



N-Type ABC Neostar Series

AIKO-A-MAH54Db

Up to **23.3%**
440W-455W



Product
Warranty



Performance
Warranty

Full Black Design

No grid lines on the front

Higher Power Output

Higher efficiency: 23.3%

Lower degradation: 1 year $\leq 1.0\%$, 2 -30 year $\leq 0.35\%$

Better temperature coefficient: $-0.26\%/^{\circ}\text{C}$

Optimized Balance of System (BOS)

Significant savings on mounting structure, cabling, and labour cost



Complete Set of Quality Management System

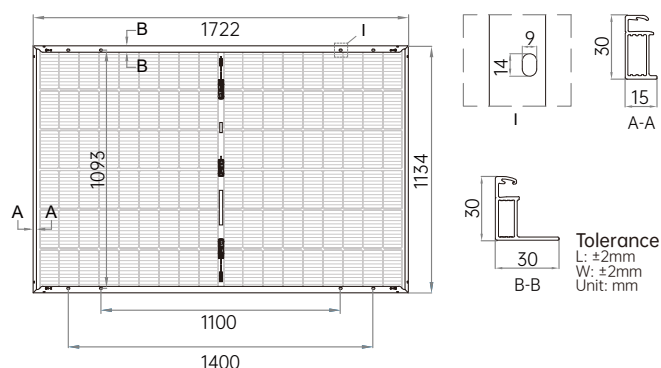
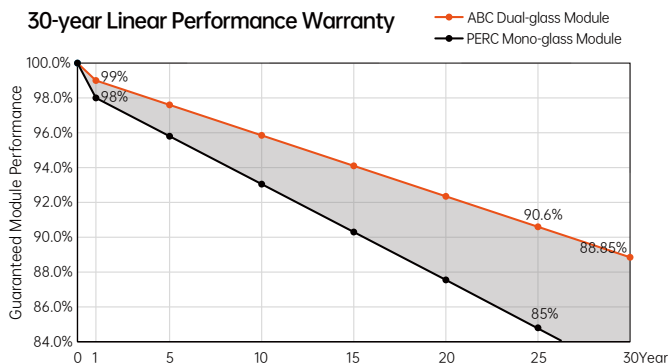
IEC 61730 (2016) IEC 61215 (2021)

ISO 9001:2015 Quality Management System

ISO 14001:2015 Environmental Management System

ISO 45001:2018 Occupational Safety and Management System

* Product warranty extendable to 25 years, applies to Europe and Australia

455W
Output**23.3%**
Efficiency**≤1%**
First-year Degradation**≤0.35%**
Annual Degradation from Year 2-30**30-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%

Model	AIKO-A440-MAH54Db		AIKO-A445-MAH54Db		AIKO-A450-MAH54Db		AIKO-A455-MAH54Db	
Test Conditions	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
P _{max} [W]	440	332	445	336	450	339	455	343
V _{oc} [V]	40.05	37.72	40.15	37.82	40.25	37.91	40.35	38.00
V _{mp} [V]	33.69	31.73	33.79	31.83	33.89	31.92	33.99	32.01
I _{sc} [A]	13.62	10.98	13.68	11.03	13.74	11.08	13.80	11.13
I _{mp} [A]	13.07	10.47	13.18	10.56	13.28	10.65	13.39	10.73
Module Efficiency	22.5%		22.8%		23.0%		23.3%	

Mechanical Specification

Cell Type	N-Type ABC
Glass	Dual glass, 2.0+2.0mm coated semi tempered glass
Frame	Black anodized aluminum
Cable	4mm ² (IEC) 12AWG(UL) 1200mm or Customized Length
No. of Cells	108(6*18)
Junction Box	IP68, three bypass diodes
Connector	MC4 EVO2
Weight	24.0kg±3%
Dimension	1722*1134*30mm
Package Detail	36pcs per pallet/216 pcs per 20' GP/936pcs per 40' HQ

Temperature Ratings (STC)

Temperature Coefficient of I _{sc}	+ 0.05%/ °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 5400Pa Back 2400Pa
Hail Test	25 mm diameter hail at 23 m/s
Fire Rating	IEC Class C



