

# 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

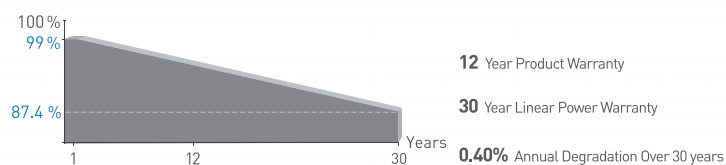
ISO9001:2015 Quality management systems

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/m<sup>2</sup>, Cell Temperature 25°C, Air Mass 1.5 \*BNPI: Irradiance of front 1000W/m<sup>2</sup>, rear 135W/m<sup>2</sup>

\*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/m<sup>2</sup>, 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 <sup>2</sup> , 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 <sub>MAX</sub>	-0.29%/°C

Optional/Connector:

Suzhou Bright Photovoltaic Electronic Technology Co., Ltd.:B01/B05x
Suzhou Xiong Photovoltaic Technologies Co., Ltd.:XT2,PV-XT101.1 ,PV-XT101.2
Stäubli Electrical Connectors AG :PV-KST4-EVO2A/xy,PV-KBT4-EVO2A/xy & PV-KST4-EVO2/xy_UR,PV-KBT4-EVO2/xy_UR

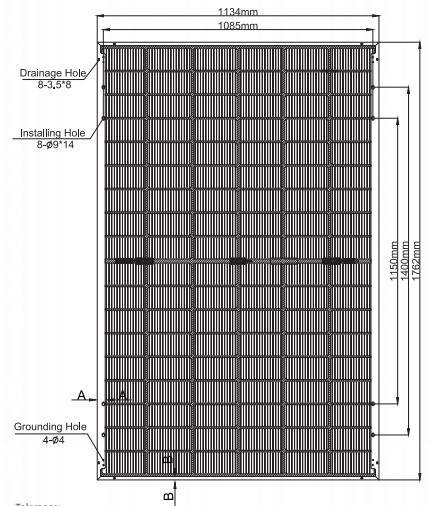
Packaging Configuration

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

Maximum Ratings

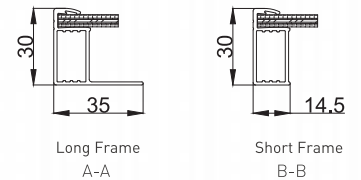
Operational Temperature	-40~+85°C
Maximum System Voltage	1500V DC
Max Series Fuse Rating	30A

Module Dimension

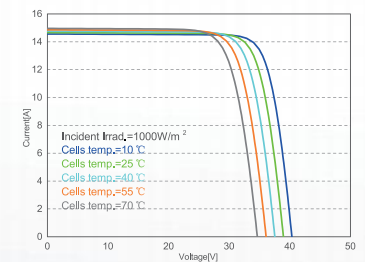


Tolerance: Length:±2mm Width :±2mm

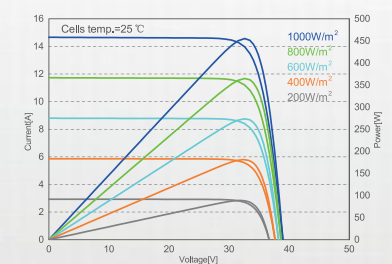
Back View



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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