

# RUNERGY

MADE IN THAILAND/CHINA

## TIER 1 HY-DH144N8 570-590W

**22.8%** Max. Efficiency  
**N-Type** Bifacial & Dual Glass  
**144 Pieces** Half-Cell

### High Conversion Efficiency

Module efficiency up to 22.8% based on N-Type wafer and advanced N-Type cell technology

### Excellent Energy Yield

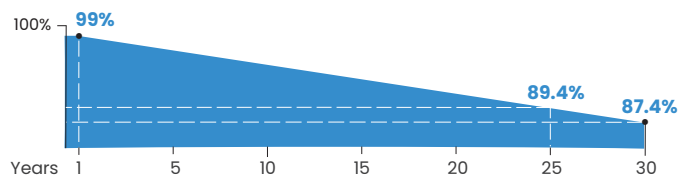
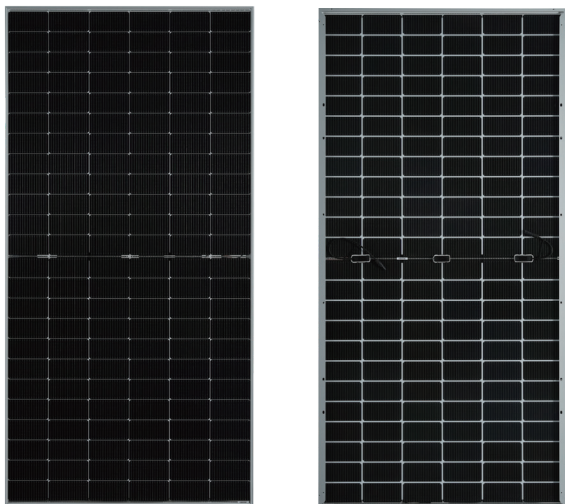
More power output in field operation due to better thermal behaviors, weak-light performance and bifaciality

### Outstanding Anti-degradation

Unsusceptible to LID 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

- **12 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



Evidence for IEC61701/62716/60068 is available on request.

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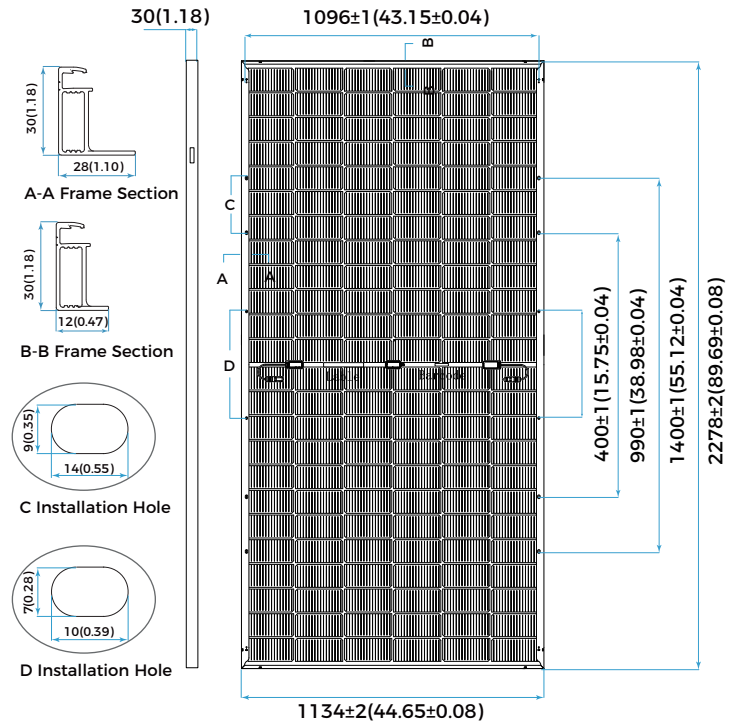
Unit: mm(inch)

## Mechanical Parameters

Solar Cell	Mono N-Type 182mm
No. of Cells	144 (6 × 24)
Dimensions	2278 × 1134 × 30mm(89.69× 44.65 × 1.18in.)
Weight	32kg(70.55lbs)
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	PV-KST4-EVO 2/xy_UR, PV-KBT4-EVO 2/xy_UR
Front Cover	2.0mm (0.079in.)semi-tempered AR glass
Back Cover	2.0mm (0.079in.)semi-tempered glass
Container	36 pcs/Pallet, 720 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% (Pmax) 98%±2%(Voc) 80%±10%(Isc)
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%,Isc: ±4%,Voc: ±3%

Maximum Power at STC (Pmax/W)	590	585	580	575	570
Power Tolerance (W)	0 ~ +5				
Optimum Operating Voltage (Vmp/V)	44.43	44.22	44.04	43.83	43.62
Optimum Operating Current (Imp/A)	13.28	13.23	13.17	13.12	13.07
Open Circuit Voltage (Voc/V)	52.37	52.16	51.97	51.74	51.52
Short Circuit Current (Isc/A)	13.89	13.85	13.80	13.75	13.70
Module Efficiency	22.8%	22.6%	22.5%	22.3%	22.1%

## 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)	451.9	448.1	444.2	440.4	436.6
Optimum Operating Voltage (Vmp/V)	42.54	42.34	42.17	41.97	41.77
Optimum Operating Current (Imp/A)	10.62	10.58	10.53	10.49	10.45
Open Circuit Voltage (Voc/V)	50.14	49.94	49.76	49.54	49.33
Short Circuit Current (Isc/A)	11.20	11.16	11.12	11.08	11.04

## Rearside Power Gain (Reference to 585W Front)

Rearside Power Gain	5%	15%	25%
Maximum Power (Pmax/W)	614	673	731
Optimum Operating Voltage (Vmp/V)	44.22	44.32	44.32
Optimum Operating Current (Imp/A)	13.89	15.18	16.50
Open Circuit Voltage (Voc/V)	52.16	52.26	52.26
Short Circuit Current (Isc/A)	14.54	15.90	17.28
Module Efficiency	23.8%	26.1%	28.3%

## 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