N-Type ABC Neostar Series

AIKO-A-MAH54Mb

Up to **23.6%**
445W-460W



Product
Warranty



Performance
Warranty



reddot winner 2023

Full Black Design

No grid lines on the front

Higher Power Output

Higher efficiency: 23.6%

Lower degradation: 1 year $\leq 1.0\%$, 2 -30 year $\leq 0.35\%$

Better temperature coefficient: $-0.26\%/^{\circ}\text{C}$

Optimized Balance of System (BOS)

Significant savings on mounting structure, cabling, and labour cost

Complete Set of Quality Management System

IEC 61730 (2016) IEC 61215 (2021)

ISO 9001:2015 Quality Management System

ISO 14001:2015 Environmental Management System

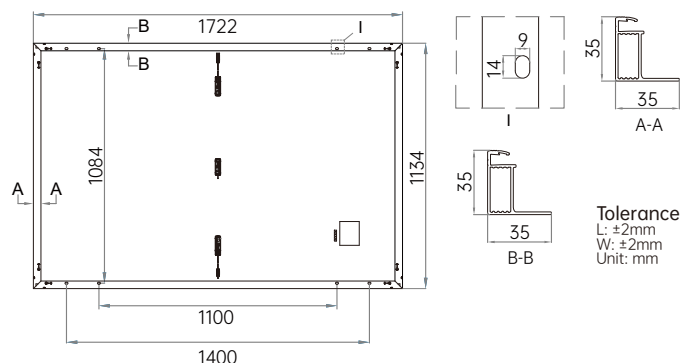
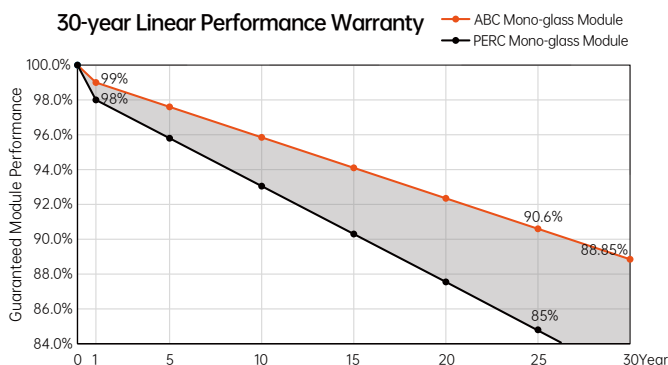
ISO 45001:2018 Occupational Safety and Management System



460W
Output

23.6%
Efficiency

 $\leq 1\%$
First-year Degradation

 $\leq 0.35\%$
Annual Degradation from Year 2-30

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

Power Tolerance: 0~ + 3%

Model	AIKO-A445-MAH54Mb		AIKO-A450-MAH54Mb		AIKO-A455-MAH54Mb		AIKO-A460-MAH54Mb	
Test Conditions	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
P_{max} [W]	445	335	450	339	455	343	460	346
V_{oc} [V]	40.60	38.34	40.70	38.44	40.80	38.53	40.90	38.63
V_{mp} [V]	33.60	31.73	33.70	31.82	33.80	31.92	33.90	32.01
I_{sc} [A]	13.86	11.21	13.92	11.26	13.98	11.31	14.04	11.36
I_{mp} [A]	13.25	10.57	13.36	10.66	13.47	10.75	13.58	10.84
Module Efficiency	22.8%		23.0%		23.3%		23.6%	

Mechanical Specification

Cell Type	N-Type ABC
Front Cover Mono glass	3.2 mm tempered glass
Frame	Black anodized aluminum
Cable	4mm ² (IEC) 12AWG(UL) 1200mm or Customized Length
No. of Cells	108(6*18)
Junction Box	IP68, three bypass diodes
Connector	MC4 EVO2
Weight	21.6kg±3%
Dimension	1722*1134*35mm
Package Detail	31pcs per pallet/186 pcs per 20' GP/806pcs per 40' HQ

Temperature Ratings (STC)

Temperature Coefficient of I_{sc}	+ 0.05%/ °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 5400Pa Back 2400Pa
Hail Test	25 mm diameter hail at 23 m/s
Fire Rating	IEC Class C



Stellar 1N+

Polaris 1N+

ABC N-Type

Dual-glass Bifacial Model

Up to **24.1%**
620W-650W



Product
Warranty



Performance
Warranty

Premium Appearance

No grid lines on the front

Higher Power Output

Higher efficiency: 24.1%

Lower degradation: 1 year $\leq 1.0\%$, 2 - 30 year $\leq 0.35\%$

Better temperature coefficient: $-0.26\%/^{\circ}\text{C}$

Optimized Balance of System (BOS)

