GreensunSolar

N-Type

GSM-M10/144HBD 580-600W

N-Type TOPCON Bifacial Dual Glass Mono Silicon PV Module

600W	23.21%	0~+5W
Maximum Power Output	Maximum Module Efficiency	Power Output Guarantee

N-type Topcon technology for lower LCOE

The lower temperature coefficient and better low irradiance performance of Topcon technology can effectively reduce LCOE.

Double-sided power generation, higher yield

The dual-glass module has a double-sided ratio of up to 80% and a power generation gain of 7%-25% on the back side.

Ultra-low Degradation, longer warranty, higher output

- First-year degradation 1% and annual degradation at 0.4%
- Up to 25 years product warranty and 30 years power warranty

Universal solution for residential and C&I application

- Easy for integration, designed for compatibility with existing mainstream inverters and diverse mounting systems
- Perfect size and low weight for handling and installation
- Most valuable solution on low load capacity rooftops (weight similar to backsheet version)
- Mechanical performance up to 5400 Pa positive load and 4000 Pa negative load

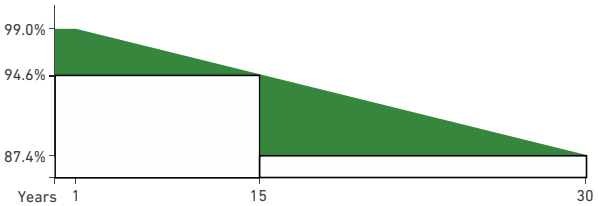
PID Resistance

Excellent Anti-PID performance guarantee via optimized mass-production process and materials control.

Delivers Reliable Performance Over Time

- manufacturer of crystalline silicon photovoltaic modules
- Fully automatic facility and world-class technology
- Rigorous quality control to meet the highest standard: ISO9001:2015, ISO14001: 2015 and OHSAS: 18001 2007
- 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
- 2×100% EL inspection ensuring defect-free modules

Linear Performance Warranty



15 years Product warranty on materials and workmanship

30 years Linear power output warranty

First-year degradation *1%* and annual degradation at *0.4%*

Greensun Solar Energy Tech Co., Limited
Web: www.greensunpv.com
Tel: +86 187 1510 8506 Email: manager@greensunpv.com

GreensunSolar

Electrical Specification (STC*)

Maximum Power	Pmax(W)	580	585	590	595	600
Maximum Power Voltage	Vmp(V)	42.59	42.74	42.89	43.04	43.19
Maximum Power Current	Imp(A)	13.62	13.69	13.76	13.83	13.90
Open Circuit Voltage	Voc(V)	51.47	51.67	51.87	52.07	52.27
Short Circuit Current	Isc(A)	14.37	14.43	14.49	14.55	14.61
Module Efficiency	(%)	22.45	22.64	22.83	23.02	23.21
Power Output Tolerance	(W)			0~+5		

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

Electrical Specification (NOCT*)

Maximum Power	Pmax (W)	436	440	444	448	452
Maximum Power Voltage	Vmp (V)	39.87	39.96	40.10	40.25	40.38
Maximum Power Current	Imp (A)	10.94	11.01	11.07	11.13	11.19
Open Circuit Voltage	Voc(V)	48.89	49.08	49.27	49.46	49.65
Short Circuit Current	Isc (A)	11.60	11.65	11.70	11.75	11.80

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

Mechanical Data

Number of Cells	144 Cells (6×24)
Dimensions of Module L*W*H (mm)	2279×1134×30mm
Weight (kg)	32.0 kg
Front Side Glass	High transparency solar glass 2.0mm
Back Side Glass	High transparency solar glass 2.0mm
Frame	Silver, anodized aluminium alloy
J-Box	IP68 Rated
Cable	4.0mm² (0.006 inches²), 300mm (11.8 inches)
Number of diodes	3
Wind/ Snow Load	4000Pa/ 5400Pa*
Connector	MC Compatible

* For more details please check the installation manual

Temperature Ratings

Nominal Operating Cell Temperature (NOCT)	45±2°C
Temperature Coefficient of Isc	+0.040%/°C
Temperature Coefficient of Voc	-0.240%/°C
Temperature Coefficient of Pmax	-0.300%/°C

Maximum Ratings

Operational Temperature	-40~+85°C
Maximum System Voltage	1500V DC
Max Series Fuse Rating	25A

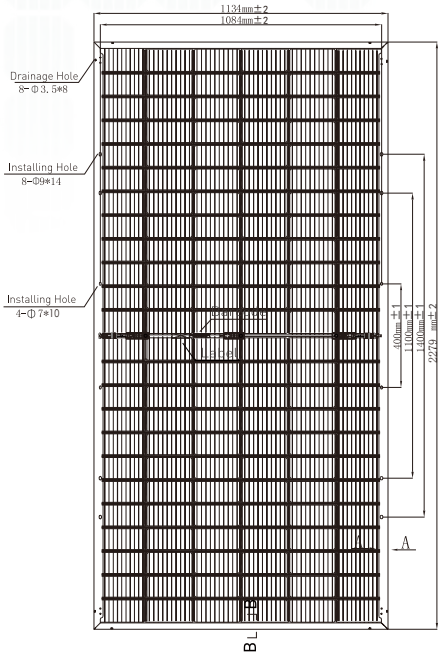
Packaging Configuration

Module per box	36 pieces
Module per 40' container	720 pieces

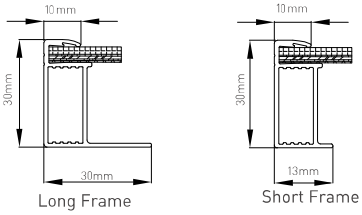
Optional

Connector	MC Original

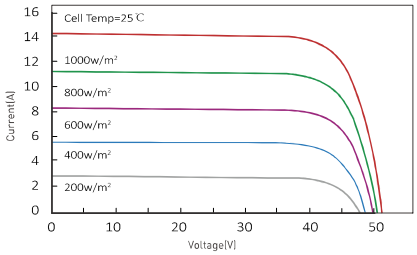
Module Dimension



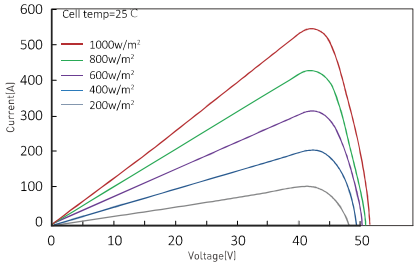
Back View



I-V Curve at Different Temperature (575W)



I-V/P-V Curve at Different Irradiation (575W)



Greensun Solar Energy Tech Co., Limited
Web: www.greensunpv.com
Tel: +86 187 1510 8506 Email: manager@greensunpv.com