

# 575W-595W

**CMD-144BDS-I**

**23.05%**  
MAXIMUM EFFICIENCY

**144**  
HALF CELLS

- ◆ Certified to endure 40mm hailstones (HW4)
- ◆ 3.2 mm glass thickness on the front, offering exceptional durability
- ◆ T6 high-strength anodized aluminum alloy frame, ensuring stability in harsh conditions
- ◆ Long-term reliability for hail-prone regions



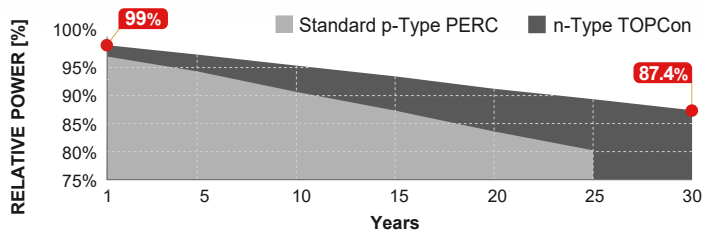
Ver. 25.4.1

**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



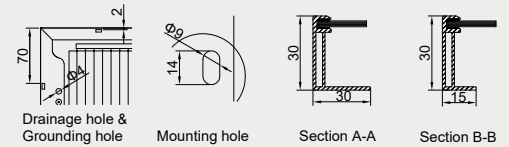
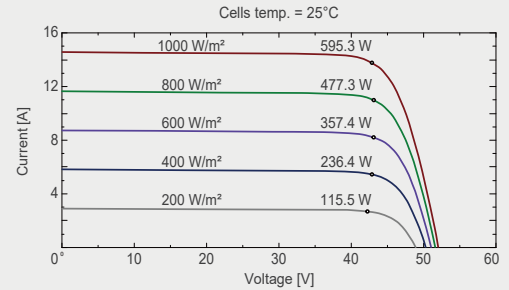
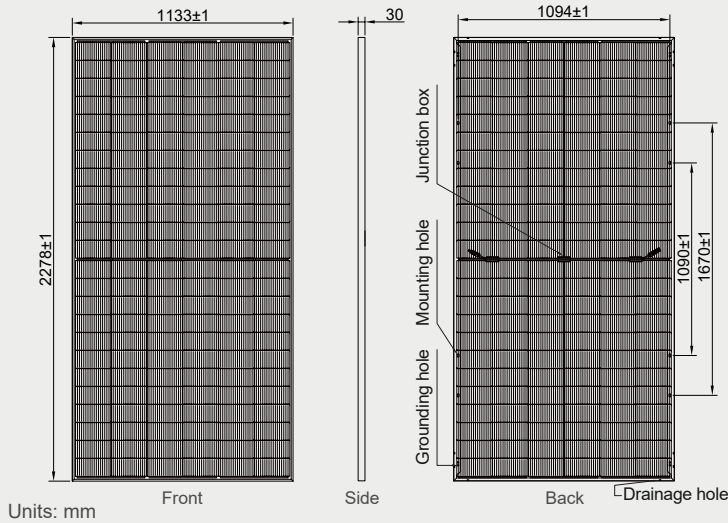
SAND RESISTANT



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	$\eta$ (%)	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/m<sup>2</sup>, 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/m<sup>2</sup>, ambient temperature 20°C, air mass of AM1.5 and wind speed of 1 m/s)

### Bifacial electrical specifications

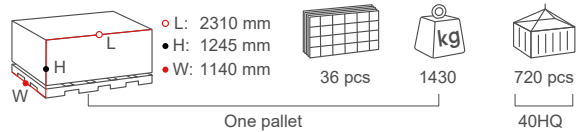
Max. power front-side	$P_{max}$ front (Wp)		575	580	585	590	595					
Backside Power Gain	5%	10%	5%	10%	5%	10%	5%	10%				
Total equivalent power	$P_{max equ}$ (Wp)		604	633	609	638	614	644	620	649	625	655
Module efficiency	$\eta$ (%)		23.39	24.51	23.60	24.72	23.80	24.93	24.00	25.15	24.21	25.36

\*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	3.2 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 <sup>2</sup> , 350 mm length or customized
Connectors	MC 4 / MC 4 compatible
Dimension	2278 mm x 1133 mm x 30 mm
Weight	38.5 kg
Hail resistance	Max. Ø 40 mm at 27.5 m/s
Wind load	3600 Pa or 367 kg/m <sup>2</sup>
Snow load	6000 Pa or 612 kg/m <sup>2</sup>
Fire rating	Class A (according to UL 790)

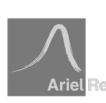
### Packaging information



### 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.



**AESOLAR**

Since 2003

+49 8231 978268 0  
sales@ae-solar.com  
www.ae-solar.com

**AESOLAR**  
Senefelderstraße 23  
86368 Gersthofen, Germany