Significant savings on mounting structure, cabling, and labour cost

Shading Unique Optimization

Complete Set of Quality Management System

IEC 61730 (2023) IEC 61215 (2021)

ISO 9001:2015 Quality Management System

ISO 14001:2015 Environmental Management System

ISO 45001:2018 Occupational Safety and Management System

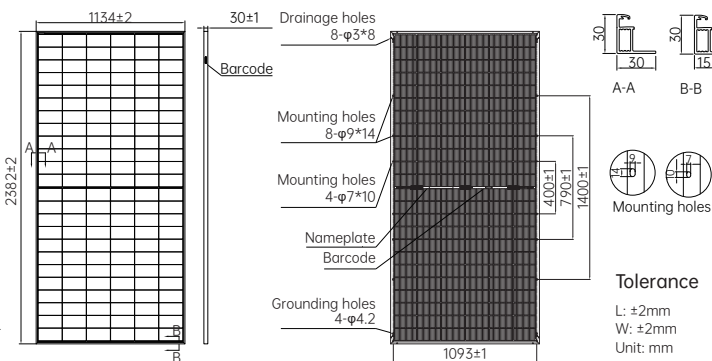
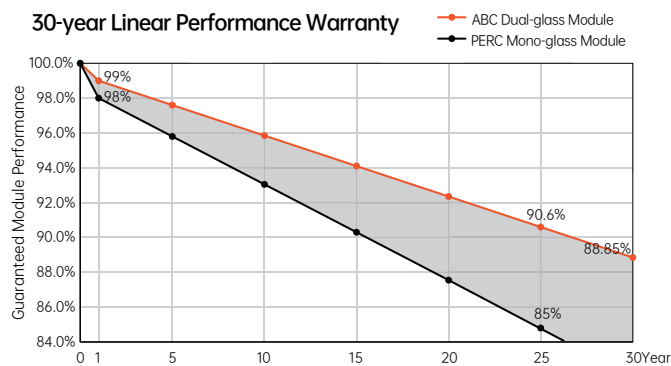
(Made in China)



650W
Output

24.1%
Efficiency

≤1%
First-year Degradation

≤0.35%
Annual Degradation from Year 2-30

Electrical Characteristics (STC: AM1.5 1000W/m² 25°C NOCT: AM1.5 800W/m² 20°C 1m/s) $\phi V_{oc}=99\%$ $\phi I_{sc}=68\%$ $\phi P_{max}=65\%$ Power Tolerance: 0~+3%

Model	AIKO-G620-MCH72Dw		AIKO-G625-MCH72Dw		AIKO-G630-MCH72Dw		AIKO-G635-MCH72Dw		AIKO-G640-MCH72Dw		AIKO-G645-MCH72Dw		AIKO-G650-MCH72Dw	
Test Conditions	STC	BNPI	STC	BNPI	STC	BNPI	STC	BNPI	STC	BNPI	STC	BNPI	STC	BNPI
P_{max} [W]	620	675	625	680	630	685	635	690	640	695	645	700	650	705
V_{oc} [V]	53.40	53.40	53.50	53.50	53.60	53.60	53.70	53.70	53.80	53.80	53.90	53.90	54.00	54.00
V_{mp} [V]	44.70	44.70	44.80	44.80	44.90	44.90	45.00	45.00	45.10	45.10	45.20	45.20	45.30	45.30
I_{sc} [A]	14.70	15.89	14.76	15.97	14.82	16.05	14.88	16.13	14.94	16.21	15.00	16.29	15.06	16.37
I_{mp} [A]	13.88	15.11	13.96	15.18	14.04	15.26	14.12	15.34	14.20	15.42	14.27	15.49	14.35	15.57
Module Efficiency	23.0%		23.1%		23.3%		23.5%		23.7%		23.9%		24.1%	

Mechanical Specification

Bifacial Factor	65±5%
Cell Type	N-Type ABC
Glass	Dual glass, 2.0+2.0mm Heat Strengthened Glass
Frame	Anodized aluminum
Cable	4mm ² (IEC) 12AWG(UL) 350mm or Customized Length
No. of Cells	144(6*24)
Junction Box	IP68, three bypass diodes
Connector	MC4 EVOA/MC4 EVO2
Weight	33.5kg±5%
Dimension	2382*1134*30mm
Package Detail	36pcs per pallet/144 pcs per 20' GP/576pcs per 40' HQ

