

Deutsche  
Qualität  
Garantiert



144

HALF  
CELLS

166  
mm

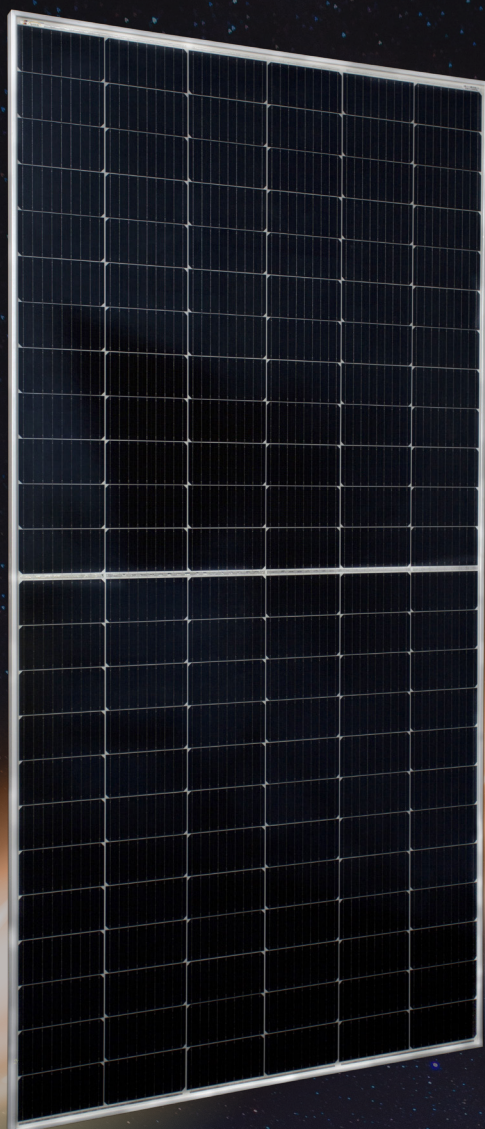
CELL  
SIZE



LID  
RESISTANT



HIGHLY STABLE  
AND TOUGH



ENRICH YOUR  
ENERGY YIELD

30

years

Performance  
Guarantee

15

years

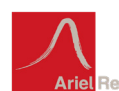
Product  
Warranty

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)



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

### Mechanical and design specification

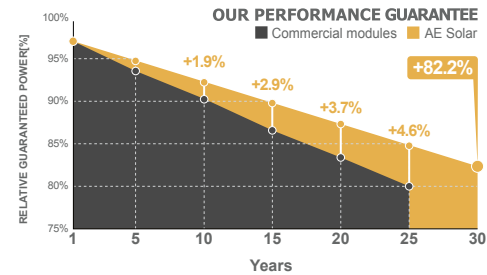
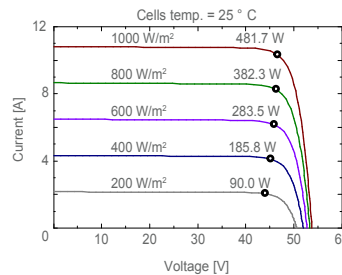
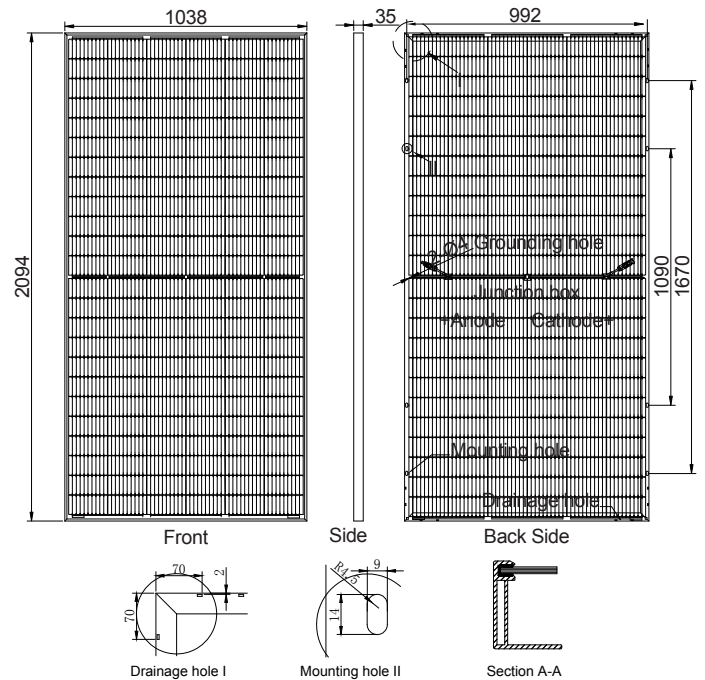
|                 |                                                           |
|-----------------|-----------------------------------------------------------|
| Cell type       | Silicon Heterojunction technology, Half-cut cells, 166 mm |
| No. of cells    | 144                                                       |
| 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 $P_{max}$ | (%/°C) | -0.26      |
| Temp.coefficient of $V_{oc}$  | (%/°C) | -0.24      |
| Temp.coefficient of $I_{sc}$  | (%/°C) | 0.04       |
| Nom. operating temp. NOCT     | (°C)   | 44 ± 2     |



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

|                            |                |       |       |       |       |       |
|----------------------------|----------------|-------|-------|-------|-------|-------|
| Nominal Max. Power         | $P_{max}$ (Wp) | 460   | 465   | 470   | 475   | 480   |
| Maximum operating voltage  | $V_{MPP}$ (V)  | 45.24 | 45.44 | 45.66 | 45.86 | 46.08 |
| Maximum operating current  | $I_{MPP}$ (A)  | 10.18 | 10.24 | 10.30 | 10.36 | 10.43 |
| Open-circuit voltage       | $V_{oc}$ (V)   | 53.22 | 53.35 | 53.48 | 53.61 | 53.74 |
| Short-circuit current      | $I_{sc}$ (A)   | 10.58 | 10.64 | 10.70 | 10.76 | 10.82 |
| Module efficiency          | $\eta$ (%)     | 21.16 | 21.39 | 21.62 | 21.85 | 22.08 |
| 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

|                           |                |       |       |       |       |       |
|---------------------------|----------------|-------|-------|-------|-------|-------|
| Nominal Max. Power        | $P_{max}$ (Wp) | 344   | 347   | 351   | 355   | 358   |
| Maximum operating voltage | $V_{MPP}$ (V)  | 41.70 | 41.90 | 42.11 | 42.35 | 42.51 |
| Maximum operating current | $I_{MPP}$ (A)  | 8.24  | 8.29  | 8.34  | 8.38  | 8.43  |
| Open-circuit voltage      | $V_{oc}$ (V)   | 49.52 | 49.64 | 49.77 | 50.09 | 5.21  |
| Short-circuit current     | $I_{sc}$ (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.

