

# RUNERGY

## TIER 1 HY-DH156N8 610-630W

**22.5%**

Max. Efficiency

**N-Type**

**Bifacial & Dual Glass**

**156 Pieces**

Half-Cell



### High Conversion Efficiency

Module efficiency up to 22.5% 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



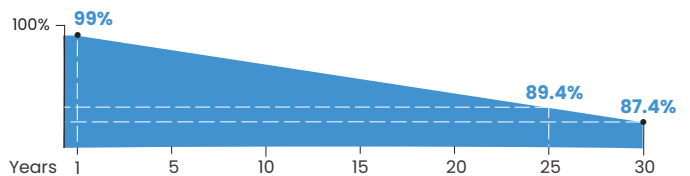
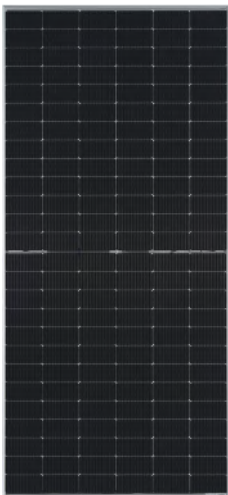
### Outstanding Anti-degradation

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

- **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



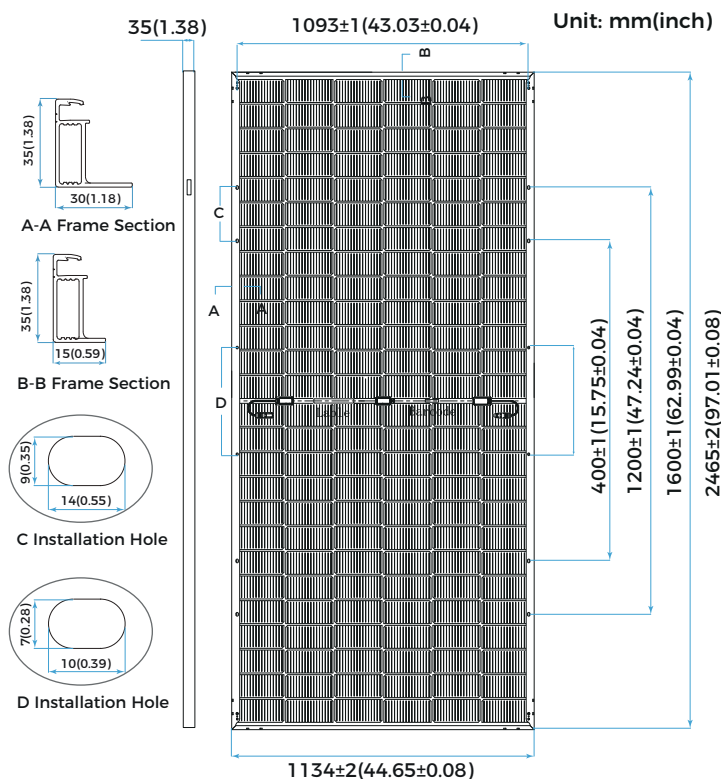
www.runergy.com  
sales-inform@runergy.com

## Mechanical Parameters

Solar Cell	Mono N-Type 182mm
No. of Cells	156 (6 × 26)
Dimensions	2465 × 1134 × 35mm(97.05 × 44.65 × 1.38in.)
Weight	34.4kg(75.84lbs)
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	2.0mm (0.079in.)semi-tempered AR glass
Back Cover	2.0mm (0.079in.)semi-tempered glass
Container	31 pcs/Pallet, 496 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%

	630	625	620	615	610
Maximum Power at STC (Pmax/W)	630	625	620	615	610
Power Tolerance (W)	0 ~ +5				
Optimum Operating Voltage (Vmp/V)	47.80	47.61	47.44	47.24	47.04
Optimum Operating Current (Imp/A)	13.18	13.13	13.07	13.02	12.97
Open Circuit Voltage (Voc/V)	56.37	56.18	55.99	55.79	55.59
Short Circuit Current (Isc/A)	13.84	13.79	13.74	13.69	13.64
Module Efficiency	22.5%	22.4%	22.2%	22.0%	21.8%

## 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)	482.5	478.8	474.9	471.1	467.3
Optimum Operating Voltage (Vmp/V)	45.77	45.59	45.42	45.23	45.04
Optimum Operating Current (Imp/A)	10.54	10.50	10.45	10.41	10.37
Open Circuit Voltage (Voc/V)	53.97	53.79	53.61	53.42	53.23
Short Circuit Current (Isc/A)	11.16	11.12	11.08	11.04	11.00

## Rearside Power Gain (Reference to 630W Front)

	5%	15%	25%
Rearside Power Gain	5%	15%	25%
Maximum Power (Pmax/W)	662	725	788
Optimum Operating Voltage (Vmp/V)	47.80	47.90	47.90
Optimum Operating Current (Imp/A)	13.84	15.13	16.44
Open Circuit Voltage (Voc/V)	56.37	56.47	56.47
Short Circuit Current (Isc/A)	14.53	15.89	17.27
Module Efficiency	23.7%	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

