

# RUNERGY

**TIER 1** HY-DH108N8

# 415-435W

**22.3%**

Max. Efficiency

**N-Type**

**Bifacial & Dual Glass**

**108 Pieces**

Half-Cell



## High Conversion Efficiency

Module efficiency up to 22.3% 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



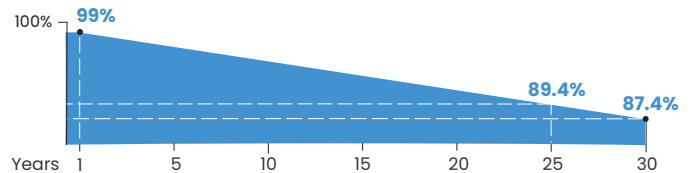
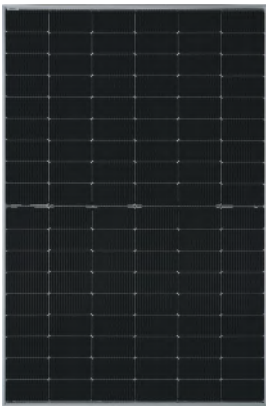
## Outstanding Anti-degradation

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

- **15 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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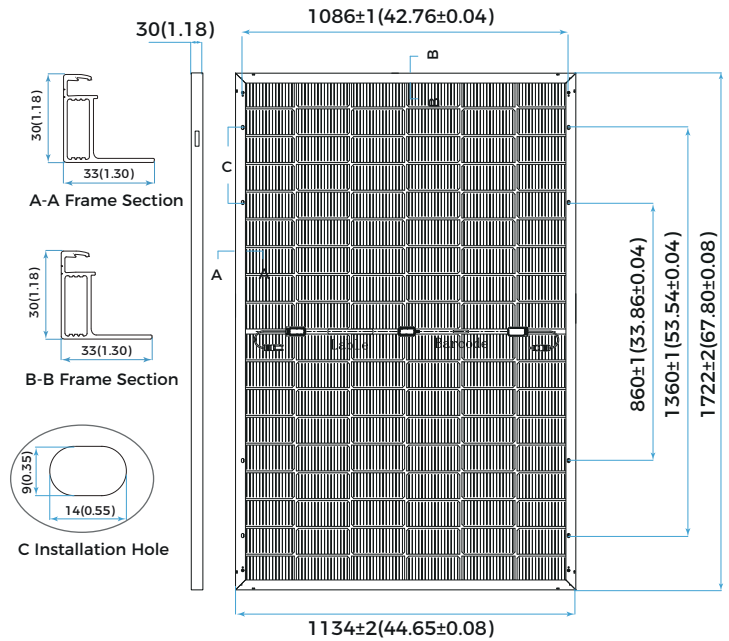
Unit: mm(inch)

## Mechanical Parameters

Solar Cell	Mono N-Type 182mm
No. of Cells	108 (6 × 18)
Dimensions	1722 × 1134 × 30mm(67.80 x 44.65 x 1.18in)
Weight	24.2kg(53.35lbs)
Junction Box	IP68 rated (3 bypass diodes)
Output Cable	4mm <sup>2</sup> (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, 936 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 <sup>2</sup> )
Backside Max. Loading	2400Pa(50lb/ft <sup>2</sup> )
Bifaciality	80%±10%
Fire Resistance	IEC Class A



## Electrical Characteristics - STC

Irradiance 1000 W/m<sup>2</sup>, cell temperature 25 °C, AM1.5, Test uncertainty for Pmax: ±3%

	435	430	425	420	415
Maximum Power at STC (Pmax/W)	435	430	425	420	415
Power Tolerance (W)	0 ~ +5				
Optimum Operating Voltage (Vmp/V)	33.03	32.85	32.67	32.49	32.30
Optimum Operating Current (Imp/A)	13.17	13.09	13.01	12.93	12.85
Open Circuit Voltage (Voc/V)	38.97	38.78	38.59	38.40	38.20
Short Circuit Current (Isc/A)	13.80	13.72	13.64	13.56	13.48
Module Efficiency	22.3%	22.0%	21.8%	21.5%	21.3%

## Electrical Characteristics - NMOT

Irradiance 800 W/m<sup>2</sup>, ambient temperature 20 °C, AM1.5, wind speed 1 m/s.

Maximum Power at NMOT (Pmax/W)	333.2	329.3	325.5	321.7	317.9
Optimum Operating Voltage (Vmp/V)	31.63	31.45	31.28	31.11	30.93
Optimum Operating Current (Imp/A)	10.53	10.47	10.41	10.34	10.28
Open Circuit Voltage (Voc/V)	37.31	37.13	36.95	36.77	36.58
Short Circuit Current (Isc/A)	11.12	11.06	11.00	10.93	10.87

## Rearside Power Gain (Reference to 430W Front)

Rearside Power Gain	5%	15%	25%
Maximum Power (Pmax/W)	452	495	538
Optimum Operating Voltage (Vmp/V)	32.85	32.95	32.95
Optimum Operating Current (Imp/A)	13.74	15.01	16.31
Open Circuit Voltage (Voc/V)	38.78	38.88	38.88
Short Circuit Current (Isc/A)	14.41	15.74	17.11
Module Efficiency	23.1%	25.3%	27.6%

## 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

