



Deutsche  
Qualität  
Garantiert

**AURORA**  
P-TYPE PERC TECHNOLOGY

# MD-120BD 440W-460W

High in energy yield, reliability and durability

**21.35%**  
MAXIMUM EFFICIENCY

**120**  
HALF CELLS

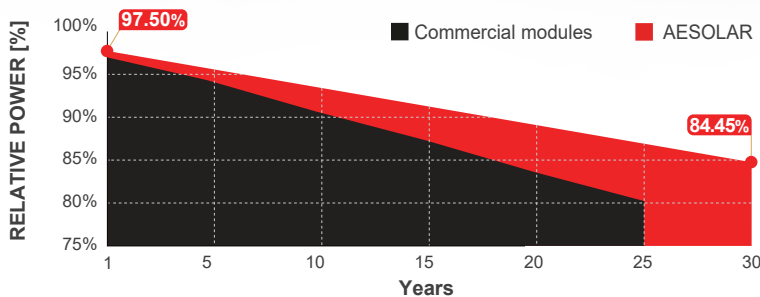
**30 YEARS** Performance Warranty      up to **30 YEARS\*** Product Warranty

\*The regular product warranty is 15 years, please refer to the latest version of AESOLAR Limited Warranty for the duration of the product warranty under special conditions. for extensions, please contact AESOLAR staff.

- LID  
RESISTANT
- PID  
RESISTANT
- SALT CORROSION  
RESISTANT
- SAND  
RESISTANT
- AMMONIA  
RESISTANT
- HIGHLY STABLE  
AND TOUGH



## OUR PERFORMANCE WARRANTY



## SYSTEM AND PRODUCT CERTIFICATIONS



IEC 61215 IEC 61730  
Regular Production Surveillance  
www.tuv.com  
ID 1111257249

IEC 62716 (Ammonia corrosion)  
IEC 61701 (Salt mist corrosion)  
IEC 60068 (Sand and dust)  
IEC 62804 (PID resistance)

