

Deutsche  
Qualität  
Garantiert



144

HALF  
CELLS

166  
mm

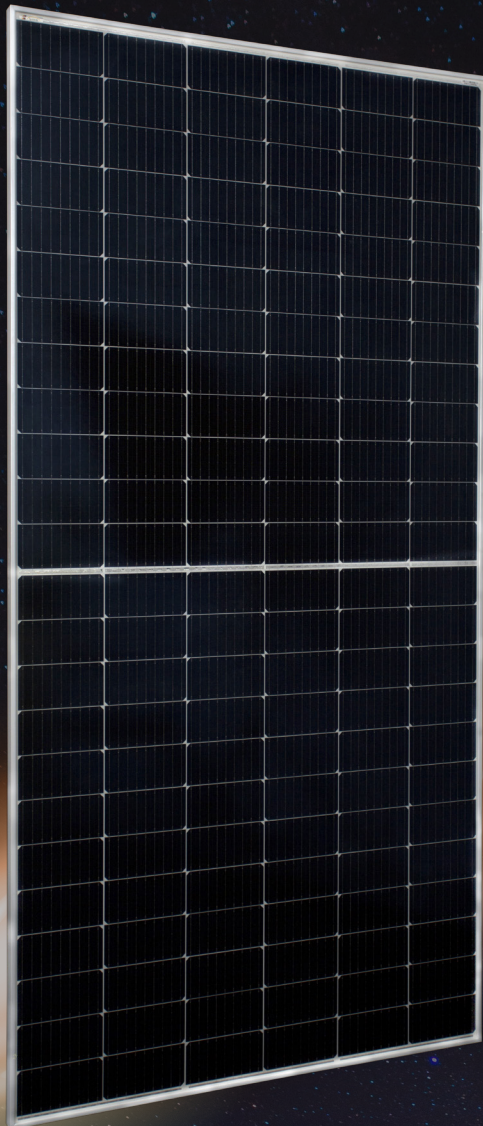
CELL  
SIZE



LID  
RESISTANT



HIGHLY STABLE  
AND TOUGH



ENRICH YOUR  
ENERGY YIELD

30  
years

Performance  
Guarantee

15  
years

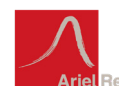
Product  
Warranty

SILICON HETEROJUNCTION PV MODULES  
HALF-CUT CELLS • BIFACIAL • DOUBLE-GLASS

**460W-480W**  
AE TMC-144BDS Series



IEC 61215  
IEC 61730  
Regular Production Surveillance  
Type Tested and Monitored



[www.ae-solar.com](http://www.ae-solar.com)

