



Deutsche
Qualität
Garantiert

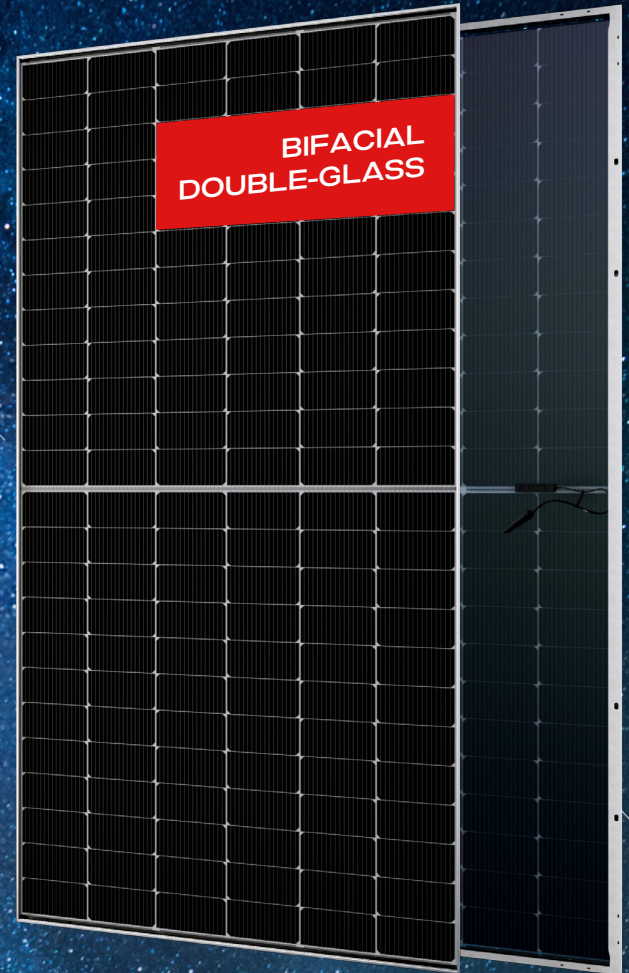
575W-595W

CMD-144BDS

23.05%
MAXIMUM EFFICIENCY

144
HALF CELLS

- ◆ N-type cell technology
- ◆ High efficiency and power output
- ◆ Cost-effective scalability and market dominance
- ◆ Low degradation and high durability
- ◆ No LID or LeTID



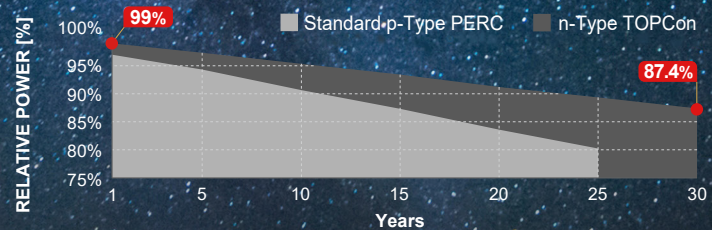
Ver. 25.9.1

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



LID RESISTANT



PID RESISTANT



SALT CORROSION RESISTANT



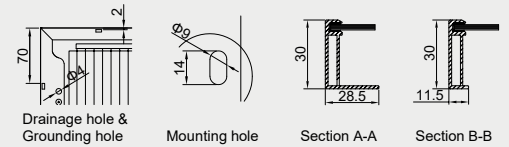
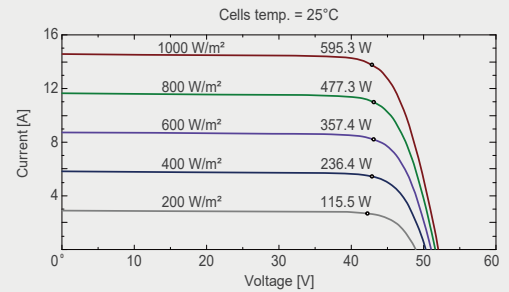
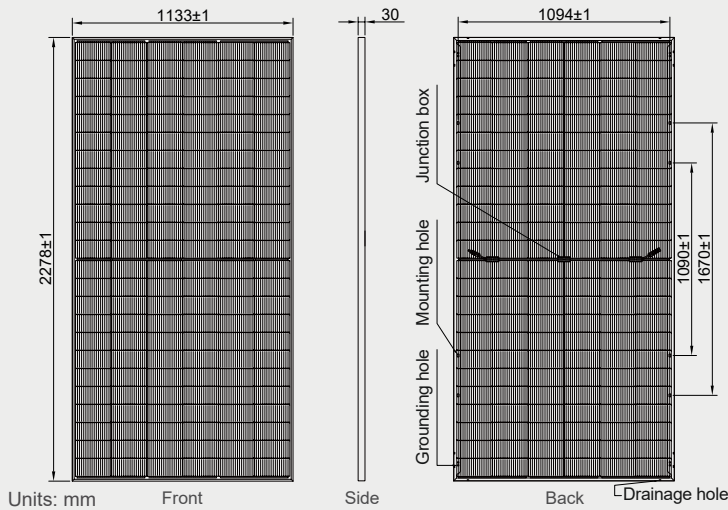
SAND RESISTANT



