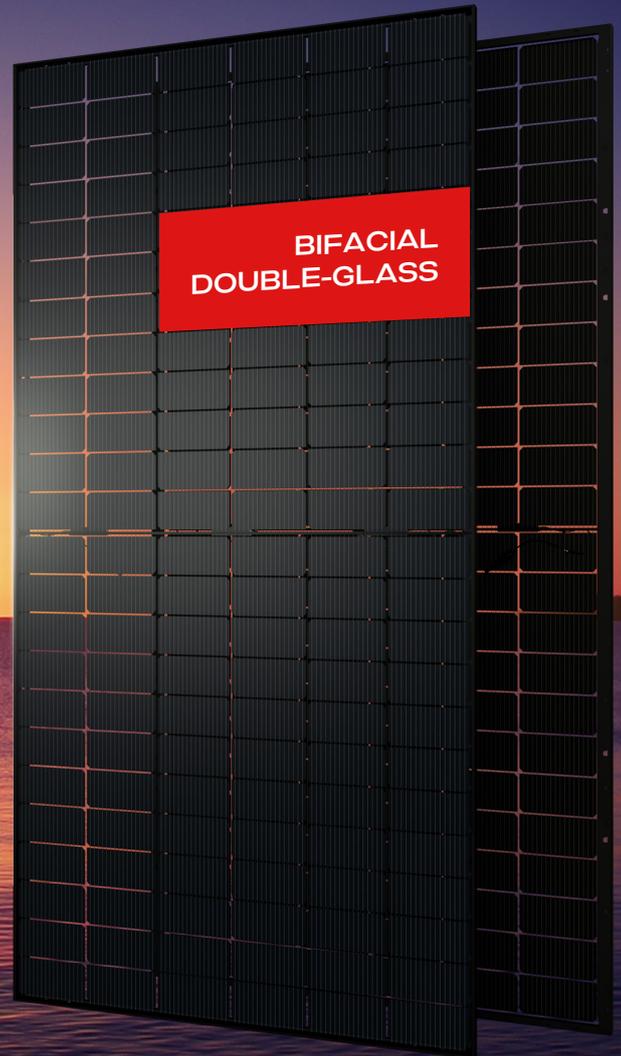


# 570W-590W

**CMD-144BDS**

**22.86%**  
MAXIMUM EFFICIENCY

**144**  
HALF CELLS



Ver. 25.12.1

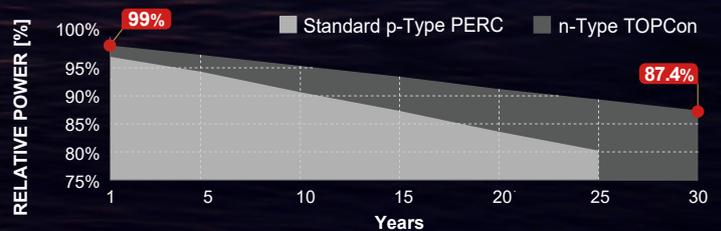
- ◆ Exceeds PV durability standards as per **DIN ISO 12543-4**
- ◆ Highly resistant to impact according to **DIN EN 12600**
- ◆ Highly durable under mechanical loads as per **DIN EN 18008-1 & 2**
- ◆ Module overhead safety ensured by extended adhesion test as per **DIN EN ISO 8510-2**
- ◆ Fire resistant according to **DIN 4102-1**
- ◆ **DIBt** certified (from the German Institute for Construction Technology) for safety, durability, and compliance in building-integrated applications

