

# RUNERGY

HY-DH96N11B **Bifacial**

# 435-455W

**22.8%**

Max. Efficiency

**N-Type**

Bifacial & Dual 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



## High Power

Bifacial higher power output, lower temperature coefficient and better low light performance; Significantly enhanced power output and lower LCOE



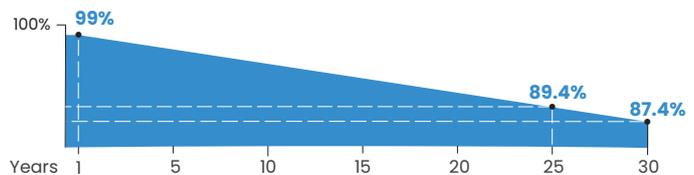
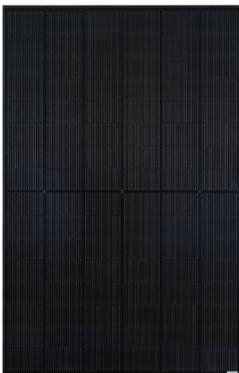
## Long-term Reliability

Unsusceptible to LID, LeTID and lower PID degradation; 5400Pa snow load, 2400Pa wind load, and 35mm hail-resistant with 27.2m/s strike



## Stringent Quality Control

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



Runergy N-Type Dual Glass Product Performance Warranty

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



12-year product warranty



30-year linear power warranty

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

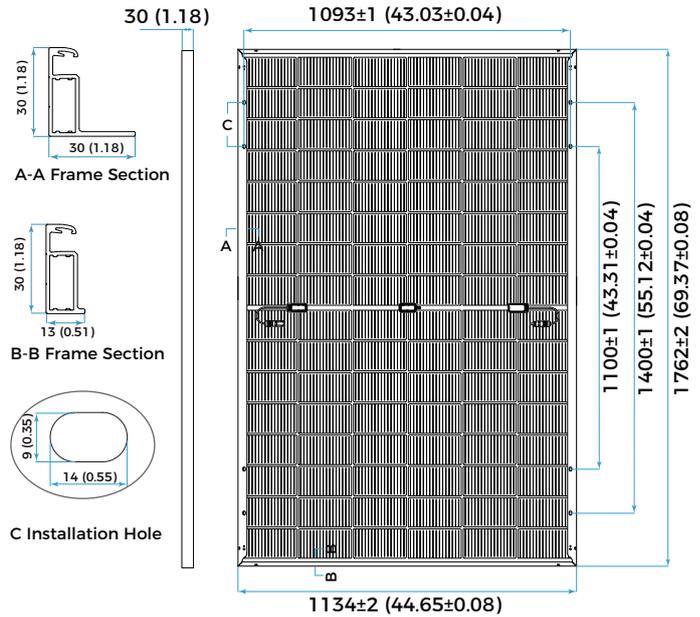


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Unit: mm (inch)

## Mechanical Parameters

Solar Cell	Mono N-Type 182*210mm
No. of Cells	96 (6 × 16)
Dimensions	1762 × 1134 × 30mm (69.37 x 44.65 x 1.18in)
Weight	25kg (55.12lbs)
Junction Box	IP68 rated (3 bypass diodes)
Output Cable	4mm <sup>2</sup> (IEC), 12 AWG (UL) ±1200mm (47.24in.) or customized
Connector	MC4-EVO2 or similar
Front Cover	2.0mm AR coated heat-strengthened glass
Back Cover	2.0mm heat-strengthened glass
Frame	Black-anodized aluminum
Container	36 pcs/pallet, 936 pcs/40' HQ (Global) ,756 pcs/40' HQ (US)



## Operating Parameters

Max. System Voltage	DC 1500V (IEC/UL)
Operating Temperature	-40°C ~ +85°C (-40°F ~ +185°F)
Max. Fuse Rating	35A
Front/Back Max. Loading	5400Pa (112lb/ft <sup>2</sup> )/2400Pa (50lb/ft <sup>2</sup> )
Bifaciality	80%±5%
Hail Test	35mm, 27.2 m/s.
Fire Resistance	IEC Class A/ UL Type 29

## Electrical Characteristics - STC

Irradiance 1000 W/m<sup>2</sup>, cell temperature 25 °C, AM-1.5, Test uncertainty for Pmax: ±3%

Maximum Power at STC (Pmax/W)	455	450	445	440	435
Power Tolerance (W)	0 ~ +5				
Optimum Operating Voltage (Vmp/V)	29.57	29.44	29.30	29.16	29.02
Optimum Operating Current (Imp/A)	15.39	15.29	15.19	15.09	14.99
Open Circuit Voltage (Voc/V)	35.39	35.26	35.12	34.98	34.84
Short Circuit Current (Isc/A)	16.15	16.07	15.99	15.91	15.83
Module Efficiency	22.8%	22.5%	22.3%	22.0%	22.0%

## Electrical Characteristics - BNPI

Irradiance: front 1000W/m<sup>2</sup>, rear 135W/m<sup>2</sup>, Cell temperature 25 °C, AM-1.5.

Maximum Power at BNPI (Pmax/W)	501	496	341	484	479
Optimum Operating Voltage (Vmp/V)	29.57	29.44	28.05	29.16	29.02
Optimum Operating Current (Imp/A)	16.94	16.83	12.15	16.61	16.50
Open Circuit Voltage (Voc/V)	35.48	35.35	33.63	35.07	34.93
Short Circuit Current (Isc/A)	17.80	17.72	12.89	17.54	17.45

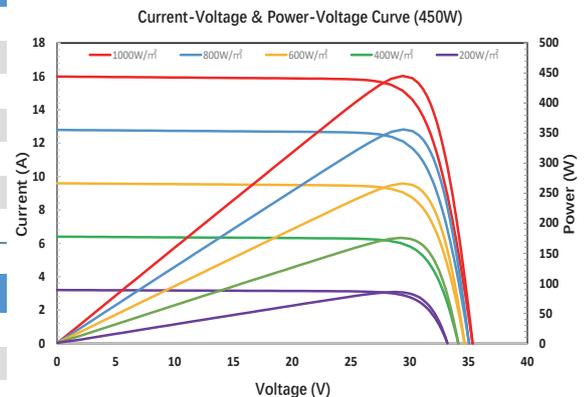
## Rearside Power Gain

(Reference to 450W Front)

Rearside Power Gain	5%	15%	25%
Maximum Power (Pmax/W)	473	518	563
Optimum Operating Voltage (Vmp/V)	29.50	29.54	29.57
Optimum Operating Current (Imp/A)	16.02	17.52	19.02
Open Circuit Voltage (Voc/V)	35.32	35.36	35.39
Short Circuit Current (Isc/A)	16.84	18.42	20.01
Module Efficiency	23.6%	25.9%	28.2%

## 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



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