AMMONIA RESISTANT



HIGHLY STABLE AND TOUGH



Electrical specifications (STC*):

| | | | | | | |
|----------------------------|----------------|-------|-------|-------|-------|-------|
| Nominal max. power | P_{max} (Wp) | 575 | 580 | 585 | 590 | 595 |
| Maximum operating voltage | V_{MPP} (V) | 42.88 | 43.00 | 43.14 | 43.29 | 43.46 |
| Maximum operating current | I_{MPP} (A) | 13.41 | 13.49 | 13.56 | 13.63 | 13.69 |
| Open-circuit voltage | V_{oc} (V) | 52.06 | 52.12 | 52.18 | 52.24 | 52.30 |
| Short-circuit current | I_{sc} (A) | 14.33 | 14.40 | 14.47 | 14.54 | 14.61 |
| Module efficiency | η (%) | 22.28 | 22.47 | 22.67 | 22.86 | 23.05 |
| 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 P_{max}: ±3%

Electrical specifications (NMOT*):

| | | | | | | |
|---------------------------|----------------|-------|-------|-------|-------|-------|
| Nominal max. power | P_{max} (Wp) | 440 | 445 | 450 | 455 | 460 |
| Maximum operating voltage | V_{MPP} (V) | 40.51 | 40.73 | 40.97 | 41.21 | 41.48 |
| Maximum operating current | I_{MPP} (A) | 10.86 | 10.93 | 10.98 | 11.04 | 11.09 |
| Open-circuit voltage | V_{oc} (V) | 47.38 | 47.69 | 47.99 | 48.29 | 48.59 |
| Short-circuit current | I_{sc} (A) | 11.61 | 11.66 | 11.72 | 11.78 | 11.83 |

*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

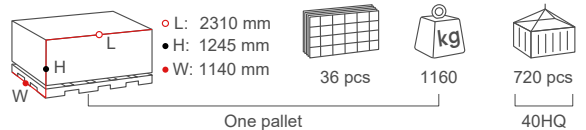
| | | | | | | | | | | |
|------------------------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Max. power front-side | P_{max} front (Wp) | | | | | | | | | |
| | 575 | 580 | 585 | 590 | 595 | | | | | |
| Backside Power Gain | 5% | 10% | 5% | 10% | 5% | 10% | 5% | 10% | 5% | 10% |
| Total equivalent power | P_{max} equ (Wp) | | | | | | | | | |
| | 604 | 633 | 609 | 638 | 614 | 644 | 620 | 649 | 625 | 655 |
| Module efficiency | η (%) | | | | | | | | | |
| | 23.39 | 24.51 | 23.60 | 24.72 | 23.80 | 24.93 | 24.00 | 25.15 | 24.21 | 25.36 |

*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 | 144 |
| Bifaciality | 80 ± 5% |
| Front cover | 2.0 mm glass, high transmission, AR coated, tempered |
| Encapsulation | POE |
| Back cover | 2.0 mm white glazed glass, tempered |
| Junction box | IP68 rated, 3 bypass diodes |
| Frame | 30 mm anodized aluminium alloy |
| Cable (Including Connector) | 1 x 4 mm ² , 350 mm length or customized |
| Connectors | MC 4 / MC 4 compatible |
| Dimension | 2278 mm x 1133 mm x 30 mm |
| Weight | 31 kg |
| Hail resistance | Max. Ø 25 mm at 23 m/s |
| Wind load | 2400 Pa or 244 kg/m ² |
| Snow load | 5400 Pa or 550 kg/m ² |
| Fire rating | Class A (according to UL 790) |

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.