**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



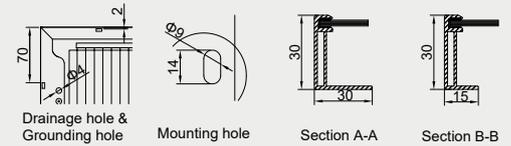
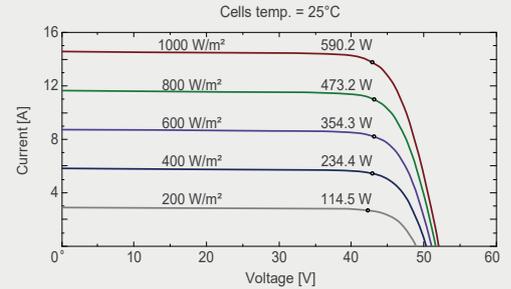
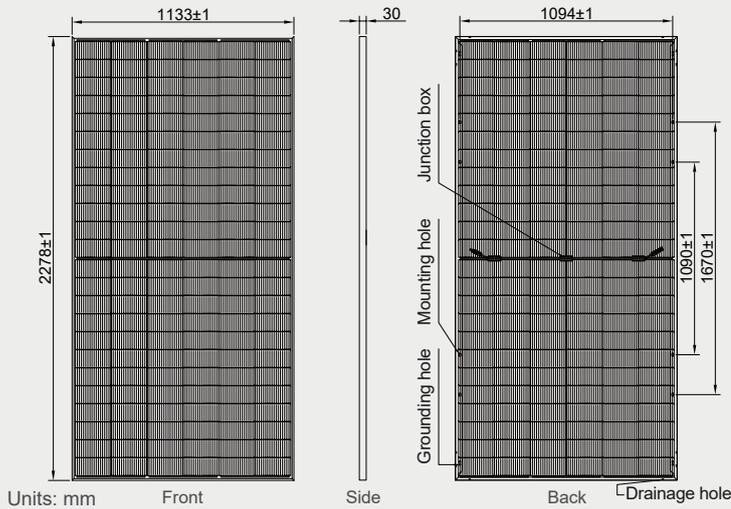
SAND RESISTANT



AMMONIA RESISTANT



HIGHLY STABLE AND TOUGH



### Electrical specifications (STC\*):

Parameter	Symbol	570	575	580	585	590
Nominal max. power	$P_{max}$ (Wp)	570	575	580	585	590
Maximum operating voltage	$V_{MPP}$ (V)	42.72	42.88	43.00	43.14	43.29
Maximum operating current	$I_{MPP}$ (A)	13.34	13.41	13.49	13.56	13.63
Open-circuit voltage	$V_{oc}$ (V)	52.00	52.06	52.12	52.18	52.24
Short-circuit current	$I_{sc}$ (A)	14.26	14.33	14.40	14.47	14.54
Module efficiency	$\eta$ (%)	22.08	22.28	22.47	22.67	22.86
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\*):

Parameter	Symbol	435	440	445	450	455
Nominal max. power	$P_{max}$ (Wp)	435	440	445	450	455
Maximum operating voltage	$V_{MPP}$ (V)	40.26	40.51	40.73	40.97	41.21
Maximum operating current	$I_{MPP}$ (A)	10.81	10.86	10.93	10.98	11.04
Open-circuit voltage	$V_{oc}$ (V)	47.08	47.38	47.69	47.99	48.29
Short-circuit current	$I_{sc}$ (A)	11.55	11.61	11.66	11.72	11.78

\*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

Parameter	570	575	580	585	590
Max. power front-side	570	575	580	585	590
$P_{max}$ front (Wp)					
Backside Power Gain	5% 10%	5% 10%	5% 10%	5% 10%	5% 10%
Total equivalent power	598 627	604 633	609 638	614 644	620 649
$P_{max}$ equ (Wp)					
Module efficiency	23.18 24.29	23.39 24.51	23.60 24.72	23.80 24.93	24.00 25.15
$\eta$ (%)					

\*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.

### SYSTEM AND PRODUCT CERTIFICATIONS



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

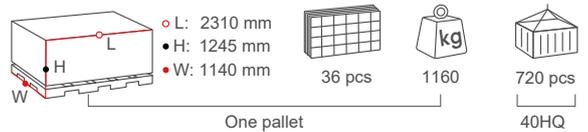
IEC 62716 (Ammonia corrosion)  
IEC 61701 (Salt mist corrosion)  
IEC 60068 (Sand and dust)  
IEC 62804 (PID resistance)



### 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, 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, 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/m²
Snow load	5400 Pa or 550 kg/m²
Fire rating	Class A (according to UL 790)
Transparency	8%

### 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

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.