

RUNERGY

TIER 1 HY-DH156N8 610-645W

23.1%

Max. Efficiency

N-Type

Bifacial & Dual Glass

156 Pieces

Half-Cell



High Conversion Efficiency

Module efficiency up to 23.1% 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



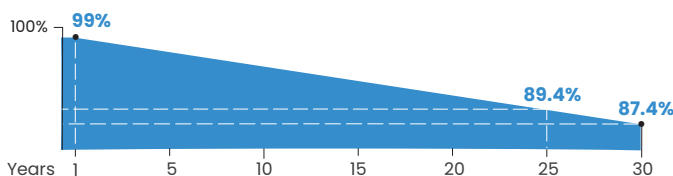
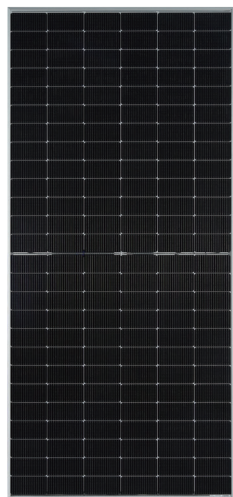
Outstanding Anti-degradation

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

• 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



Manufacturer: Runergy PV Tehnology(Thailand)

No.820, Moo.5, Khlong Kiew Sub-district, Ban Bueng District, 20220/ Chonburi Province, Thailand

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

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	4mm² (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	Aluminum, silver anodized
Container	36 pcs/Pallet, 576 pcs/40' HQ

Operating Parameters	
Max. System Voltage	DC 1500V (IEC/UL)
Operating Temperature	-40℃ ~ +85℃(-40°F ~ +185°F)
Max. Fuse Rating	30A
Frontside Max. Loading	5400Pa(112lb/ft²)
Backside Max. Loading	2400Pa(50lb/ft²)
Bifaciality	80±10%
Fire Resistance	IEC Class A/ UL Type 29

Electrical Characteristics - STC	Irradiance 1000 W/m², ambient temperature 25 °C, AM1.5 , Test uncertainty for Pmax: ±3%							
Maximum Power at STC (Pmax/W)	645	640	635	630	625	620	615	610
Power Tolerance (W)	0 ~ +5							
Optimum Operating Voltage (Vmp/V)	48.32	48.13	47.97	47.80	47.61	47.44	47.24	47.04
Optimum Operating Current (Imp/A)	13.35	13.30	13.24	13.18	13.13	13.07	13.02	12.97
Open Circuit Voltage (Voc/V)	56.95	56.75	56.56	56.37	56.18	55.99	55.79	55.59
Short Circuit Current (Isc/A)	13.98	13.94	13.89	13.84	13.79	13.74	13.69	13.64
Module Efficiency	23.1%	22.9%	22.7%	22.5%	22.4%	22.2%	22.0%	21.8%

Electrical Characteristics - NMOT	Irradiance 800 W/m², ambient temperature 20 °C, AM1.5, wind speed 1 m/s.							
Maximum Power at NMOT (Pmax/W)	494.1	490.3	486.4	482.5	478.8	474.9	474.1	467.3
Optimum Operating Voltage (Vmp/V)	46.27	46.08	45.93	45.77	45.59	45.42	45.23	45.04
Optimum Operating Current (Imp/A)	10.68	10.64	10.59	10.54	10.50	10.45	10.41	10.37
Open Circuit Voltage (Voc/V)	54.53	54.34	54.16	53.97	53.79	53.61	53.42	53.24
Short Circuit Current (Isc/A)	11.27	11.24	11.20	11.16	11.12	11.08	11.04	11.00

Rearside Power Gain (Reference to 645W Front)			
Rearside Power Gain	5%	15%	25%
Maximum Power (Pmax/W)	677	742	806
Optimum Operating Voltage (Vmp/V)	48.32	48.42	48.42
Optimum Operating Current (Imp/A)	14.02	15.32	16.65
Open Circuit Voltage (Voc/V)	56.95	57.05	57.05
Short Circuit Current (Isc/A)	14.68	16.05	17.44
Module Efficiency	24.2%	26.5%	28.8%

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

