RUNERGY

KLEVENTA

TIER 1 HY-DH108N12

435-455W

22.8%	N-Type	108 Pieces
Max. Efficiency	Bifacial & Dual Glass	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

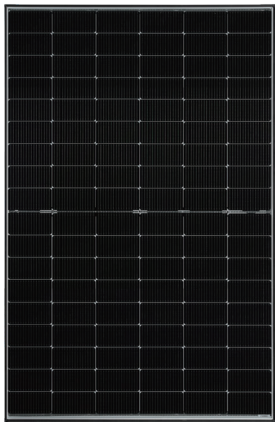
More power output in field operation due to better thermal behaviors, weak-light performance and bifaciality

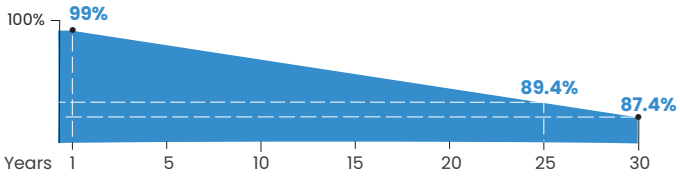
Outstanding Anti-degradation

Unsusceptible to LID, LeTID and less annual degradation due to special charateristics 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%**

15/25 — 15-year product warranty
25-year product warranty
(special for rooftop market within 500kw only)

30 — 30-year linear power warranty

IEC61215 / IEC61730 / UL61730 / IEC61701 / IEC62716 / IEC60068 / ISO9001 / ISO14001/ ISO45001

Intertek · TÜVRheinland CERTIFIED · Ariel Re · Munich RE

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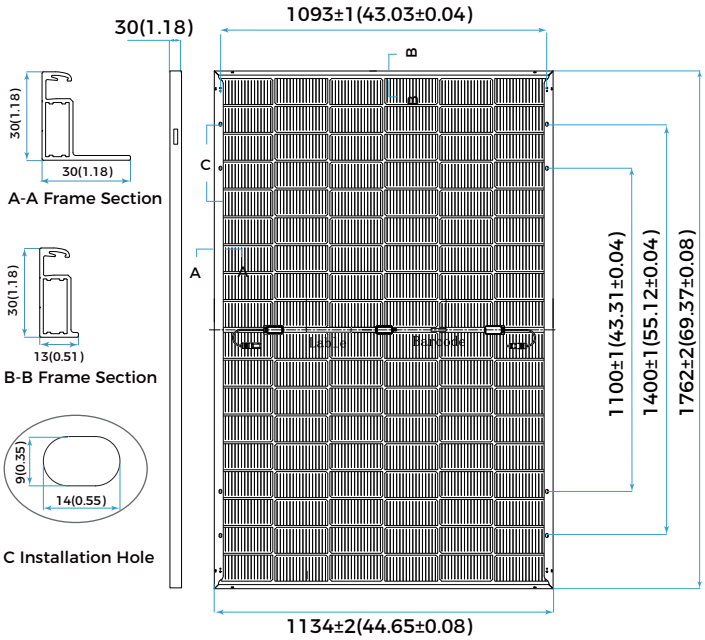
HY-DH108N12 435-455

Mechanical Parameters

Solar Cell	Mono N-Type 182.2*186.8mm
No. of Cells	108 (6 × 18)
Dimensions	1762 × 1134 × 30mm(69.37 x 44.65 x 1.18in)
Weight	25kg(55.12lbs)
Junction Box	IP68 rated (3 bypass diodes)
Output Cable	4mm² (IEC), 12 AWG(UL) ±1200mm(47.24in.) or customized
Connector	EVO2 or similar
Front Cover	2.0mm AR coated heat strengthened glass
Back Cover	2.0mm heat strengthened glass
Frame	Aluminum, silver/black anodized
Container	36 pcs/Pallet, 936 pcs/40' HQ

Unit: mm(inch)



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/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, cell temperature 25 ˚C, AM1.5, , Test uncertainty for Pmax: ±3%

Maximum Power at STC (Pmax/W)	455	450	445	440	435
Power Tolerance (W)			0 ~ +5		
Optimum Operating Voltage (Vmp/V)	33.51	33.26	33.04	32.81	32.59
Optimum Operating Current (Imp/A)	13.58	13.53	13.47	13.41	13.35
Open Circuit Voltage (Voc/V)	40.08	39.84	39.61	39.38	39.16
Short Circuit Current (Isc/A)	14.03	13.98	13.92	13.86	13.80
Module Efficiency	22.8%	22.5%	22.3%	22.0%	21.8%

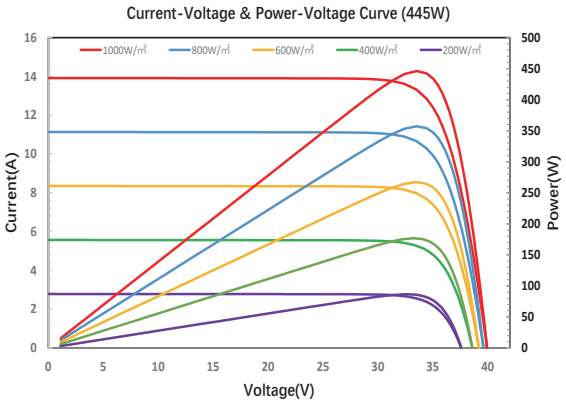
Electrical Characteristics - NMOT

Irradiance 800 W/m², ambient temperature 20 ˚C, AM1.5, wind speed 1 m/s.

Maximum Power at NMOT (Pmax/W)	348.5	344.7	340.9	337.0	333.2
Optimum Operating Voltage (Vmp/V)	32.09	31.85	31.64	31.42	31.20
Optimum Operating Current (Imp/A)	10.86	10.82	10.77	10.73	10.68
Open Circuit Voltage (Voc/V)	38.38	38.15	37.93	37.71	37.50
Short Circuit Current (Isc/A)	11.31	11.27	11.22	11.17	11.12

Rearside Power Gain (Reference to 445W Front)

Rearside Power Gain	5%	15%	25%
Maximum Power (Pmax/W)	467	512	556
Optimum Operating Voltage (Vmp/V)	33.04	33.14	33.14
Optimum Operating Current (Imp/A)	14.14	15.44	16.78
Open Circuit Voltage (Voc/V)	39.61	39.71	39.71
Short Circuit Current (Isc/A)	14.61	15.97	17.35
Module Efficiency	23.4%	25.6%	27.8%



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

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Specifications included in this datasheet are subject to change without notice.