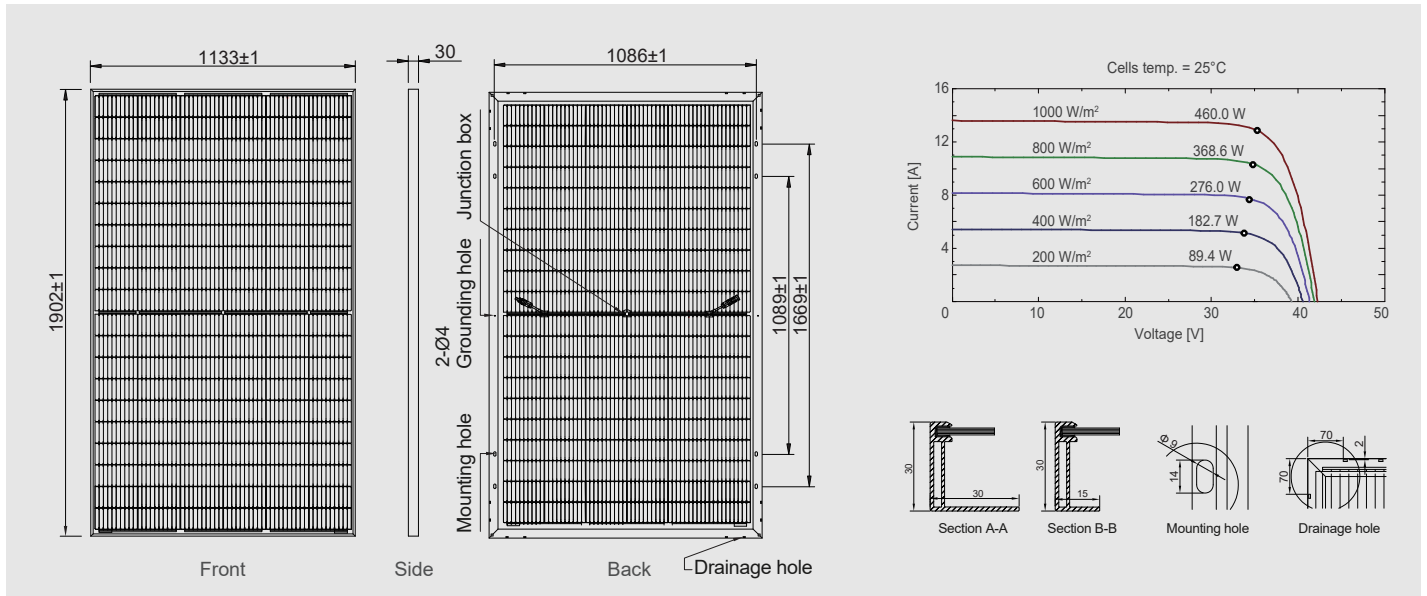


www.ae-solar.com

# AE MD-120BD 440W-460W

P-TYPE PERC TECHNOLOGY PV MODULE

BIFACIAL • DOUBLE-GLASS



## Electrical specifications (STC\*):

Parameter	Symbol	440	445	450	455	460
Nominal max. power	$P_{max}$ (Wp)	440	445	450	455	460
Maximum operating voltage	$V_{MPP}$ (V)	34.62	34.87	35.13	35.38	35.60
Maximum operating current	$I_{MPP}$ (A)	12.71	12.76	12.81	12.86	12.92
Open-circuit voltage	$V_{oc}$ (V)	41.35	41.66	41.98	42.29	42.60
Short-circuit current	$I_{sc}$ (A)	13.47	13.52	13.57	13.62	13.67
Module efficiency	$\eta$ (%)	20.42	20.65	20.88	21.11	21.35
Power tolerance	(W)	0~+5				
Maximum system voltage	(V)	1500				
Maximum series fuse rating	(A)	25				

\*STC: Standard test conditions (Irradiance 1000 W/m<sup>2</sup>, Cell temperature 25°C and air mass of AM1.5), measurement tolerance Pmax: ±3%

## Electrical specifications (NMOT\*):

Parameter	Symbol	331	335	338	342	345
Nominal max. power	$P_{max}$ (Wp)	331	335	338	342	345
Maximum operating voltage	$V_{MPP}$ (V)	32.60	32.80	33.00	33.20	33.40
Maximum operating current	$I_{MPP}$ (A)	10.17	10.21	10.25	10.29	10.34
Open-circuit voltage	$V_{oc}$ (V)	38.80	39.00	39.20	39.40	39.60
Short-circuit current	$I_{sc}$ (A)	10.78	10.82	10.86	10.90	10.94

\*NMOT: Normal Module Operating Temperature (Irradiance 800 W/m<sup>2</sup>, Ambient temperature 20°C, air mass of AM1.5 and wind speed of 1 m/s)

## Bifacial electrical specifications

Parameter	440	445	450	455	460
Max. power front-side $P_{max front}$ (Wp)	440	445	450	455	460
Backside power gain	5% 10%	5% 10%	5% 10%	5% 10%	5% 10%
Total equivalent power $P_{max equ}$ (Wp)	462 484	467 489	473 495	478 500	483 506
Module efficiency $\eta$ (%)	21.44 22.46	21.68 22.71	21.93 22.97	22.17 23.22	22.41 23.48

\*Bifacial Gain: The additional gain from the back side compared to the power of the front side at the standard test condition. It depends on the mounting (structure, height, tilt angle, etc.) and albedo of the ground.

## Mechanical and design specification

Cell type	Gallium-doped mono c-Si PERC, half-cut cells
No. of cells	120
Bifaciality	70 ± 5%
Front cover	2.0 mm glass, high transmission, AR coated, tempered
Encapsulation	POE
Back cover	2.0 mm, high transmission solar glass, tempered
Junction box	IP68 rated, 3 bypass diodes
Frame	30 mm anodized aluminium alloy
Cable	1 x 4 mm <sup>2</sup> , 350 mm length or customized
Connectors	MC 4 / MC 4 compatible
Dimension	1902 mm x 1133 mm x 30 mm
Weight	25.5 kg
Hail resistance	Max. Ø 25 mm at 23 m/s
Wind load	2400 Pa or 244 kg/m <sup>2</sup>
Snow load	5400 Pa or 550 kg/m <sup>2</sup>

## Temperature ratings

Operating temperature	-40 to +85°C
Temp. coefficient of $P_{max}$	-0.35 %/°C
Temp. coefficient of $V_{oc}$	-0.275 %/°C
Temp. coefficient of $I_{sc}$	0.045 %/°C
Nom. operating cell temp. NOCT	45 ± 2°C

## Packaging information

Packaging configuration	36 pcs / pallet
Loading capacity	864 pcs / 40 HQ
Size / Pallet	1945 mm x 1140 mm x 1245 mm
Weight	973 kg / pallet

The specifications and characteristics contained in this datasheet may deviate slightly from our actual products due to the product developments and uncertainty of measurement devices. The specifications included in the datasheet are subject to change without prior notice.