

SiRo  **Efficient**



NT12R/66GDF

630-650W

N-type Bifacial Double Glass Module

TOPCon ^{2.0}
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

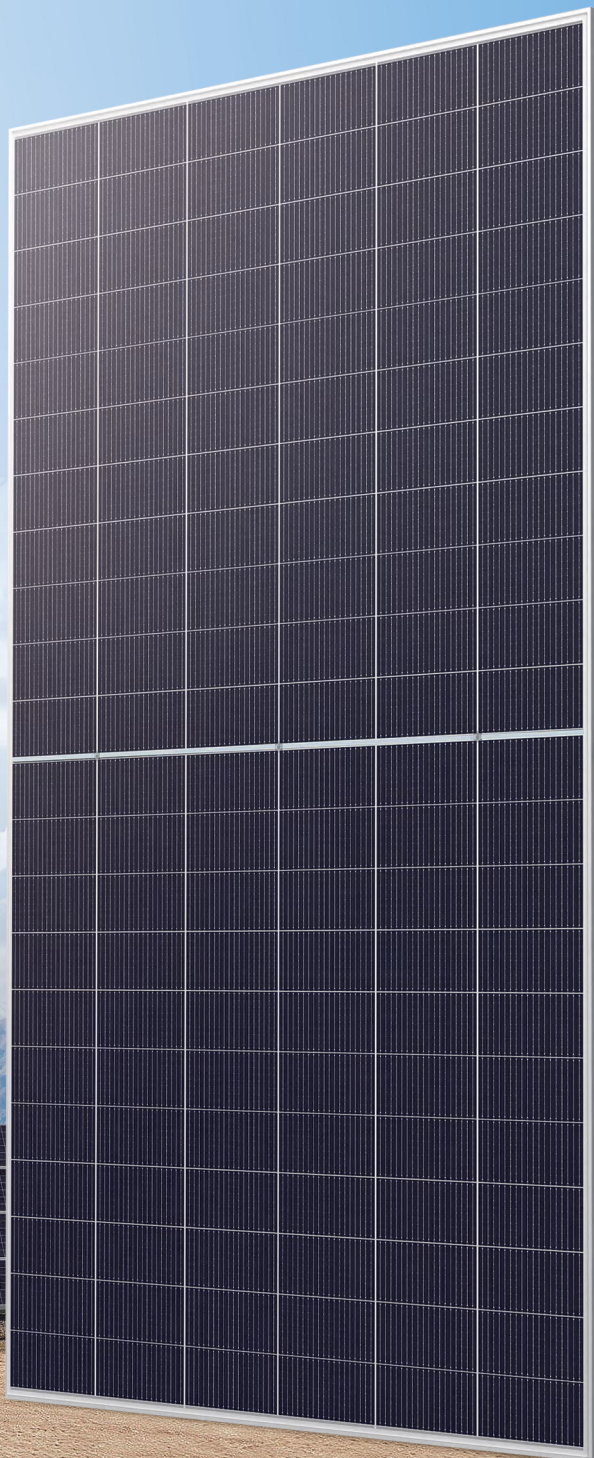
Sound quality management and
product certification system

IEC61215 IEC61730

ISO9001: Quality Management System

ISO14001: Environmental Management System

ISO45001: Occupational Health and Safety Management System

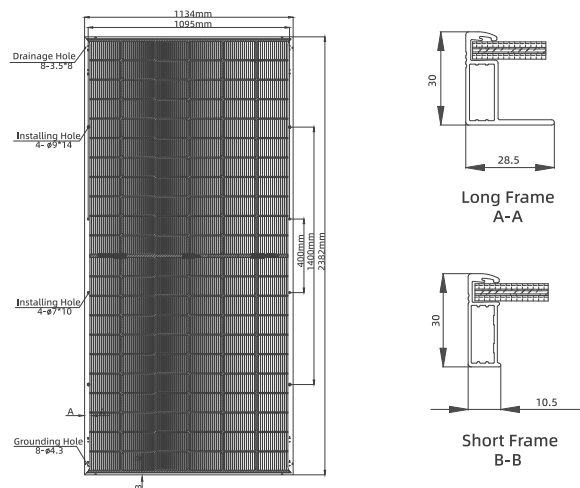


Mechanical Data

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 ² , +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/m², Cell Temperature 25°C, Air Mass 1.5

Maximum Power	P _{max} (W)	630	635	640	645	650
Maximum Power Voltage	V _{mp} (V)	41.31	41.50	41.72	41.94	42.15
Maximum Power Current	I _{mp} (A)	15.25	15.30	15.34	15.38	15.42
Open Circuit Voltage	V _{oc} (V)	48.70	48.88	49.15	49.40	49.65
Short Circuit Current	I _{sc} (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 I _{sc}	(I _{sc})	+0.045%/°C				
Temperature Coefficient of V _{oc}	(V _{oc})	-0.25%/°C				
Temperature Coefficient of P _{max}	(P _{max})	-0.29%/°C				

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

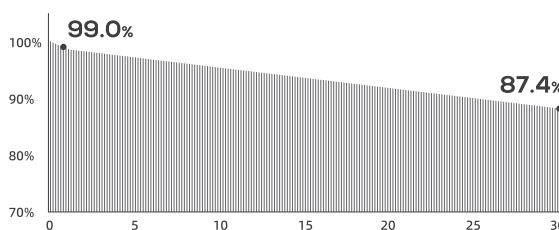
Maximum Power	P _{max} (W)	680.4	685.6	691.3	696.6	701.8
Maximum Power Voltage	V _{mp} (V)	41.31	41.50	41.72	41.94	42.15
Maximum Power Current	I _{mp} (A)	16.47	16.52	16.57	16.61	16.65
Open Circuit Voltage	V _{oc} (V)	48.70	48.88	49.15	49.40	49.65
Short Circuit Current	I _{sc} (A)	17.33	17.42	17.46	17.51	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 warranty30 year
Linear power warranty1%
First year power attenuation0.40%
Annual degradation over
30 years