pmax=80%, Voc=95%, Isc=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 Isc	+0.045%/°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of P _{MAX}	-0.29%/°C

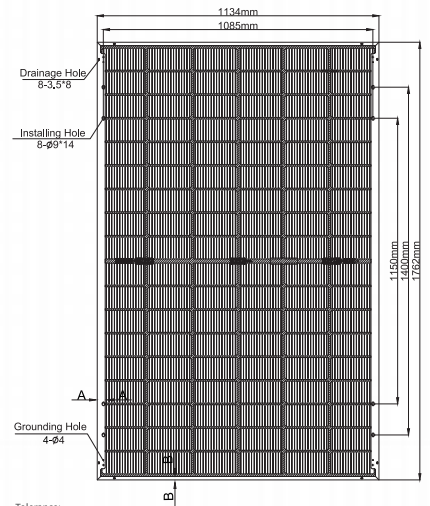
Maximum Ratings

Operational Temperature	-40~+85°C
Maximum System Voltage	1500V DC
Max Series Fuse Rating	30A

Packaging Configuration

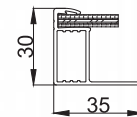
Module per box	36 pieces
Module per 40' container	936 pieces

Module Dimension

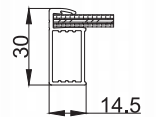


Tolerance: Length: ±2mm, Width: ±2mm

Back View

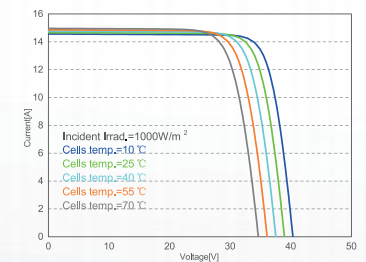


Long Frame A-A

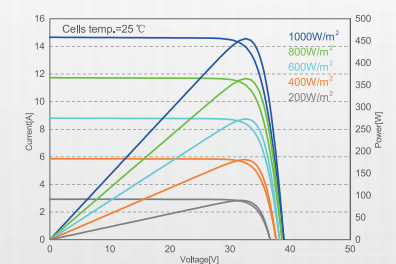


Short Frame B-B

I-V Curve at Different Temperature (450W)



I-V/P-V Curve at Different Irradiation (450W)



CAUTION: READ INSTALLATION MANUAL BEFORE USING THE PRODUCT

Contact Us for More Information

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Optional/Connector

Serial	Kind of component	Manufacturer	Specification
1	Connector	Suzhou Bright Photovoltaic Electronic Technology Co.,Ltd.	B01
2		Jiangsu Haitian Microelectronics Corp.	PV-HT03x (x=0 or 1 or 2)
3		Hefei GCL System Integration New Energy Technology Co., Ltd.	GCL-01
4			GCL-02
5		Suzhou Xtong Photovoltaic Technologies Co., Ltd.	PV-XT101.1
6			PV-XT101.2
7			XT2
8		Stäubli Electrical Connectors AG	PV-KST4-EVO 2/xy_UR (male)
9			PV-KBT4-EVO 2/xy_UR (female)
10			PV-KST4-EVO2A/xy (male)
11			PV-KBT4-EVO2A/xy (female)

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Made In China



Bringing Green Power To Life