TERRA

PERFECT FOR AGRI-PV SOLUTIONS

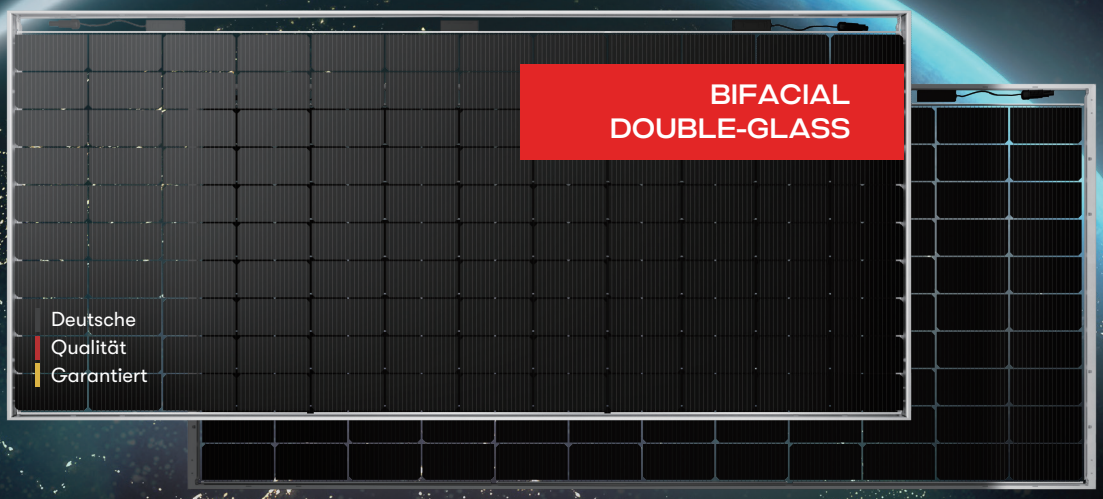
EUPD RESEARCH TOP INNOVATION MODULES GERMANY 2025

Wood Mackenzie Grade A | TIER 1 BloombergNEF | SMM TIER 1 GLOBAL TIER 1 AWARD

460W-480W

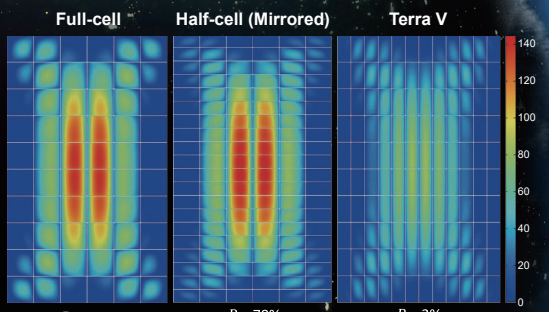
Terra V
CMD-L120BD

20.93% MAXIMUM EFFICIENCY | 120 HALF CELLS



Ver. 26.11.1

- Up to 75% less cell breakage probability under mechanical loads
- Highly durable against wind and snow
- Higher energy yield due to the elimination of self-shading from cables, junction boxes or frames
- Ideal for AgriPV & sound barriers, as well as other vertical installations



P_f = cell fracture probability
First principal stress on the back side of the solar cells at 5400 Pa [1]

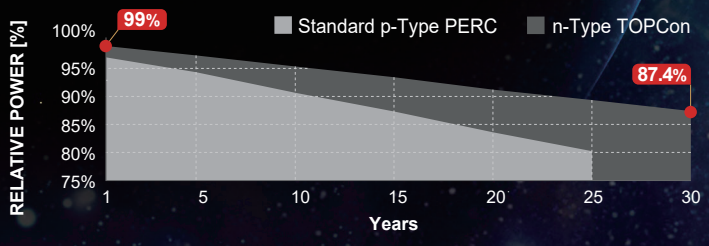
[1] Beinert et al. Prog. In Photovoltaics, 2023

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.