Temperature Ratings (STC)

Temperature Coefficient of I_{sc}	+ 0.05%/ °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	30A
Protection Class	Class II
V_{oc} and I_{sc} Tolerance	±3%
Maximum System Voltage	DC1500V
Maximum Static Loading	Front 5400Pa Back 2400Pa
Hail Test	25 mm diameter hail at 23 m/s
Fire Rating	IEC Class C





Stellar

ABC N-Type

Mono-Glass Model

Up to **24.4%**
625W-660W



Product
Warranty



Performance
Warranty

Premium Appearance

No grid lines on the front

Higher Power Output

Higher efficiency: 24.4%

Lower degradation: 1 year $\leq 1.0\%$, 2 - 30 year $\leq 0.35\%$

Better temperature coefficient: $-0.26\%/^{\circ}\text{C}$

Optimized Balance of System (BOS)

Significant savings on mounting structure, cabling, and labour cost

Shading Unique Optimization

Complete Set of Quality Management System

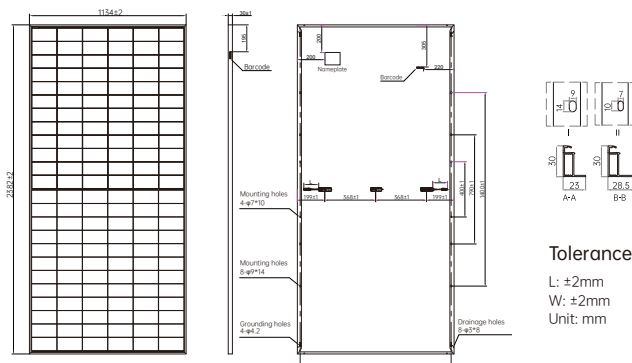
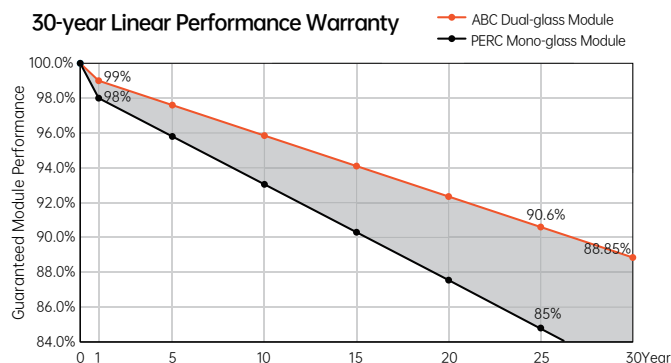
IEC 61730 (2023) IEC 61215 (2021)
ISO 9001:2015 Quality Management System
ISO 14001:2015 Environmental Management System
ISO 45001:2018 Occupational Safety and Management System
(Made in China)



660W
Output

24.4%
Efficiency

 $\leq 1\%$
First-year Degradation

 $\leq 0.35\%$
Annual Degradation from Year 2-30

Electrical Characteristics (STC: AM1.5 1000W/m² 25°C NOCT: AM1.5 800W/m² 20°C 1m/s) Power Tolerance: 0~+3%

Model	AIKO-G625-MCH72Mw		AIKO-G630-MCH72Mw		AIKO-G635-MCH72Mw		AIKO-G640-MCH72Mw		AIKO-G645-MCH72Mw		AIKO-G650-MCH72Mw		AIKO-G655-MCH72Mw		AIKO-G660-MCH72Mw	
Test Conditions	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
P _{max} [W]	625	471	630	474	635	478	640	482	645	486	650	490	655	493	660	497
V _{oc} [V]	53.90	50.90	54.00	51.00	54.10	51.09	54.20	51.18	54.30	51.28	54.40	51.37	54.50	51.47	54.60	51.56
V _{mp} [V]	44.60	42.12	44.70	42.21	44.80	42.31	44.90	42.40	45.00	42.50	45.10	42.59	45.20	42.69	45.30	42.78
I _{sc} [A]	14.82	11.98	14.88	12.03	14.94	12.08	15.00	12.13	15.06	12.18	15.12	12.23	15.18	12.28	15.24	12.32
I _{mp} [A]	14.02	11.19	14.10	11.25	14.18	11.31	14.26	11.38	14.34	11.44	14.42	11.51	14.50	11.57	14.57	11.63
Module Efficiency	23.1%		23.3%		23.5%		23.7%		23.9%		24.1%		24.2%		24.4%	

