








NEBULAR

2P Mono-Facial Module
430W-460W

Technical Features:

-  Partial Shading Optimisation
-  Better Temperature Coefficient
-  High Temperature Restriction
-  Micro-crack Resistance
-  Higher Power
-  Lower BOS
-  More Aesthetic Values



reddot winner 2023




Product
Warranty



Performance
Warranty



Munich RE 

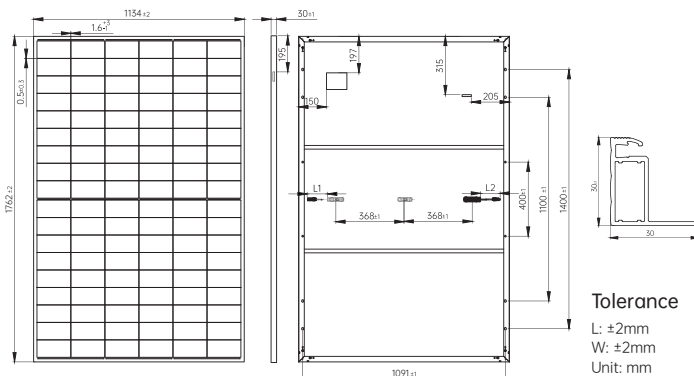
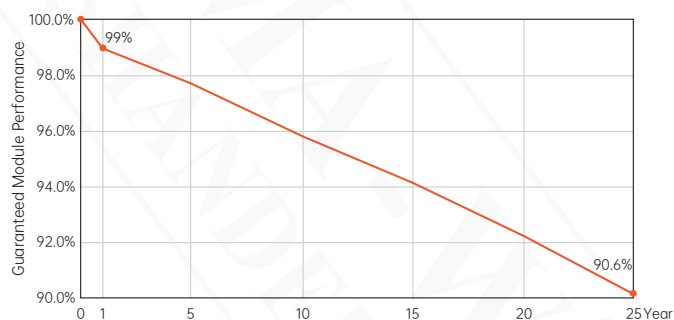
460W
Output

23.0%
Efficiency

≤1%
First-year Degradation

≤0.35%
Annual Degradation from Year

25-year Linear Performance Warranty



Electrical Characteristics (STC: AM1.5 1000W/m² 25°C NOCT: AM1.5 800W/m² 20°C 1m/s)

Power Tolerance: 0~ + 3%

Module Type	AIKO-A435-MAH54Tm		AIKO-A440-MAH54Tm		AIKO-A445-MAH54Tm		AIKO-A450-MAH54Tm		AIKO-A455-MAH54Tm		AIKO-A460-MAH54Tm	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
P _{max} [W]	435	327	440	331	445	335	450	339	455	343	460	346
V _{oc} [V]	40.76	38.49	40.82	38.55	40.88	38.60	40.94	38.66	41.00	38.72	41.06	38.77
V _{mp} [V]	34.32	32.41	34.38	32.47	34.44	32.52	34.50	32.58	34.56	32.64	34.62	32.69
I _{sc} [A]	13.82	11.17	13.92	11.26	14.02	11.34	14.12	11.42	14.22	11.50	14.25	11.52
I _{mp} [A]	12.68	10.12	12.80	10.22	12.93	10.32	13.05	10.41	13.17	10.51	13.29	10.61
Module Efficiency	21.8%		22.0%		22.3%		22.5%		22.8%		23.0%	

Mechanical Specification

Cell Type	N-Type ABC
Front Sheet	Transparent
Back Sheet	White sheet
Frame	Black anodized aluminum
Cable	4mm ² (IEC) 12AWG(UL) 1200mm
No. of Cells	108(6*18)
Junction Box	IP68, 3bypass diodes
Connector	MC4-Evo2
Weight	8.6kg±3%
Dimension	1762*1134*30mm
Package Detail	36pcs per pallet / 216pcs per 20' GP / 936pcs per 40' HC

Temperature Ratings (STC)

Temperature Coefficient of I _{sc}	+ 0.04%/ °C
Temperature Coefficient of V _{oc}	- 0.22%/ °C
Temperature Coefficient of P _{max}	- 0.26%/ °C

Installation Guide

Operation Temperature	-40°C - +85°C
Maximum Series Fuse Rating	25A
Protection Class	Class II
V _{oc} and I _{sc} Tolerance	±3%
Maximum System Voltage	DC1500V
Maximum Static Loading	Front 3600Pa Back 2400Pa
Hail Test	25 mm diameter hail at 23 m/s
Fire Rating	IEC Class C

