

GCL- NT10/78GDF



630-650 W

**Bifacial Dual Glass
Monocrystalline Module**

650W

Maximum Power Output

23.3%

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
- 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



High conversion efficiency due to top quality wafers and advanced cell technology



Ideal choice for large scale ground installation

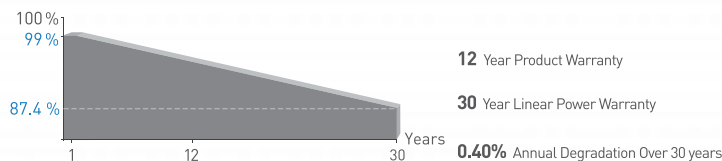


N type technology: The N-type module has better reliability and lower LID/LETID



Sand blowing test, salt mist test and ammonia test passed to endure harsh environments

Linear Performance Warranty



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



Special cutting and soldering technology leads to low hotspot risk

* 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 | Pmax(W) | 630 | 635 | 640 | 645 | 650 |
| Maximum Power Voltage | Vmp(V) | 48.28 | 48.48 | 48.68 | 48.87 | 49.06 |
| Maximum Power Current | Imp(A) | 13.05 | 13.10 | 13.15 | 13.20 | 13.25 |
| Open Circuit Voltage | Voc(V) | 56.85 | 57.00 | 57.15 | 57.30 | 57.45 |
| Short Circuit Current | Isc(A) | 13.80 | 13.85 | 13.90 | 13.95 | 14.00 |
| Module Efficiency | (%) | 22.5 | 22.7 | 22.9 | 23.1 | 23.3 |

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

Electrical Specification (NOCT*)

| | | | | | | |
|-----------------------|----------|-------|-------|-------|-------|-------|
| Maximum Power | Pmax (W) | 472.9 | 476.5 | 480.1 | 483.7 | 487.4 |
| Maximum Power Voltage | Vmp (V) | 44.91 | 45.08 | 45.25 | 45.42 | 45.59 |
| Maximum Power Current | Imp (A) | 10.53 | 10.57 | 10.61 | 10.65 | 10.69 |
| Open Circuit Voltage | Voc(V) | 53.49 | 53.62 | 53.75 | 53.88 | 54.01 |
| Short Circuit Current | Isc (A) | 11.14 | 11.18 | 11.22 | 11.26 | 11.30 |

* 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) | 680.3 | 686.0 | 691.3 | 696.9 | 702.0 |
| Maximum Power Voltage | Vmp (V) | 48.28 | 48.48 | 48.68 | 48.87 | 49.06 |
| Maximum Power Current | Imp (A) | 14.09 | 14.15 | 14.20 | 14.26 | 14.31 |
| Open Circuit Voltage | Voc(V) | 56.85 | 57.00 | 57.15 | 57.30 | 57.45 |
| Short Circuit Current | Isc (A) | 14.90 | 14.96 | 15.01 | 15.07 | 15.12 |

Mechanical Data

| | |
|---------------------------------|---|
| Number of Cells | 156 Cells (6×26) |
| Dimensions of Module L*W*H (mm) | 2465×1134×30mm [97.05×44.65×1.18 inches] |
| Weight (kg) | 34.1kg |
| Front Side Glass | 2.0mm (0.08 inches), High transparency solar glass |
| Back Side Glass | 2.0mm (0.08 inches), Heat Strengthened Glass |
| Frame | Anodized aluminium alloy |
| Cable | 4.0mm ² , Portrait: +300/-200mm length can be customized |
| Number of diodes | 3 |
| Wind/ Snow Load | 2400Pa/ 5400Pa* |
| Connector | MC Compatible |
| Bifaciality | 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 |

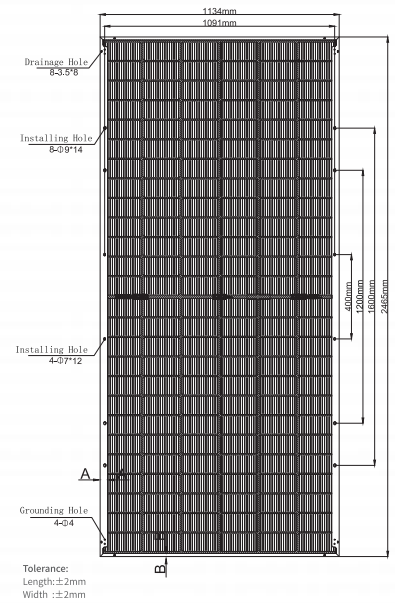
Optional

Connector: Original MC4

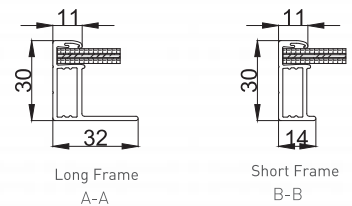
Packaging Configuration

| | |
|--------------------------|------------|
| Module per box | 36 pieces |
| Module per 40' container | 576 pieces |

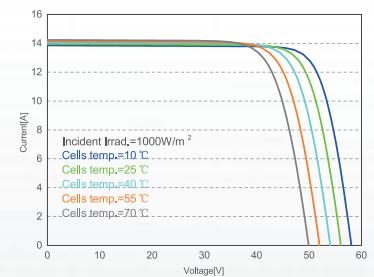
Module Dimension



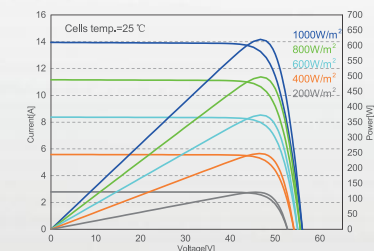
Back View



I-V Curve at Different Temperature (640W)



I-V/P-V Curve at Different Irradiation (640W)



CAUTION: READ INSTALLATION MANUAL BEFORE USING THE PRODUCT

Contact Us for More Information

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