

RUNERGY

HY-DH132N11-XXX **Pro**

610-640W

23.7%

Max. Efficiency

N-Type

Bifacial & Dual Glass

132 Pieces

Half-Cell



Leading Technology

Based on n-type cell and 210R 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



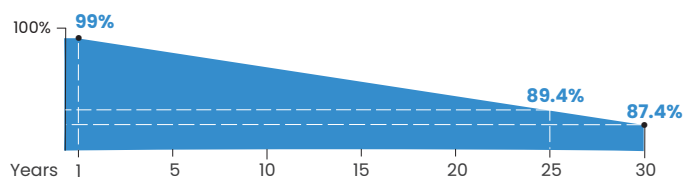
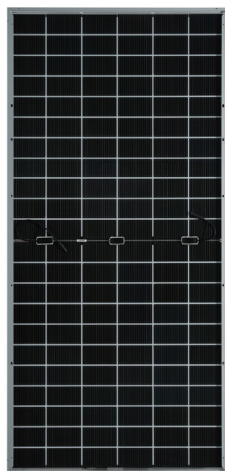
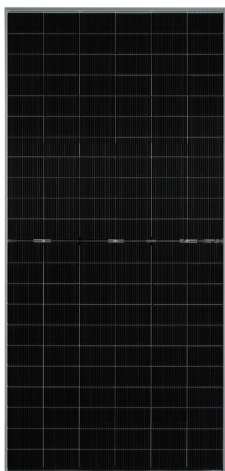
Enhanced Hail-resistance

Thickened fully tempered front glass to be resistant to 55mm hails with 33.9m/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 (STC) Warranty

• 1st year degradation **<1%**, annual degradation **<0.4%**



15-year product warranty



30-year linear power (STC) warranty

IEC61215 / IEC61730 / UL61730 / IEC60068 / ISO9001 / ISO14001 / ISO45001



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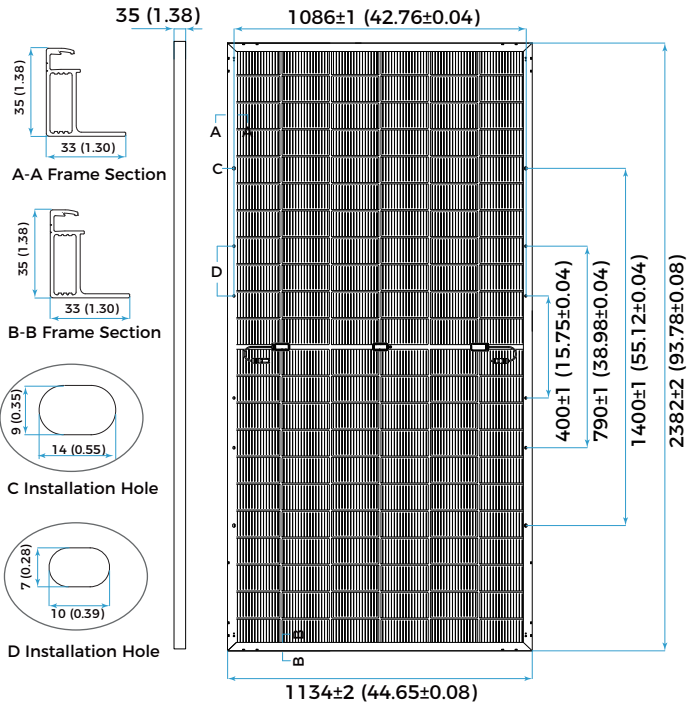
Unit: mm (inch)

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 ² (IEC), 12 AWG(UL) +400/-200mm (+15.75/-7.87in.) or customized
Connector	PV-KST4-EVO2A/xy,PV KBT4-EVO2A/xy (Staubli) or PV-KST4-EVO 2/xy_UR,PV KBT4-EVO 2/xy_UR (Staubli)
Front Cover	3.2mm AR coated fully tempered glass
Back Cover	2.0mm heat-strengthened glass
Frame	Silver-anodized aluminum
Container	31 pcs/pallet, 558 pcs/40' HQ (Global)

Operating Parameters

Max. System Voltage	DC 1500V (IEC/UL)
Operating Temperature	-40°C ~ +70°C (-40°F ~ +158°F)
Max. Fuse Rating	35A
Front/Back Max. Loading	+5400Pa (+112lb/ft ²)/-2400Pa (-50lb/ft ²)
Bifaciality	Pm:80±5%, Voc:98±2%, Isc:80±5%.
Temperature rating	T98 th 70°C
Fire Resistance	IEC Class A/ UL Type 29



Electrical Characteristics - STC

Irradiance 1000 W/m², cell temperature 25 °C, AM-1.5, Tolerances: Pmax:±3%,Voc:±3%,Isc:±4%

Maximum Power at STC (Pmax/W)	640	635	630	625	620	615	610
Power Tolerance (W)	0 ~ +5						
Optimum Operating Voltage (Vmp/V)	42.45	42.17	41.89	41.62	41.34	41.06	40.78
Optimum Operating Current (Imp/A)	15.08	15.06	15.04	15.02	15.00	14.98	14.96
Open Circuit Voltage (Voc/V)	49.71	49.51	49.31	49.11	48.91	48.71	48.51
Short Circuit Current (Isc/A)	16.02	15.99	15.96	15.93	15.90	15.87	15.84
Module Efficiency	23.7%	23.5%	23.3%	23.1%	23.0%	22.8%	22.6%

Electrical Characteristics - BNPI

Irradiance: front 1000W/m², rear 135W/m², Cell temperature 20 °C, AM-1.5, Tolerances: Pmax:±3%,Voc:±3%,Isc:±4%

Maximum Power at BNPI (Pmax/W)	700	695	690	685	680	675	670
Optimum Operating Voltage (Vmp/V)	42.45	42.17	41.89	41.62	41.34	41.06	40.78
Optimum Operating Current (Imp/A)	16.60	16.57	16.55	16.53	16.51	16.49	16.46
Open Circuit Voltage (Voc/V)	49.83	49.63	49.43	49.23	49.03	48.83	48.63
Short Circuit Current (Isc/A)	17.66	17.63	17.59	17.56	17.53	17.49	17.46

Short Circuit Current - BSI

Irradiance: front 1000W/m², rear 300W/m².

Short Circuit Current -BSI(Isc-BSI/A)	19.66	19.63	19.58	19.55	19.52	19.47	19.44
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Rearside Power Gain (Reference to 615W Front)

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

