



SKYWORTH
Make Every Ray of Sunshine Count

All-Black Solar Panels-48 435-460W



Highly Anti PID

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



Better low irradiance response

Superior power generation under shading conditions



Highly reliable

15-year product warranty, 30-year linear power output warranty



Improvement in power generation performance

Conversion efficiency up to 22.5%



Bifacial Energy Yield | N-type Silicon Wafer

Bifacial rate of up to 80%, module additional power generation of up to 10% over regular modules

QUALITY SYSTEM

IEC 61215(2021), IEC 61730(2018)

ISO 9001:2015: Quality management systems

ISO 14001:2015: Environmental management systems

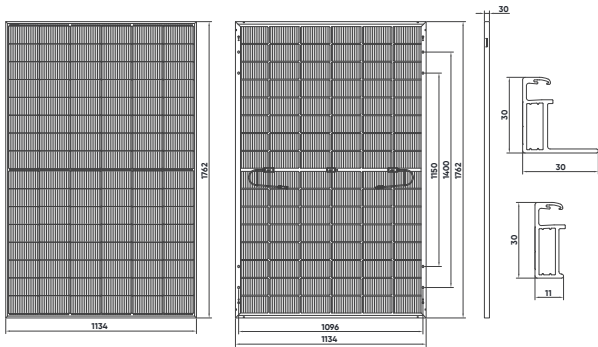
ISO 45001:2018: Occupational health and safety management systems

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Electrical Characteristics

Module Type	QM210R THCDH-435-48	QM210R THCDH-440-48	QM210R THCDH-445-48	QM210R THCDH-450-48	QM210R THCDH-455-48	QM210R THCDH-460-48
	STC	STC	STC	STC	STC	STC
Maximum Power[W]	435	440	445	450	455	460
Maximum Power Voltage[V]	29.55	29.85	30.15	30.45	30.72	31.00
Maximum Power Current[A]	14.72	14.74	14.76	14.78	14.81	14.84
Open circuit voltage[V]	35.08	35.38	35.68	35.98	36.32	36.66
Short Circuit Current[A]	15.46	15.48	15.50	15.52	15.53	15.54
Module Efficiency	21.8%	22.0%	22.3%	22.5%	22.8%	23.0%
Operating Temperature	-40°C~+85°C					
Maximum System Voltage	DC 1500V					
Maximum Series Fuse Rating	35A					
Power Tolerance[W]	0~+5W					
Voc Temperature Coefficient	-0.25%/°C					
Pmax Temperature Coefficient	-0.29%/°C					
Isc Temperature Coefficient	0.045%/°C					
Nominal Operating Cell Temperature	45±2°C					

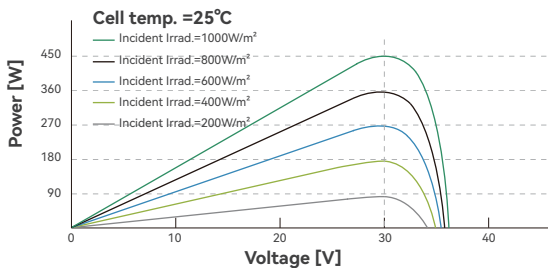
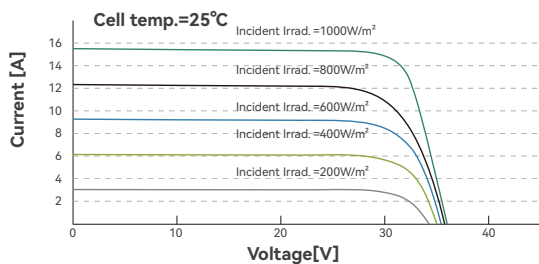
Technical drawing



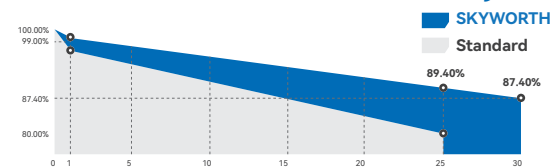
Mechanical Specifications

Solar Cells	96(48×2)
Dimension	1762×1134×30mm
Weight	24.5kg
Front Glass	2.0mm AR coated heat strengthened-Glass
Back Glass	2.0mm heat strengthened-Glass
Frame	Anodized aluminium alloy
Junction Box	IP68 / 3 diodes
Output Cables	4mm²(IEC),+1200mm/-1200mm or customiz
Bifaciality	80%±5%

Characteristic



Linear Performance Warranty



15 YEARS 15-year product warranty
30 YEARS 30-year linear power output warranty
0.4% year 2-30 power degradation

Level

Fire Performance	C
Security Protection	Class II

Packing Configuration

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

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