Mechanical Specification

Cell Type	N-Type ABC
Glass	Mono-Glass, 3.2 mm tempered glass
Frame	Anodized aluminum
Cable	4mm ² (IEC) 12AWG(UL) 350mm
No. of Cells	144(6*24)
Junction Box	IP68, three bypass diodes
Connector	MC4 EVOA/MC4 EVO2
Weight	31.5kg±3%
Dimension	2382*1134*30mm
Package Detail	31pcs per pallet/124 pcs per 20' GP/620pcs per 40' HQ

Temperature Ratings (STC)

Temperature Coefficient of I _{sc}	+ 0.05%/ °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 5400Pa Back 2400Pa
Hail Test	25 mm diameter hail at 23 m/s
Fire Rating	IEC Class C



N-Type ABC Mono-glass Module

AIKO-A-MAH54Mw

Up to **23.8%**
450W-465W



Product
Warranty



Performance
Warranty



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Premium Appearance

No grid lines on the front

Higher Power Output

Higher efficiency: 23.8%

Lower degradation: 1 year $\leq 1.0\%$, 2-30 year $\leq 0.35\%$

Better temperature coefficient: $-0.26\%/^{\circ}\text{C}$

Optimized Balance of System (BOS)

Significant savings on mounting structure, cabling, and labour cost

Complete Set of Quality Management System

IEC 61730 (2016) IEC 61215 (2021)

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N-Type ABC Mono-glass Module

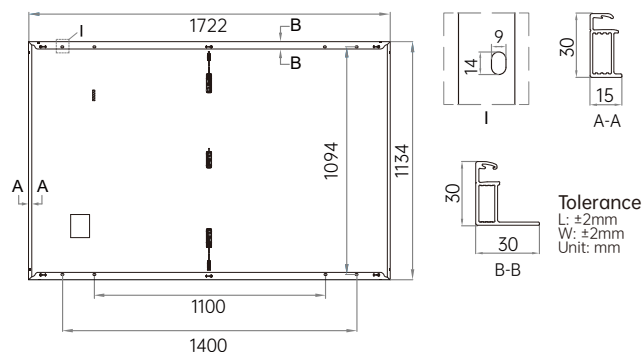
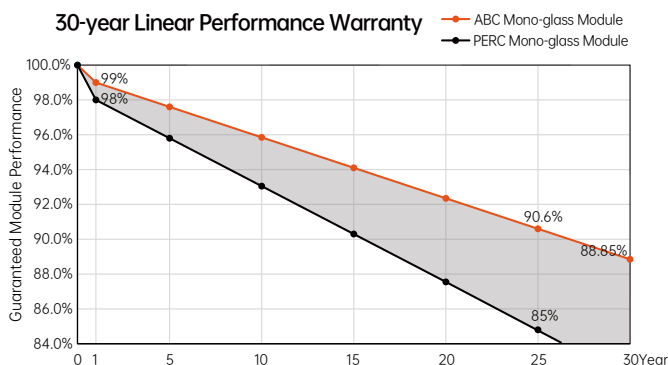
AIKO-A-MAH54Mw

465W
Output

23.8%
Efficiency

≤1%
First-year Degradation

≤0.35%
Annual Degradation from Year 2-30



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

Power Tolerance: 0~+3%

Model	AIKO-A450-MAH54Mw		AIKO-A455-MAH54Mw		AIKO-A460-MAH54Mw		AIKO-A465-MAH54Mw	
Test Conditions	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
P_{max} [W]	450	339	455	343	460	346	465	350
V_{oc} [V]	40.49	38.24	40.59	38.33	40.69	38.43	40.79	38.52
V_{mp} [V]	33.50	31.64	33.60	31.73	33.70	31.83	33.80	31.92
I_{sc} [A]	14.21	11.49	14.31	11.57	14.41	11.66	14.51	11.74
I_{mp} [A]	13.44	10.72	13.55	10.81	13.66	10.90	13.76	10.98
Module Efficiency	23.1%		23.3%		23.6%		23.8%	

