

**SiRo T Efficient**



NT12R/66GDF

**630-650W**

N-type Bifacial Double Glass Module

**TOPCon<sup>2.0</sup>  
Tech**

Designed with TOPCon 2.0 technology for  
higher power output and long-term reliability

Low degradation ensures reliable  
output over the module's lifetime

High bifaciality for superior rear-side  
power output

Excellent temperature coefficient ensures  
power generation in high temperature areas

Enhanced low-light response ensures  
stable output under low-light conditions

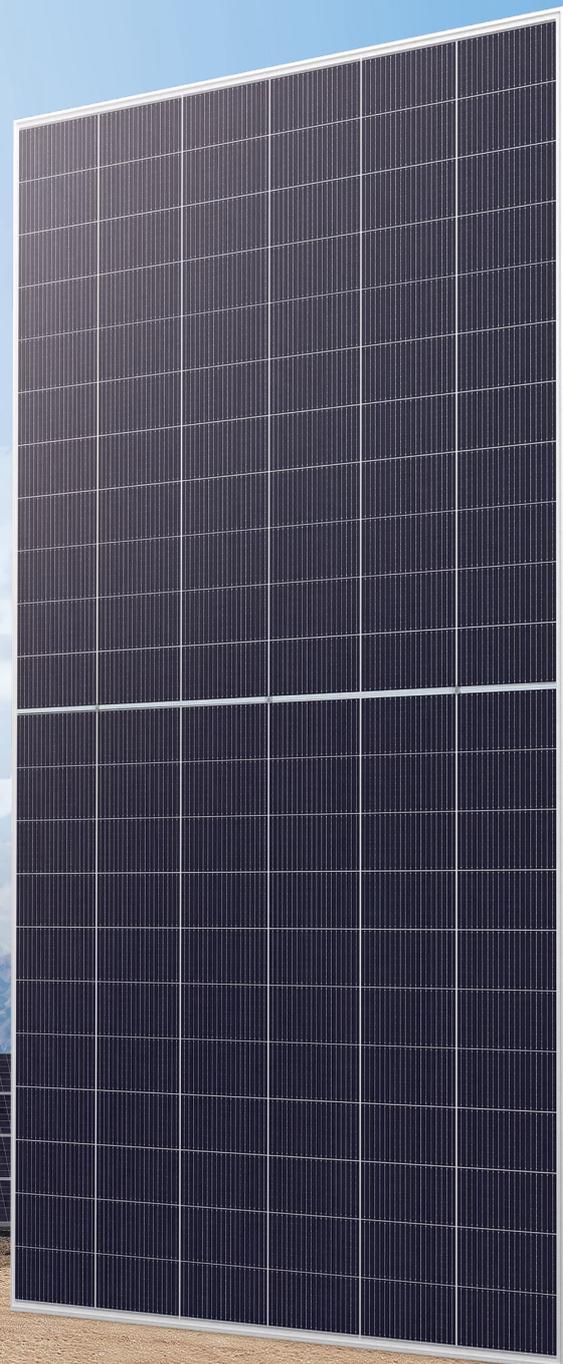
Sound quality management and  
product certification system

IEC61215 IEC61730

ISO9001: Quality Management System

ISO14001: Environmental Management System

ISO45001: Occupational Health and Safety Management System

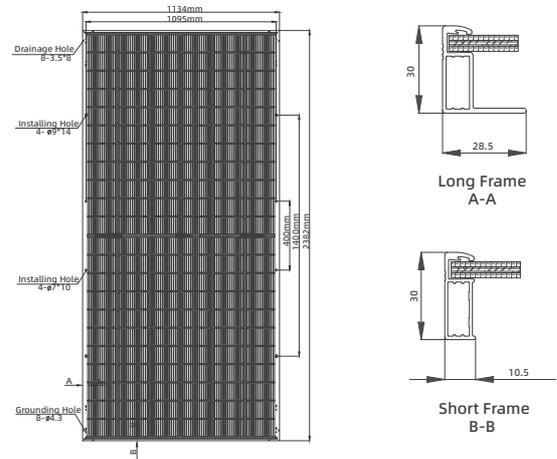


## Mechanical Data

Cell Type	N-Type Monocrystalline Solar Cell
Number of Cells	132 Cells (6×22)
Dimensions of Module	2382×1134×30mm (93.78×44.65×1.18 inches)
Weight	32.5 kg
Front/Back Side Glass	2.0mm (0.08 inches), Heat strengthened glass
Frame	Anodized aluminium alloy
J-Box	IP68 Rated, 3 diodes
Cable	4.0mm <sup>2</sup> , +300/-200mm (length can be customized)
Connector	GCL-01/GCL-02/MC4-EVO2/others
Packaging Configuration	Module per box: 36 pieces Module per 40' HQ: 720 pieces

## Module Dimension

Tolerance: Length:±2mm Width:±2mm



## Electrical Specification (STC\*)

\* Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass 1.5

		630	635	640	645	650
Maximum Power	Pmax (W)	630	635	640	645	650
Maximum Power Voltage	Vmp(V)	41.31	41.50	41.72	41.94	42.15
Maximum Power Current	Imp (A)	15.25	15.30	15.34	15.38	15.42
Open Circuit Voltage	Voc (V)	48.70	48.88	49.15	49.40	49.65
Short Circuit Current	Isc (A)	16.05	16.13	16.17	16.21	16.25
Module Efficiency	(%)	23.32	23.51	23.69	23.88	24.06
Power Output Guarantee	(%)	0~+3				
Temperature Coefficient of Isc	(Isc)	+0.045%/°C				
Temperature Coefficient of Voc	(Voc)	-0.25%/°C				
Temperature Coefficient of Pmax	(Pmax)	-0.29%/°C				

## Electrical Characteristics with Different Power Bin (Reference to 10% Irradiance Ratio)

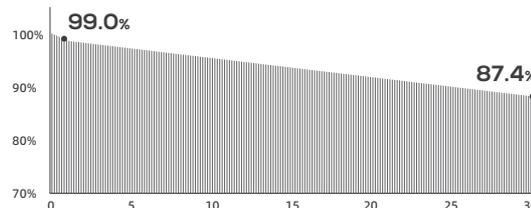
		680.4	685.6	691.3	696.6	701.8
Maximum Power	Pmax (W)	680.4	685.6	691.3	696.6	701.8
Maximum Power Voltage	Vmp(V)	41.31	41.50	41.72	41.94	42.15
Maximum Power Current	Imp (A)	16.47	16.52	16.57	16.61	16.65
Open Circuit Voltage	Voc (V)	48.70	48.88	49.15	49.40	49.65
Short Circuit Current	Isc (A)	17.33	17.42	17.46	17.51	17.55

## Application Conditions

Operational Temperature	-40~+85°C
Maximum System Voltage	1500V DC
Max Series Fuse Rating	35A
Wind/ Snow Load	2400Pa/5400Pa*
Bifaciality	80±5%

\*For more details please check the installation manual of GCLSI

## Linear Performance Warranty



**12** year  
Product warranty

**30** year  
Linear power warranty

**1%**  
First year power attenuation

**0.40%**  
Annual degradation over  
30 years