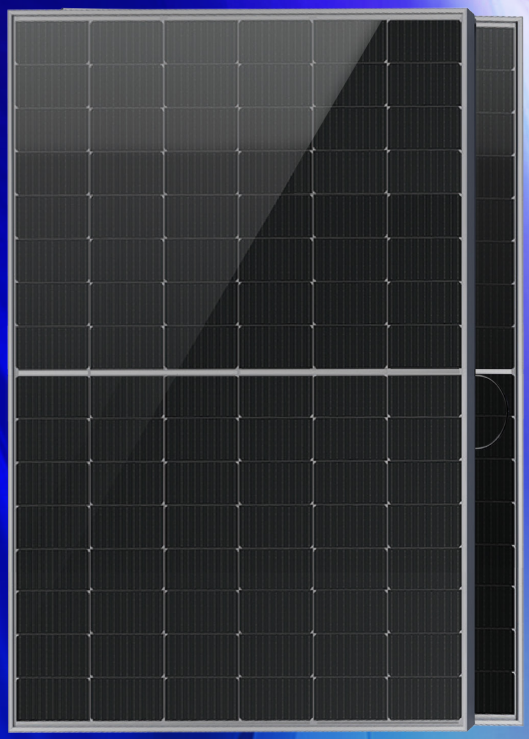
HT 210R TOPCon

Bifacial Series

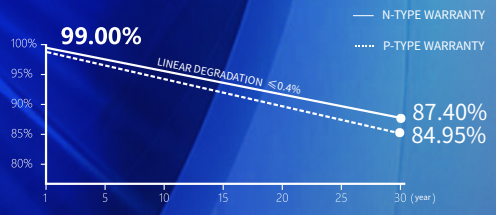
HYSOLAR

435~455W

HY-NT11/48GDF



- Module Efficiency up to 22.8%
- Zero LID
- SMBB + Half-cell tech, reduce internal current loss, improve module efficiency, minimize micro-crack impacts, and improve module reliability
- Non-destructive Slicing Tech, reduce micro-crack risk
- Lower temperature coefficient (-0.29%/°C), lower operating temperature, increase the power generation
- Excellent low irradiance performance, higher power output
- Bifaciality rate up to 80-85%, and up to 30% power gain from back side (depending on albedo)
- Resistant to harsh environments
- Anti PID
- More energy yield, lower BOS and LCOE



- 30-YEAR PRODUCT WORKMANSHIP WARRANTY
- 30-YEAR LINEAR POWER WARRANTY

Subject to the terms and conditions contained in the applicable HY Solar Limited Warranty Statement. Also this 30-year limited product warranty is available only for products installed and operating on residential rooftops in certain regions.

Comprehensive Products and System Certificates

IEC 61215, IEC 61730
ISO 9001:2015 Quality management systems
ISO 14001:2015 Environmental management systems
ISO 45001:2018 Occupational health and safety management systems

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Electrical performance parameters

*STC: Irradiance 1000W/m², Cell Temperature 25° C, AM=1.5

Rated output (Pmpp / Wp)	435	440	445	450	455
Rated voltage (Vmpp / V)	29.26	29.46	29.66	29.86	30.06
Rated current (Impp /A)	14.87	14.94	15.01	15.08	15.14
Open circuit voltage (Voc / V)	34.84	35.04	35.24	35.44	35.64
Short-circuit current (Isc /A)	15.76	15.83	15.90	15.97	16.02
Module efficiency	21.8%	22.0%	22.3%	22.5%	22.8%
Power tolerance	0~+5W				

NMOT: Irradiance 800W/m², Ambient Temperature 20° C, AM=1.5, Wind Speed 1m/s

Rated output (Pmpp / Wp)	332.0	336.1	340.2	344.3	348.5
Rated voltage (Vmpp / V)	27.44	27.64	27.84	28.04	28.24
Rated current (Impp /A)	12.10	12.16	12.22	12.28	12.34
Open circuit voltage (Voc / V)	32.93	33.13	33.33	33.53	33.73
Short-circuit current (Isc /A)	12.71	12.77	12.83	12.89	12.95

Different rear power gains

(440W as an example)

Power gains	Pmpp/ Wp	Vmpp/V	Impp/A	Voc / V	Isc/A
5%	462	29.46	15.68	35.04	16.62
15%	506	29.46	17.18	35.04	18.20
25%	550	29.46	18.67	35.04	19.79

