SiRo T Efficient

GCL

GCL-NT12R/66GDF
615-640W

N-type Bifacial Double Glass Module

TOPCon



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

The product has obtained:
IEC61215 /IEC61730
Manufacturer has been certified :
ISO 9001:2015:Quality management systems
ISO 14001:2015: Environmental management systems
ISO 45001:2018:Occupational health and safety management systems

NT12R/66GDF | TOPCon

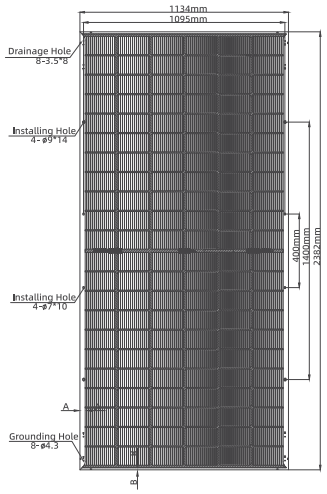
Maximum Power Output **640W** | Maximum Module Efficiency **23.69%**

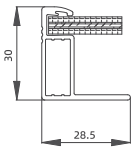
Mechanical Data

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 Side Glass	2.0mm (0.08 inches), Anti-Reflection Coating
Back Side Glass	2.0mm (0.08 inches), Heat strengthened glass
Frame	Anodized aluminium alloy
J-Box	IP68 Rated, 3 diodes
Cable	4.0mm², +300/-200mm (length can be customized)
Connector	GCL-01/GCL-02/Others
Packaging Configuration	Module per box: 36 pieces Module per 40' HQ: 720 pieces

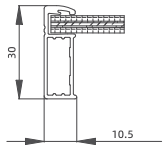
Module Dimension

Tolerance: Length:±2mm Width:±2mm





Long Frame
A-A



Short Frame
B-B

Electrical Specification (STC*)

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

Maximum Power	Pmax (W)	615	620	625	630	635	640
Maximum Power Voltage	Vmp(V)	40.73	40.93	41.12	41.31	41.50	41.72
Maximum Power Current	Imp (A)	15.10	15.15	15.20	15.25	15.30	15.34
Open Circuit Voltage	Voc (V)	48.25	48.40	48.55	48.70	48.88	49.15
Short Circuit Current	Isc (A)	15.90	15.95	16.00	16.05	16.13	16.17
Module Efficiency	(%)	22.77	22.95	23.14	23.32	23.51	23.69
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)

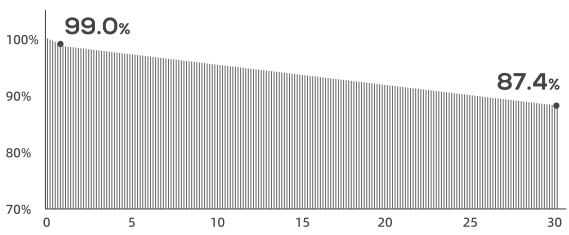
Maximum Power	Pmax (W)	664.3	669.6	675.2	680.4	685.6	691.3
Maximum Power Voltage	Vmp(V)	40.73	40.93	41.12	41.31	41.50	41.72
Maximum Power Current	Imp (A)	16.31	16.36	16.42	16.47	16.52	16.57
Open Circuit Voltage	Voc (V)	48.25	48.40	48.55	48.70	48.88	49.15
Short Circuit Current	Isc (A)	17.17	17.23	17.28	17.33	17.42	17.46

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

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