Mechanical Specification

Cell Type	N-Type ABC
Front Cover Mono glass	3.2 mm tempered glass
Frame	Black anodized aluminum
Cable	4mm ² (IEC) 12AWG(UL) 1200mm or Customized Length
No. of Cells	108(6*18)
Junction Box	IP68, three bypass diodes
Connector	MC4 compatible/MC4 EVO2
Weight	21.2kg±3%
Dimension	1722*1134*30mm
Package Detail	36pcs per pallet/216 pcs per 20' GP/936pcs per 40' HQ

Temperature Ratings (STC)

Temperature Coefficient of I_{sc}	+ 0.05%/ °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 5400Pa Back 2400Pa
Hail Test	25 mm diameter hail at 23 m/s
Fire Rating	IEC Class C



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*AIKO Energy reserves right to update the specification without notice
AEWHS_EN_202309_V5.3



Neostar 2S

Mono-Glass Module

500W-520W

Second Generation
Comprehensive Upgrade:

 **Partial Shading Optimisation**

 **Better Temperature Coefficient**

 **High Temperature Restriction**

 **Micro-crack Resistance**

 **Higher Power**

 **Lower BOS**

 **Full Black Design**



Product
Warranty



Performance
Warranty



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Complete Set of Quality Management System

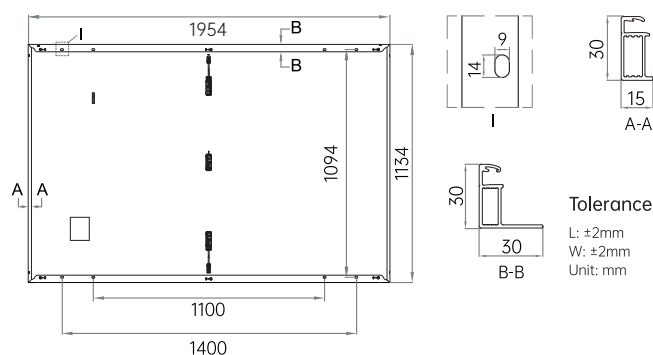
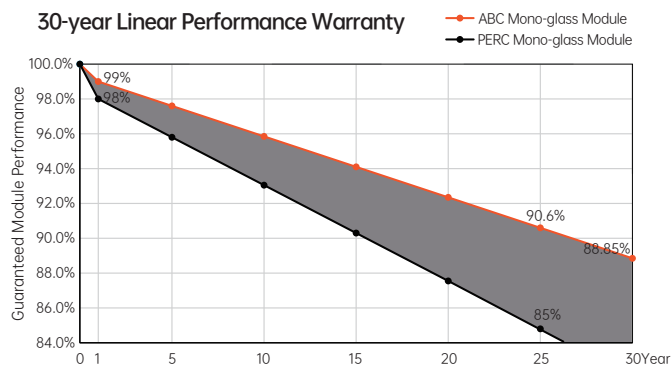
IEC 61730 (2023) IEC 61215 (2021)
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(Made in China)



520W
Output

23.5%
Efficiency

 $\leq 1\%$
First-year Degradation

 $\leq 0.35\%$
Annual Degradation from Year 2-30

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

Power Sorting Tolerance: 0~ + 3%

Module Type	AIKO-A500-MAH60Mb		AIKO-A505-MAH60Mb		AIKO-A510-MAH60Mb		AIKO-A515-MAH60Mb		AIKO-A520-MAH60Mb	
Test Conditions	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
P_{max} [W]	500	379	505	383	510	386	515	390	520	394
V_{oc} [V]	45.02	42.71	45.12	42.80	45.22	42.90	45.32	42.99	45.42	43.09
V_{mp} [V]	37.90	35.96	38.00	36.05	38.10	36.15	38.20	36.24	38.30	36.34
I_{sc} [A]	14.05	11.35	14.11	11.40	14.17	11.45	14.23	11.49	14.29	11.54
I_{mp} [A]	13.20	10.55	13.30	10.63	13.39	10.70	13.49	10.78	13.58	10.86
Module Efficiency	22.6%		22.8%		23.0%		23.2%		23.5%	

