

# RUNERGY

## TIER 1 HY-DH132N11 Pro

# 600-630W

**23.3%** Max. Efficiency  
**N-Type** Bifacial & Dual Glass  
**132 Pieces** Half-Cell

### Advanced Technology

Embracing N - type Cells and a Novel product technology platform. The mass production efficiency and reliability are leading in the industry.

### Exceptional Performance

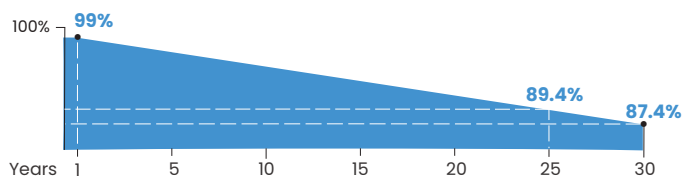
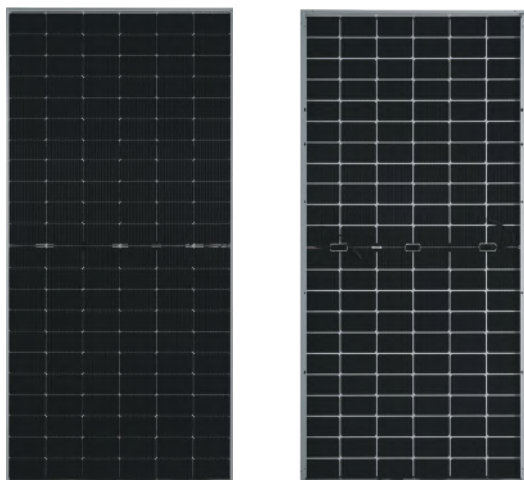
Double - sided Design, When Paired with a Tracker System, Significantly increases Energy Yield.

### Hail Resistant Enhanced

The front glass is fully tempered and has passed the 55mm hail test. Module mechanical Load also has been enhanced.

### Solid Quality, Steady Reliability

Dual - glass Design, Exhibiting Strong Resistance to Water Vapor and Guaranteeing 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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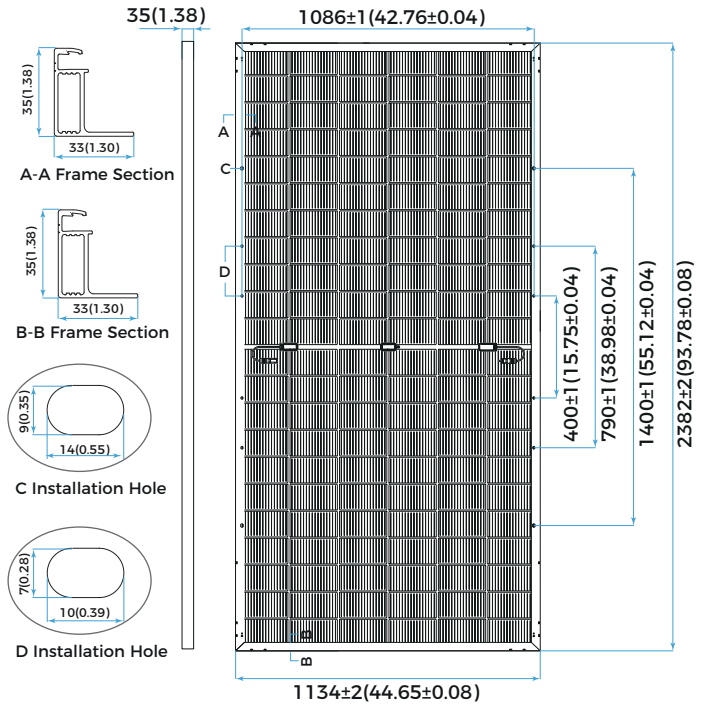
Unit: mm(inch)

## 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 <sup>2</sup> (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	Aluminum, silver anodized
Container	36 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 <sup>2</sup> )/3600Pa(50lb/ft <sup>2</sup> )
Hail Test	55mm, 33.9m/s.
Bifaciality	80%±5%
Fire Resistance	IEC Class A/ UL Type 29



## Electrical Characteristics - STC

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

	630	625	620	615	610	605	600
Maximum Power at STC (Pmax/W)	630	625	620	615	610	605	600
Power Tolerance (W)	0 ~ +5						
Optimum Operating Voltage (Vmp/V)	41.89	41.62	41.34	41.06	40.78	40.50	40.22
Optimum Operating Current (Imp/A)	15.04	15.02	15.00	14.98	14.96	14.94	14.92
Open Circuit Voltage (Voc/V)	49.31	49.11	48.91	48.71	48.51	48.31	48.11
Short Circuit Current (Isc/A)	15.96	15.93	15.90	15.87	15.84	15.81	15.78
Module Efficiency	23.3%	23.1%	23.0%	22.8%	22.6%	22.4%	22.2%

## Electrical Characteristics - BNPI

Irradiance: front 1000W/m<sup>2</sup>, rear 135W/m<sup>2</sup>, Cell temperature 20 °C, AM1.5.

	693	688	683	677	671	666	660
Maximum Power at BNPI (Pmax/W)	693	688	683	677	671	666	660
Optimum Operating Voltage (Vmp/V)	41.89	41.62	41.34	41.06	40.78	40.50	40.22
Optimum Operating Current (Imp/A)	16.55	16.53	16.51	16.49	16.46	16.44	16.42
Open Circuit Voltage (Voc/V)	49.43	49.23	49.03	48.83	48.63	48.43	48.23
Short Circuit Current (Isc/A)	17.59	17.56	17.53	17.49	17.46	17.43	17.40

## Rearside Power Gain (Reference to 615W Front)

	5%	15%	25%
Rearside Power Gain	5%	15%	25%
Maximum Power (Pmax/W)	646	707	769
Optimum Operating Voltage (Vmp/V)	41.06	41.16	41.16
Optimum Operating Current (Imp/A)	15.73	17.18	18.68
Open Circuit Voltage (Voc/V)	48.71	48.81	48.81
Short Circuit Current (Isc/A)	16.66	18.21	19.79
Module Efficiency	23.9%	26.2%	28.5%

## 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