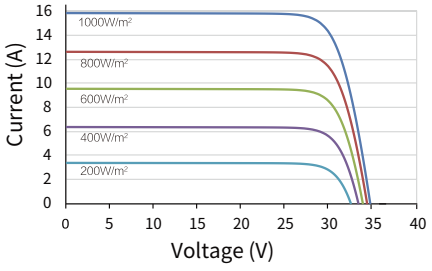
Temperature coefficient

Temperature coefficient (Pmpp)	-0.29%/°C
Temperature coefficient (Isc)	+0.043%/°C
Temperature coefficient (Voc)	-0.24%/°C
Nominal module operating temperature (NMOT)	42±2°C

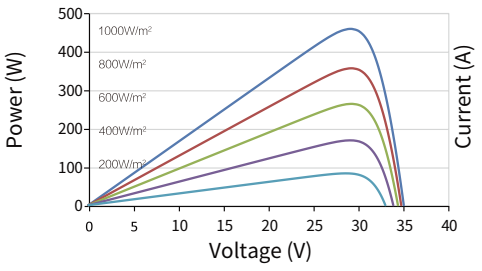
Operating parameters

Max. system voltage (IEC)	1500V$_{DC}$
Number of diodes	3
Junction box protection rating	IP 68
Max. series fuse rating	30 A
Operational temperature	-40~+85°C
Bifaciality rate	80±5%

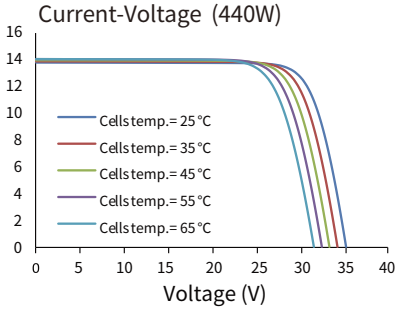
Current-Voltage (440W)



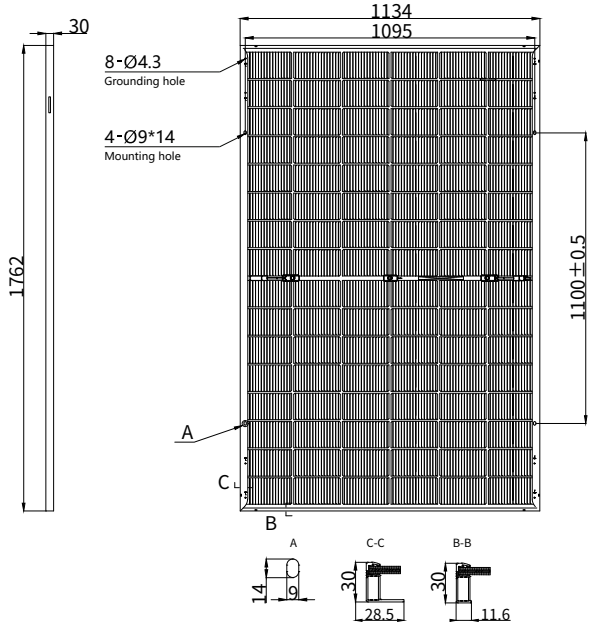
Power-Voltage (440W)



Current-Voltage (440W)



Mechanical parameters



Outer dimensions (L x W x H)	1762×1134×30mm
Cell	N type mono-crystalline
Number of cells	96 (6*16)
Frame Type	Aluminum, silver anodized
Glass thickness	1.6+1.6 mm
Cable length (including connector)	Portrait: (+)300 mm,(-)300 mm; Customized length
Cable cross-sectional area (IEC)	4 mm² / 12 AWG
①Maximum test mechanical load	5400Pa (front) /2400Pa(rear)
Connector type (IEC)	PV-HYC11xyz(standard)/MC4 EVO2(optional)
Module weight	21.0 kg
Packaging unit	36 pcs / box
Weight of packing unit	802 kg / box
Modules per 40' HQ container	936 pcs

① Please refer to the installation manual or contact us to confirm.
The maximum test mechanical load = 1.5× maximum design mechanical load.

*The data above is for reference only and the actual data is in accordance with the pratical testing. Power Measurement Tolerance ±3% under STC standard.