Product Specification

Cell type	N-Type ABC
Glass	3.2 mm tempered glass
Backsheet	High weather resistant backsheet
Frame	Black anodized aluminum
Cable	4mm ² (IEC) 12AWG(UL) 1200mm
No. of cells	120(6*20)
Junction Box	IP68, 3 bypass diodes
Connector	Staubli EVO2
Weight	24.0Kg $\pm$ 3%
Weight	1954*1134*30mm
Package Detail	36pcs per pallet /180pcs per 20GP/ 864pcs per 40HC

Temperature Ratings (STC)

Temperature Coefficient of I_{sc}	+ 0.05%/ °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
P_{max} and V_{oc} and I_{sc} Tolerance	$\pm 3\%$
Maximum System Voltage	DC1500V
Maximum Static Loading	+5400Pa/-2400Pa
Hail Test	25 mm diameter hail at 23 m/s
Fire Rating	IEC Class C



NEOSTAR

2P+ Dual-Glass Module
455W-475W

Technical Features:

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



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Product Warranty
(Extendable to 25years*)



Performance
Warranty



Munich RE



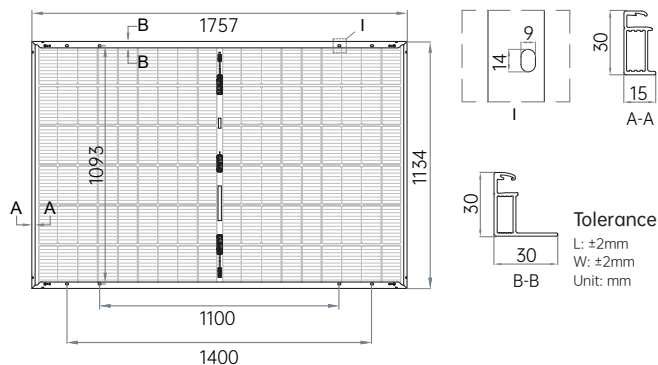
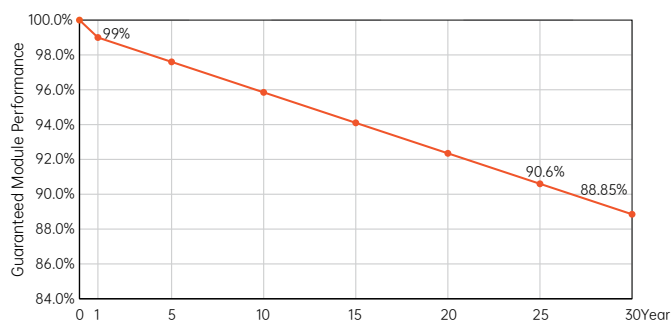
475W
Output

23.8%
Efficiency

 $\leq 1\%$
First-year Degradation

 $\leq 0.35\%$
Annual Degradation from Year 2-30

30-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-A455-MAH54Dw		AIKO-A460-MAH54Dw		AIKO-A465-MAH54Dw		AIKO-A470-MAH54Dw		AIKO-A475-MAH54Dw	
Test Conditions	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
P_{max} [W]	455	343	460	346	465	350	470	354	475	358
V_{oc} [V]	41.00	38.72	41.06	38.77	41.12	38.83	41.18	38.89	41.24	38.94
V_{mp} [V]	34.56	32.64	34.62	32.69	34.68	32.75	34.74	32.81	34.80	32.86
I_{sc} [A]	14.22	11.50	14.25	11.52	14.29	11.55	14.32	11.58	14.35	11.60
I_{mp} [A]	13.17	10.32	13.29	10.41	13.41	10.51	13.54	10.61	13.66	10.71
Module Efficiency	22.8%		23.1%		23.3%		23.6%		23.8%	

Mechanical Specification

Cell Type	N-Type ABC
Glass	Dual glass, 2.0+2.0mm coated semi tempered glass
Frame	Black anodized aluminum
Cable	4mm ² (IEC) 12AWG(UL) ±1200mm
No. of Cells	108(6*18)
Junction Box	IP68, 3 bypass diodes
Connector	MC4-Evo2
Weight	24.5kg±3%
Dimension	1757*1134*30mm
Package Detail	37pcs per pallet / 222pcs per 20'GP / 962pcs per 40'HC

Temperature Ratings (STC)

Temperature Coefficient of I_{sc}	+ 0.05%/ °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	+5400Pa/-2400Pa
Hail Test	35 mm diameter hail at 27.2 m/s
Fire Rating	IEC Class C