**Mechanical and design specification**

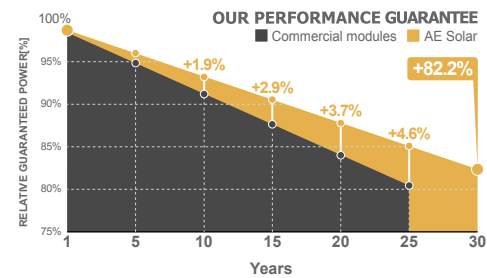
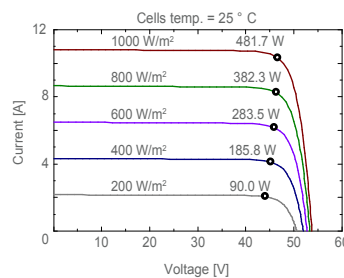
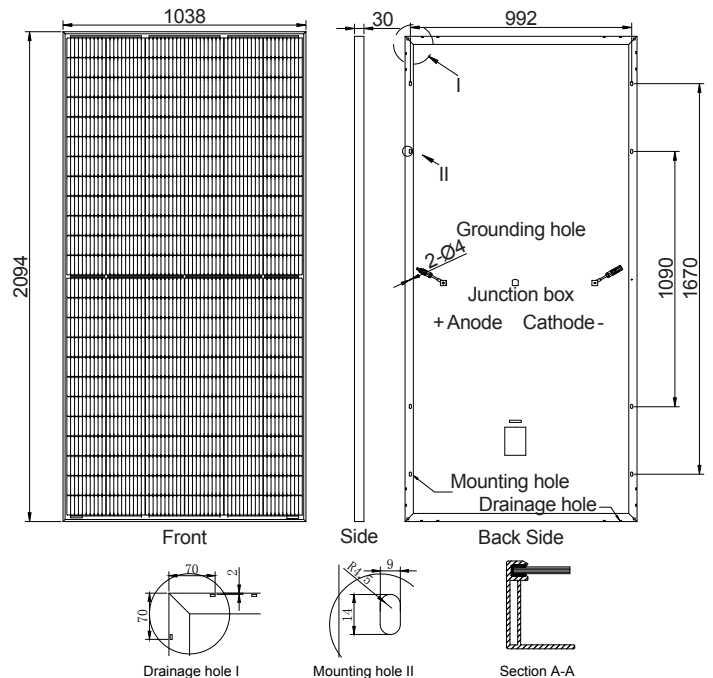
Cell type	Silicon Heterojunction technology, Half-cut cells, 166 mm
No. of cells	144
Bifaciality	80±5%
Glass	2.0 mm, high transmission, AR coated, tempered
Encapsulation	POE
Back cover	2.0 mm, high transmission solar glass, tempered
Junction box	IP 68 rated
Frame	30 mm anodized Aluminium alloy
Cable	1 x 4 mm <sup>2</sup> , 200 mm length or customized
Connectors	MC 4 / MC 4 compatible
Dimension	2094 mm x 1038 mm x 30 mm
Weight	27.5 kg
Hail resistance	Max. Ø 25 mm at 23 m/s
Wind load	2400 Pa/ 244 kg/ m <sup>2</sup>
Mechanical load	5400 Pa/ 550 kg/ m <sup>2</sup>

**Packaging information**

Packaging configuration	35 pcs / pallet
Loading capacity	770 pcs / 40 HQ
Size / Pallet	2125 mm x 1135 mm x 2320 mm
Weight	2010 kg / pallet

**Temperature ratings**

Operating temperature	(°C)	-40 to +85
Temp.coefficient of P <sub>max</sub>	(%/°C)	-0.26
Temp.coefficient of V <sub>oc</sub>	(%/°C)	-0.24
Temp.coefficient of I <sub>sc</sub>	(%/°C)	0.04
Nom. operating temp. NOCT	(°C)	44 ± 2



**Electrical specifications (STC\*): AE460TMC-144BDS AE465TMC-144BDS AE470TMC-144BDS AE475TMC-144BDS AE480TMC-144BDS**

Parameter	AE460TMC-144BDS	AE465TMC-144BDS	AE470TMC-144BDS	AE475TMC-144BDS	AE480TMC-144BDS	
Nominal Max. Power	P <sub>max</sub> (Wp)	460	465	470	475	480
Maximum operating voltage	V <sub>MPP</sub> (V)	45.24	45.44	45.66	45.86	46.08
Maximum operating current	I <sub>MPP</sub> (A)	10.18	10.24	10.30	10.36	10.43
Open-circuit voltage	V <sub>oc</sub> (V)	53.22	53.35	53.48	53.61	53.74
Short-circuit current	I <sub>sc</sub> (A)	10.58	10.64	10.70	10.76	10.82
Module efficiency	η (%)	21.2	21.4	21.6	21.9	22.1
Power tolerance	(W)	0~+5				
Maximum system Voltage	(V)	1500				
Maximum series fuse rating	(A)	20				

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

**Electrical specifications (NMOT\*): AE460TMC-144BDS AE465TMC-144BDS AE470TMC-144BDS AE475TMC-144BDS AE480TMC-144BDS**

Parameter	AE460TMC-144BDS	AE465TMC-144BDS	AE470TMC-144BDS	AE475TMC-144BDS	AE480TMC-144BDS	
Nominal Max. Power	P <sub>max</sub> (Wp)	344	347	351	355	358
Maximum operating voltage	V <sub>MPP</sub> (V)	41.70	41.90	42.11	42.35	42.51
Maximum operating current	I <sub>MPP</sub> (A)	8.24	8.29	8.34	8.38	8.43
Open-circuit voltage	V <sub>oc</sub> (V)	49.52	49.64	49.77	50.09	5.21
Short-circuit current	I <sub>sc</sub> (A)	8.49	8.53	8.54	8.55	8.60

\*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)

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.