

RUNERGY

TIER 1 HY-DH120N8 **465-485W**

22.4% Max. Efficiency **N-Type** Bifacial & Dual Glass **120 Pieces** Half-Cell

High Conversion Efficiency

Module efficiency up to 22.4% based on N-Type wafer and advanced N-Type cell technology

Excellent Energy Yield

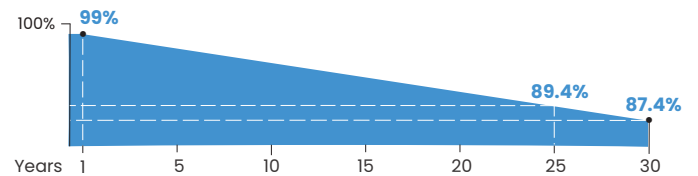
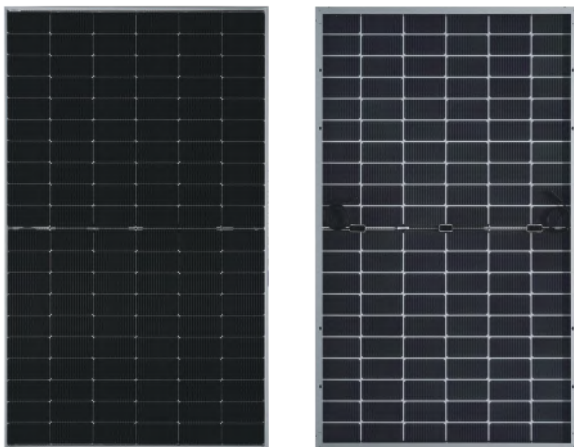
More power output in field operation due to better thermal behaviors, weak-light performance and bifaciality

Outstanding Anti-degradation

Unsusceptible to LID, LeTID and less annual degradation due to special characteristics of N-Type

Quality Guarantee

High module quality ensures long-term reliability



Runergy N-Type Dual Glass Product Performance Warranty

- **30 Years** warranty for materials and workmanship
- **30 Years** warranty for extra linear power output
- 1st year < **1%**, annual degradation < **0.4%**

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



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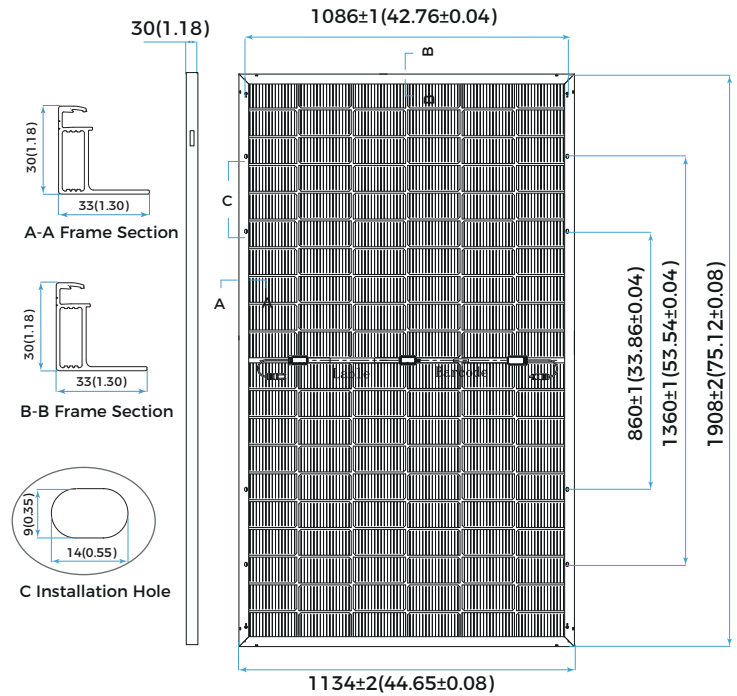
Unit: mm(inch)

Mechanical Parameters

Solar Cell	Mono N-Type 182mm
No. of Cells	120 (6 × 20)
Dimensions	1908 × 1134 × 30mm(75.12× 44.65 × 1.18in.)
Weight	26.5kg(58.42lbs)
Junction Box	IP68 rated (3 bypass diodes)
Output Cable	4mm ² (IEC), 12 AWG(UL) ±1200mm(47.24in.) or customized
Connector	RY01 or similar
Front Cover	2.0mm (0.079in.)semi-tempered AR glass
Back Cover	2.0mm (0.079in.)semi-tempered glass
Frame	Aluminum, silver/black anodized
Container	36 pcs/Pallet, 864 pcs/40' HQ

Operating Parameters

Max. System Voltage	DC 1500V (IEC/UL)
Operating Temperature	-40°C ~ +85°C(-40°F ~ +185°F)
Max. Fuse Rating	30A
Frontside Max. Loading	5400Pa(112lb/ft ²)
Backside Max. Loading	2400Pa(50lb/ft ²)
Bifaciality	80%±10%
Fire Resistance	IEC Class A



Electrical Characteristics - STC

Irradiance 1000 W/m², cell temperature 25 °C, AM1.5, Test uncertainty for Pmax: ±3%

	485	480	475	470	465
Maximum Power at STC (Pmax/W)	485	480	475	470	465
Power Tolerance (W)	0 ~ +5				
Optimum Operating Voltage (Vmp/V)	36.66	36.51	36.35	36.19	36.02
Optimum Operating Current (Imp/A)	13.23	13.15	13.07	12.99	12.91
Open Circuit Voltage (Voc/V)	43.28	43.11	42.93	42.75	42.56
Short Circuit Current (Isc/A)	13.84	13.77	13.70	13.63	13.56
Module Efficiency	22.4%	22.2%	22.0%	21.7%	21.4%

Electrical Characteristics - NMOT

Irradiance 800 W/m², ambient temperature 20 °C, AM1.5, wind speed 1 m/s.

	371.5	367.7	363.9	360.0	356.1
Maximum Power at NMOT (Pmax/W)	371.5	367.7	363.9	360.0	356.1
Optimum Operating Voltage (Vmp/V)	35.10	34.96	34.81	34.65	34.49
Optimum Operating Current (Imp/A)	10.58	10.52	10.45	10.39	10.33
Open Circuit Voltage (Voc/V)	41.44	41.28	41.11	40.93	40.75
Short Circuit Current (Isc/A)	11.16	11.10	11.04	10.99	10.93

Rearside Power Gain (Reference to 485W Front)

	5%	15%	25%
Rearside Power Gain	5%	15%	25%
Maximum Power (Pmax/W)	509	558	606
Optimum Operating Voltage (Vmp/V)	36.66	36.76	36.76
Optimum Operating Current (Imp/A)	13.89	15.17	16.49
Open Circuit Voltage (Voc/V)	43.28	43.38	43.38
Short Circuit Current (Isc/A)	14.53	15.88	17.26
Module Efficiency	23.5%	25.8%	28.0%

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

