

# RUNERGY

## HY-DH156N8

# 630-650W

**23.3%**

Max. Efficiency

**N-Type**

Bifacial & Dual Glass

**156 Pieces**

Half-Cell



### Leading Technology

Based on n-type cell and 182 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



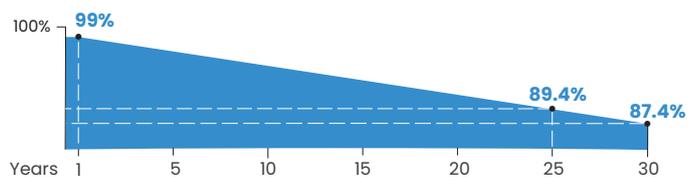
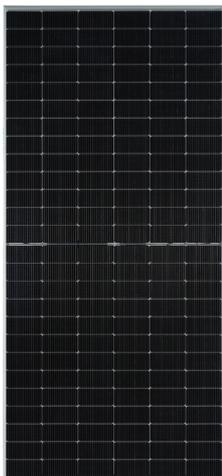
### Long-term Reliability

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



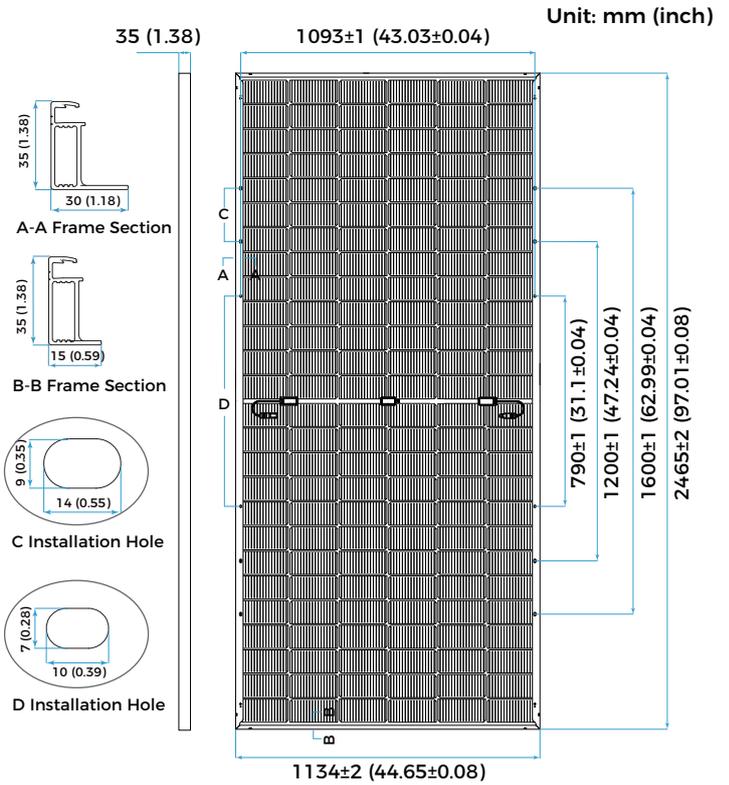
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## Mechanical Parameters

Solar Cell	Mono N-Type 182mm
No. of Cells	156 (6 × 26)
Dimensions	2465 × 1134 × 30mm (97.05 × 44.65 × 1.18in.)
Weight	33.9kg (74.74lbs)
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 AR coated heat-strengthened glass
Back Cover	2.0mm heat-strengthened glass
Frame	Silver-anodized aluminum
Container	36 pcs/Pallet, 576 pcs/40' HQ (Global) ,504 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	30A
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%

	650	645	640	635	630
Maximum Power at STC (Pmax/W)	650	645	640	635	630
Power Tolerance (W)			0 ~ +5		
Optimum Operating Voltage (Vmp/V)	48.33	48.32	48.13	47.97	47.80
Optimum Operating Current (Imp/A)	13.45	13.35	13.30	13.24	13.18
Open Circuit Voltage (Voc/V)	57.60	56.95	56.75	56.56	56.37
Short Circuit Current (Isc/A)	14.10	13.98	13.94	13.89	13.84
Module Efficiency	23.3%	23.1%	22.9%	22.7%	22.5%

## Electrical Characteristics - BNPI

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

	715	710	705	699	694
Maximum Power at BNPI (Pmax/W)	715	710	705	699	694
Optimum Operating Voltage (Vmp/V)	48.33	48.32	48.13	47.97	47.80
Optimum Operating Current (Imp/A)	14.80	14.69	14.64	14.57	14.51
Open Circuit Voltage (Voc/V)	57.74	57.09	56.89	56.70	56.51
Short Circuit Current (Isc/A)	15.54	15.41	15.37	15.31	15.26

## 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)	48.19	48.23	48.26
Optimum Operating Current (Imp/A)	13.94	15.26	16.58
Open Circuit Voltage (Voc/V)	56.81	56.85	56.88
Short Circuit Current (Isc/A)	14.62	16.00	17.38
Module Efficiency	24.0%	26.3%	28.6%

## 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