OUR PERFORMANCE WARRANTY



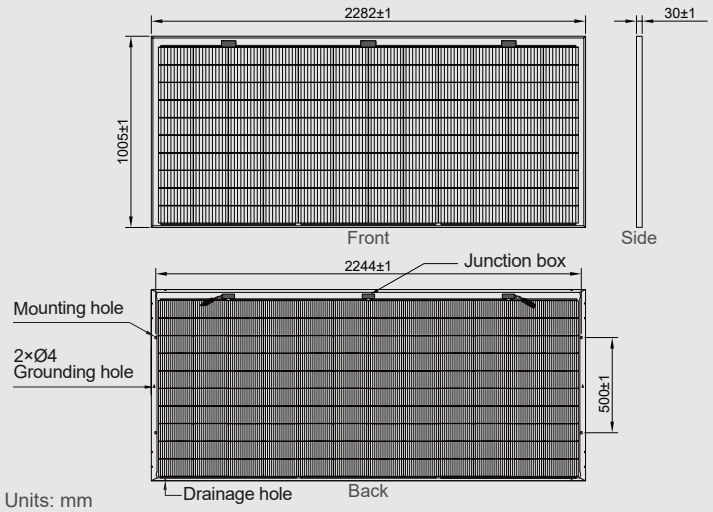
AESOLAR
Since 2003

NO SELF-SHADING FROM FRAME | NO SELF-SHADING FROM CABLES / JUNCTION BOXES | LID RESISTANT | PID RESISTANT | EXTREME RESISTANT TO WIND | EXTREME RESISTANT TO SNOW | HIGHLY STABLE AND TOUGH

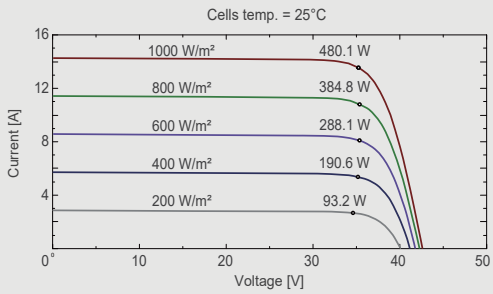
AE CMD-L120BD 460W-480W

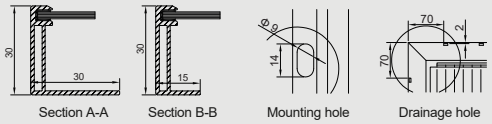
PERFECT FOR AGRI-PV SOLUTIONS

BIFACIAL • DOUBLE-GLASS



Units: mm





Electrical specifications (STC*):

Nominal max. power	P_{max} (Wp)	460	465	470	475	480
Maximum operating voltage	V_{MPP} (V)	34.72	34.89	35.05	35.22	35.38
Maximum operating current	I_{MPP} (A)	13.25	13.33	13.41	13.49	13.57
Open-circuit voltage	V_{oc} (V)	42.05	42.22	42.38	42.54	42.71
Short-circuit current	I_{sc} (A)	13.99	14.07	14.15	14.23	14.31
Module efficiency	η (%)	20.06	20.28	20.49	20.71	20.93
Power tolerance	(W)	0~+5				
Maximum system voltage	(V)	1500				
Maximum series fuse rating	(A)	25				

*STC: Standard test conditions (Irradiance 1000 W/m², Cell temperature 25°C and air mass of AM1.5), measurement tolerance Pmax: ±3%

Electrical specifications (NMOT*):

Nominal max. power	P_{max} (Wp)	350	355	360	365	370
Maximum operating voltage	V_{MPP} (V)	32.61	32.88	33.14	33.40	33.66
Maximum operating current	I_{MPP} (A)	10.73	10.80	10.86	10.93	10.99
Open-circuit voltage	V_{oc} (V)	38.61	38.94	39.26	39.58	39.90
Short-circuit current	I_{sc} (A)	11.33	11.40	11.46	11.53	11.59

*NMOT: Normal Module Operating Temperature (Irradiance 800 W/m², Ambient temperature 20°C, air mass of AM1.5 and wind speed of 1 m/s)

Bifacial electrical specifications

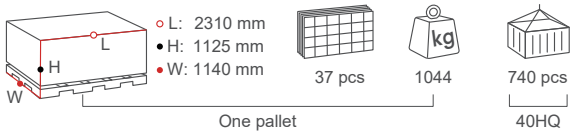
Max. power front-side $P_{max\ front}$ (Wp)	460		465		470		475		480	
Backside power gain	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%
Total equivalent power $P_{max\ equ}$ (Wp)	483	506	488	512	494	517	499	523	504	528
Module efficiency η (%)	21.06	22.07	21.29	22.31	21.52	22.54	21.75	22.79	21.98	23.03

*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	n-Type TOPCon technology, half-cut cells
No. of cells	120
Bifaciality	80 ± 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 (Including Connector)	1 x 4 mm², 300 mm length or customized
Connectors	MC 4 / MC 4 compatible
Dimension	1005 mm x 2282 mm x 30 mm
Weight	27 kg
Hail resistance	Max. Ø 25 mm at 23 m/s
Wind load	2400 Pa or 244 kg/m²
Snow load	5400 Pa or 550 kg/m²

Packaging information



Temperature ratings

Operating temperature	-40 to +85°C
Temp. coefficient of P_{max}	-0.29 %/°C
Temp. coefficient of V_{oc}	-0.25 %/°C
Temp. coefficient of I_{sc}	0.046 %/°C
Nom. operating cell temp. NOCT	42 ± 2°C

SYSTEM AND PRODUCT CERTIFICATIONS

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

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

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.

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