

N⁺ series

All-Black Solar Panels - 48

440-455W

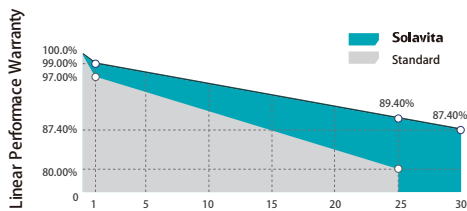
QUALITY SYSTEM

IEC 61215(2021), IEC 61730(2018)

ISO 9001:2015: Quality management systems

ISO 14001:2015: Environmental management systems

ISO 45001:2018: Occupational health and safety management systems



15 YEARS 15-year product warranty

30 YEARS 30-year linear power output warranty

0.4% Year 2-30 power degradation



KEY FEATURES



Bifacial Energy Yield | N-type Silicon Wafer

Additional power generation from the backside of bifacial modules increases the overall energy yield



Better low irradiance response

Superior power generation under shading conditions



Improvement in power generation performance

Conversion efficiency reached 22.78%



Highly Anti PID

linear power warranty with first year $\leq 1\%$ degradation and an annual degradation rate of up to 0.4% after that.

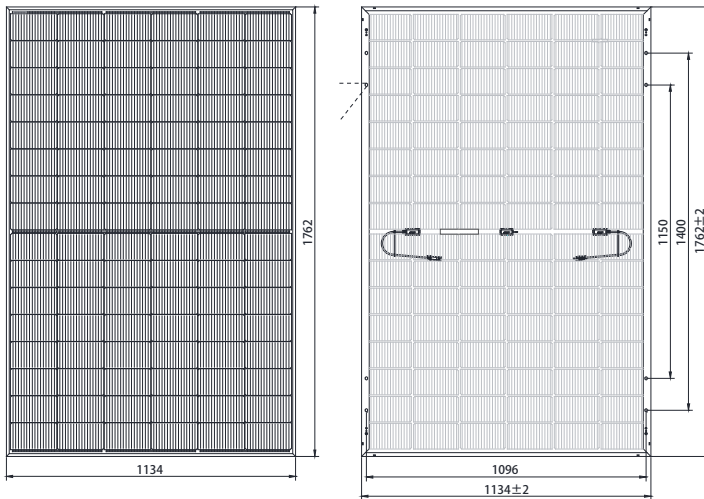


Mechanical load enhancement

Maximum wind load (2400Pa) / Maximum snow load (5400Pa)



Technical drawing



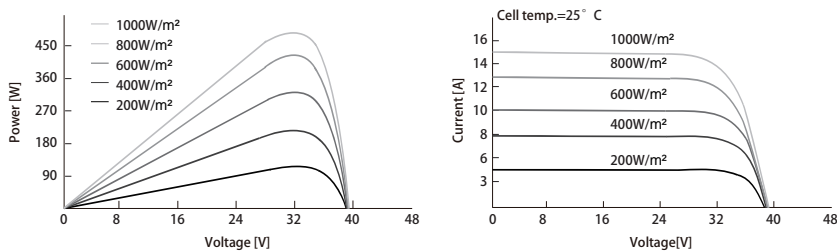
Mechanical Specifications

Solar Cells	96 (48×2)
Dimension	1762×1134×30mm
Weight	24.2kg
Front Glass	2.0mm tempered Glass, high transparency
Back Glass	2.0mm heat-tempered glass
Frame	anodized aluminium alloy
Junction Box	IP68 / 3 diodes
Output Cables	4mm ² / +300mm -300mm (Customized Length)

Electrical Characteristics

Module Type	QM210THCD440-48	QM210THCD445-48	QM210THCD450-48	QM210THCD455-48
	STC	STC	STC	STC
Maximum Power [W]	440	445	450	455
Maximum Power Voltage [V]	29.50	29.70	29.90	30.10
Maximum Power Current [A]	14.92	14.99	15.06	15.12
Open circuit voltage [V]	34.98	35.19	35.40	35.59
Short Circuit Current [A]	15.98	16.06	16.14	16.22
Module Efficiency [%]	22.03	22.28	22.54	22.78
Operating Temperature	-40°C~+85°C			
Maximum System Voltage	DC1500V			
Maximum Series Fuse Rating	25A			
Power Tolerance[W]	0~+5W			
Voc Temperature Coefficient	-0.28%/°C			
Pmax Temperature Coefficient	-0.29%/°C			
Isc Temperature Coefficient	0.04%/°C			
Nominal Operating Cell Temperature	45±2°C			

Characteristic



Level

Fire Performance	C
Security Protection	Class II

Packing Configuration

Pallet	36pcs/Pallet
Container	936pcs/40HQ Container