

HY-WH96N11

440-460W

23.0%

Max. Efficiency

N-Type

Monofacial & Single Glass

96 Pieces

Half-Cell



Leading Technology

Based on n-type cell and 210R technology platform; Advanced design and manufacturing process; Industry leading reliability and efficiency of mass production



Higher Reliability, Higher Power

Lower temperature coefficient and better low light performance; Unsusceptible to LID, LeTID and lower PID degradation; High-barrier backsheets to be better resistant to damp and heat aging; Long-term reliability and power output guaranteed



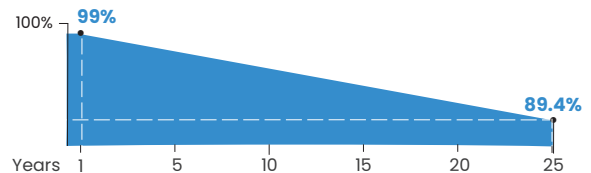
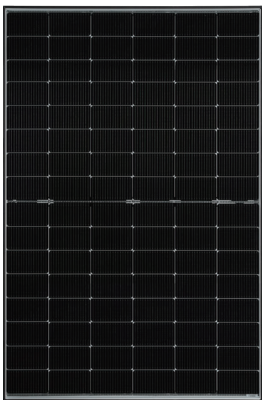
Lighter Weight Yet Resilient

Mono glass design, 15% lower in weight compared with dual glass, thickened fully tempered front glass to be resistant to 55mm hails with 33.9m/s strike



Stringent Quality Control

Durable product structure; Stringent quality control system; Guaranteed after-sales service to ensure long-term reliability



Runergy N-Type Single Glass Product Performance Warranty

• 1st year degradation <1%, annual degradation <0.4%



12-year product warranty



25-year linear power warranty

IEC61215 / IEC61730 / UL61730 / IEC61701 / IEC62716 / IEC60068 / ISO9001 / ISO14001 / ISO45001



www.runergy.com
sales-inform@runergy.com

Mechanical Parameters		Unit: mm (inch)
Solar Cell	Mono N-Type 182*210mm	
No. of Cells	96 (6 × 16)	
Dimensions	1762 × 1134 × 30mm (69.37 × 44.65 × 1.18in)	
Weight	21.2kg (46.7lbs)	
Junction Box	IP68 rated (3 bypass diodes)	
Output Cable	4mm² (IEC), 12 AWG (UL) ±1200mm (47.24in.) or customized	
Connector	MC4-EVO2 or similar	
Front Cover	3.2mm AR coated fully tempered glass	
Back Cover	White backsheet	
Frame	Black-anodized aluminum	
Container	36 pcs/pallet, 936 pcs/40' HQ (Global) ,864 pcs/40' HQ (US)	

Operating Parameters	
Max. System Voltage	DC 1500V (IEC/UL)
Operating Temperature	-40℃ ~ +85℃ (-40°F ~ +185°F)
Max. Fuse Rating	30A
Frontside Max. Loading	5400Pa (112lb/ft²)
Backside Max. Loading	2400Pa (50lb/ft²)
Hail test	55mm, 33.9 m/s
Fire Resistance	IEC Class C/ UL type 1

Electrical Characteristics - STC	Irradiance 1000 W/m², cell temperature 25 °C, AM-1.5, Test uncertainty for Pmax: ±3%				
Maximum Power at STC(Pmax/W)	460	455	450	445	440
Power Tolerance (W)	0 ~ +5				
Optimum Operating Voltage (Vmp/V)	29.70	29.57	29.44	29.30	29.16
Optimum Operating Current (Imp/A)	15.49	15.39	15.29	15.19	15.09
Open Circuit Voltage (Voc/V)	35.52	35.39	35.26	35.12	34.98
Short Circuit Current (Isc/A)	16.23	16.15	16.07	15.99	15.91
Module Efficiency	23.0%	22.8%	22.5%	22.3%	22.0%

Electrical Characteristics - NMOT	Irradiance 800 W/m², ambient temperature 20 °C, AM-1.5, wind speed 1 m/s.				
Maximum Power at NMOT (Pmax/W)	352	349	345	341	337
Optimum Operating Voltage (Vmp/V)	28.44	28.31	28.19	28.05	27.92
Optimum Operating Current (Imp/A)	12.39	12.31	12.23	12.15	12.07
Open Circuit Voltage (Voc/V)	34.01	33.89	33.76	33.63	33.49
Short Circuit Current (Isc/A)	13.08	13.02	12.95	12.89	12.83

Warranty	
Product Workmanship Warranty	15 Years
Linear Power Output Warranty	25 Years
First Year Degradation	1%
Annual Power Degradation	0.4%

Temperature Characteristics	
Nominal Module Operating Temperature	42 ± 2 °C
Nominal Cell Operating Temperature	45 ± 2 °C
Temperature Coefficient of Pmax	-0.29%/°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Isc	0.045%/ °C

