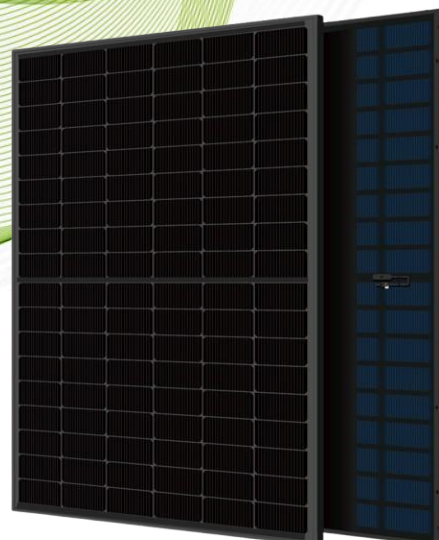




N-Type

108cells (Bifacial)

420W - 440W



As a leading provider of integrated energy solutions in Korea.

We deliver a wide spectrum of technologies across solar generation, storage, and power management.

We are committed to innovation-driven competitiveness, long-term value creation, and sustainable growth with our customers.

Certificates



ISO

- ISO 9001:2015
- ISO 45001:2018



Test Standard

- IEC 61215
- IEC 61730
- UL 61730



Quality

- Over 50years of manufacturing experience (from 1966)
- Having own official laboratory approved by TUV SUD

Key Features



Linear Performance Warranty

- 12 years product warranty
- 25 years product warranty (Optional)
- 30 years performance warranty (88.90%)



1500V

- Designed for UL and IEC 1,500V
- Saving BoS costs



Mechanical Load

- Front 5,400 Pa (Snow load)
- Back 2,400 Pa (Wind load)

AA-NNEA0 Series

| 420W - 440W TOPCon | Half-Cut 108Cells |

HAxxxAA-NNEA0		HA420AA-NNEA0		HA425AA-NNEA0		HA430AA-NNEA0		HA435AA-NNEA0		HA440AA-NNEA0	
		STC (NOCT)		STC (NOCT)		STC (NOCT)		STC (NOCT)		STC (NOCT)	
Max Power	Pmax(Wp)	420	317	425	320	430	325	435	329	440	332
Voltage at Pmax	Vmp(V)	31.5	29.6	31.7	29.8	31.9	30.0	32.1	30.2	32.3	30.4
Current at Pmax	Imp(A)	13.34	10.70	13.41	10.76	13.48	10.82	13.56	10.88	13.63	10.94
Open Circuit Voltage	Voc(V)	38.0	35.9	38.2	36.0	38.4	36.2	38.6	36.4	38.8	36.6
Short circuit Current	Isc(A)	14.11	11.39	14.18	11.44	14.25	11.50	14.32	11.56	14.39	11.61
Module efficiency	%	21.51%		21.76%		22.02%		22.28%		22.53%	
Temperature Coefficient of Isc		+ 0.046 [%/°C]									
Temperature Coefficient of Voc		- 0.25 [%/°C]									
Temperature Coefficient of Pmax		- 0.30 [%/°C]									
NOCT	°C	44±2°C									

ELECTRICAL CHARACTERISTICS WITH 25% REAR SIDE POWER GAIN						
Front Power	Pmax (Wp)	420	425	430	435	440
Total power	Pmax (Wp)	525	531	538	544	550
Voltage at Pmax	Vmp(V)	31.6	31.8	32.0	32.2	32.4
Current at Pmax	Imp(A)	16.61	16.71	16.80	16.89	16.98
Open Circuit Voltage	Voc(V)	38.1	38.3	38.5	38.7	38.9
Short circuit Current	Isc(A)	17.57	17.67	17.76	17.83	17.92

All data accordance with STC of real side power generation will not guarantee as they may depending on installation location, side, angle and other things.
 NOCT : Irradiance on cell surface 800 W/m2, Air Temperature 20°C, Wind Velocity 1m/s, Mounting open back side.

Mechanical Data	
Dimension	1722 x 1134 x 30 mm (67.80" x 44.65" x 1.18")
Weight	24.5 ± 1.0kg (54.01 ± 2.20lb)
Junction Box	IP68 with bypass diode
Frame	Anodized aluminium alloy
Connector	MC4 original or MC4-EVO2
Glass	2.0+2.0mm, heat strengthened glass
Cable	350mm or Customized 12AWG(UL)

System Design	
Max.System Voltage	1000 / 1500 VDC
Max.Series Fuse rating	30A
Max.Reverse Current	30A

Operational & Testing Condition	
Operational Temperature	-40°C ~ 85°C
Max.Test Load (Push)	5400 Pa

Packaging	
36 pcs / pallet, 936 pcs / 40'HQ	

