

RUNERGY

HY-DH132N11 **Pro** **Turbo**

620-650W

24.1% Max. Efficiency **N-Type** Bifacial & Dual Glass **132 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

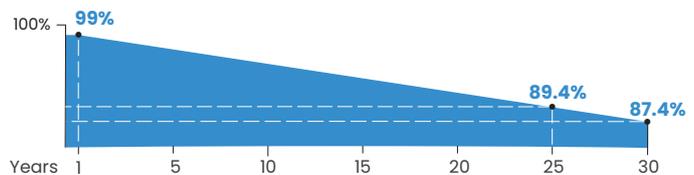
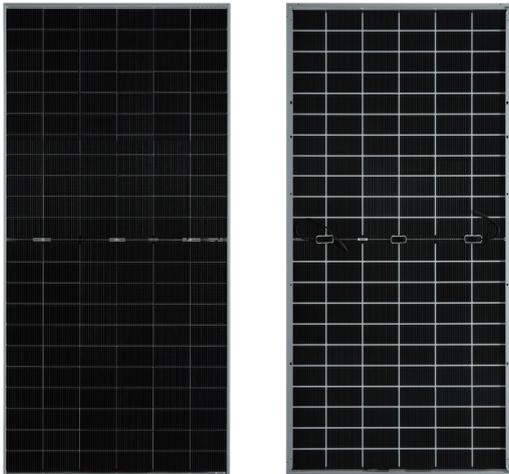
Bifacial higher power output, lower temperature coefficient and better low light performance; Significantly enhanced power output and lower LCOE

Enhanced Hail-resistance

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 Dual Glass Product Performance Warranty

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

12 12-year product warranty

30 30-year linear power warranty

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



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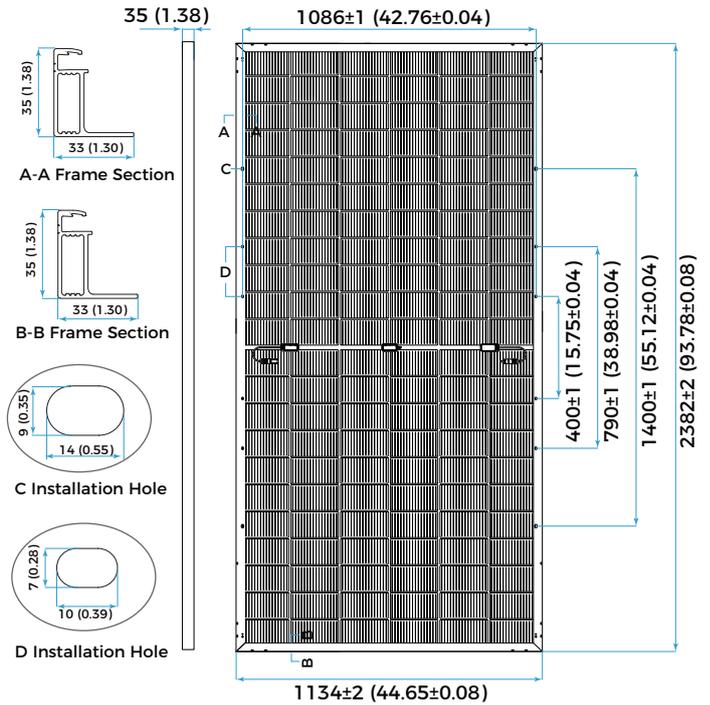
Unit: mm (inch)

Mechanical Parameters

Solar Cell	Mono N-Type 182*210 mm
No. of Cells	132 (6 × 22)
Dimensions	2382 × 1134 × 35mm (93.78 × 44.65 × 1.38in.)
Weight	41.0kg (90.39lbs)
Junction Box	IP68 rated (3 bypass diodes)
Output Cable	4mm ² (IEC), 12 AWG(UL) +400/-200mm (+15.75/-7.87in.) or customized
Connector	RY01 or similar
Front Cover	3.2mm AR coated fully tempered glass
Back Cover	2.0mm heat-strengthened glass
Frame	Silver-anodized aluminum
Container	31 pcs/pallet, 558 pcs/40' HQ (Global), 434 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	6000Pa (112lb/ft ²)/3600Pa (50lb/ft ²)
Bifaciality	80%±5%
Hail Test	55mm, 33.9 m/s.
Fire Resistance	IEC Class A/ UL Type 29



Electrical Characteristics - STC

Irradiance 1000 W/m², cell temperature 25 °C, AM-1.5, Test uncertainty for Pmax: ±3%

	650	645	640	635	630	625	620
Maximum Power at STC (Pmax/W)	650	645	640	635	630	625	620
Power Tolerance (W)	0 ~ +5						
Optimum Operating Voltage (Vmp/V)	42.99	42.72	42.45	42.17	41.89	41.62	41.34
Optimum Operating Current (Imp/A)	15.12	15.10	15.08	15.06	15.04	15.02	15.00
Open Circuit Voltage (Voc/V)	50.11	49.91	49.71	49.51	49.31	49.11	48.91
Short Circuit Current (Isc/A)	16.08	16.05	16.02	15.99	15.96	15.93	15.90
Module Efficiency	24.1%	23.9%	23.7%	23.5%	23.3%	23.1%	23.0%

Electrical Characteristics - BNPI

Irradiance: front 1000W/m², rear 135W/m², Cell temperature 25 °C, AM-1.5.

	716	710	705	699	693	688	683
Maximum Power at BNPI (Pmax/W)	716	710	705	699	693	688	683
Optimum Operating Voltage (Vmp/V)	42.99	42.72	42.45	42.17	41.89	41.62	41.34
Optimum Operating Current (Imp/A)	16.64	16.62	16.60	16.57	16.55	16.53	16.51
Open Circuit Voltage (Voc/V)	50.23	50.03	49.83	49.63	49.43	49.23	49.03
Short Circuit Current (Isc/A)	17.73	17.69	17.66	17.63	17.59	17.56	17.53

Rearside Power Gain

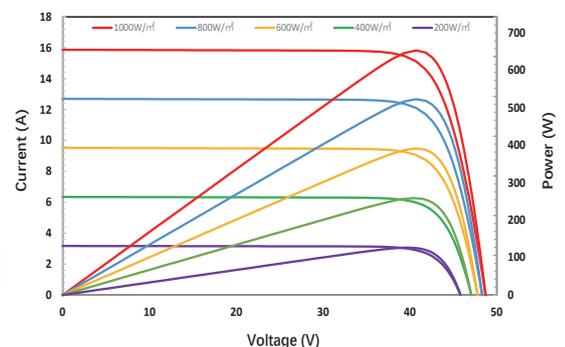
(Reference to 640W Front)

	5%	15%	25%
Rearside Power Gain	5%	15%	25%
Maximum Power (Pmax/W)	672	736	800
Optimum Operating Voltage (Vmp/V)	42.51	42.55	42.58
Optimum Operating Current (Imp/A)	15.81	17.30	18.79
Open Circuit Voltage (Voc/V)	49.77	49.81	49.84
Short Circuit Current (Isc/A)	16.80	18.38	19.97
Module Efficiency	24.9%	27.3%	29.6%

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

Current-Voltage & Power-Voltage Curve (640W)



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HY-DH132N11-Turbo-Pro-Global-Ver25Q4