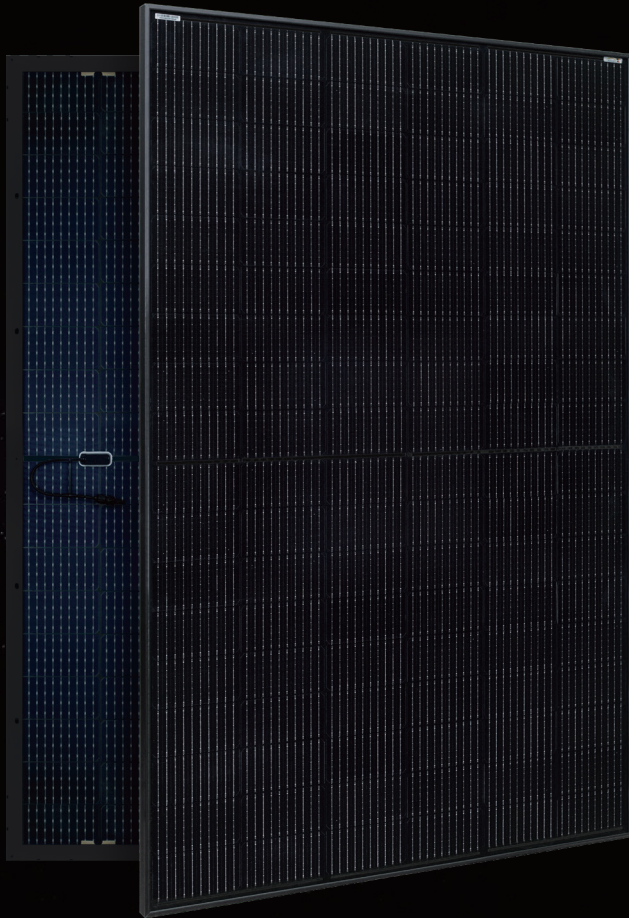




since 2003



**mete<sup>r</sup>**

More power, less degradation

**30**  
years  
Performance  
Guarantee

**30**  
years  
Product  
Guarantee

**420W-440W**  
**AE CMD-108BDE Series**

N-TYPE TOPCON TECHNOLOGY PV MODULES  
HALF-CUT CELLS • BLACK • DOUBLE-GLASS

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

**108**

HALF  
CELLS

**182**  
mm

CELL  
SIZE



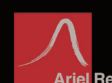
LID  
RESISTANT



HIGHLY STABLE  
AND TOUGH



IEC 61215  
IEC 61730  
Regular Production Surveillance  
Type Tested and Monitored



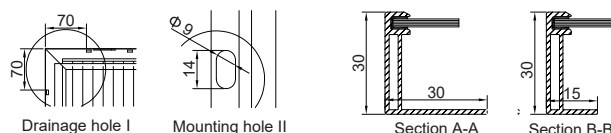
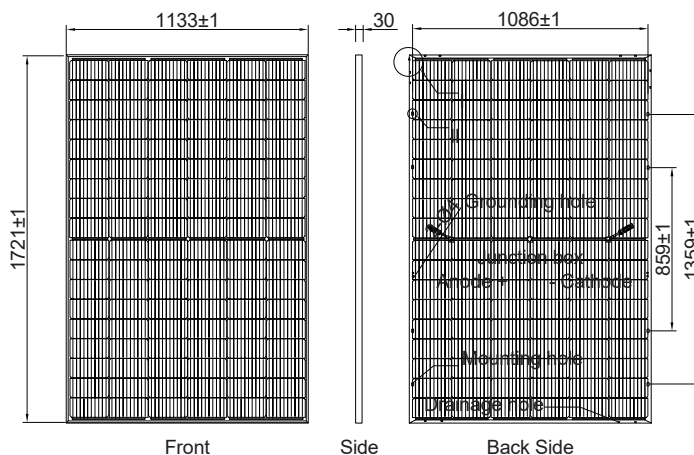
# AE CMD-108BDE Series 420W-440W



N-TYPE TOPCON TECHNOLOGY PV MODULES  
HALF-CUT CELLS • BLACK • DOUBLE-GLASS BLACK

## Mechanical and design specification

Cell type	N-type TOPCon Technology, Half-cut cells, 182 mm
No. of cells	108
Bifaciality	$\phi P_{max}$ : 80±5%, $\phi I_{sc}$ : 80±5%, $\phi V_{oc}$ : 99±1%
Front cover	1.8mm glass, high transmission, AR coated, tempered
Encapsulation	POE
Back cover	1.8 mm high transmission solar glass, tempered
Junction box	IP68 rated, 3 Bypass Diodes
Frame	30 mm anodized Aluminium alloy
Cable	1 x 4 mm <sup>2</sup> , 350 mm length or customized
Connectors	MC 4 - EVO 2
Dimension	1721 mm x 1133 mm x 30 mm
Weight	22.5 kg
Hail resistance	Max. Ø 25 mm at 23 m/s
Wind load	2400Pa / 244kg/m <sup>2</sup>
Snow load	5400Pa / 550kg/m <sup>2</sup>
Fire Rating	Class A (according to UL 790)

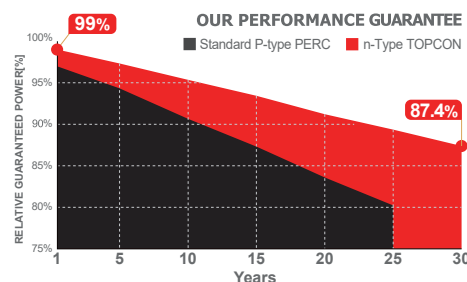
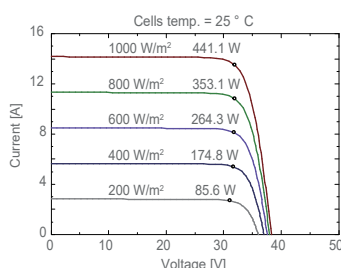


## Packaging information

Packaging configuration	36 pcs / pallet
Loading capacity	936 pcs / 40 HQ
Size / Pallet	1755 mm x 1140 mm x 1245 mm
Weight	880 kg / pallet

## Temperature ratings

Operating temperature	(°C)	-40 to +85
Temp.coefficient of $P_{max}$	(%/°C)	-0.30
Temp.coefficient of $V_{oc}$	(%/°C)	-0.25
Temp.coefficient of $I_{sc}$	(%/°C)	0.046
Nom. operating temp. NOCT	(°C)	42 ± 2



## Electrical specifications

		AE420CMD-108BDE		AE425CMD-108BDE		AE430CMD-108BDE		AE435CMD-108BDE		AE440CMD-108BDE	
		STC*	BNPI*	STC	BNPI	STC	BNPI	STC	BNPI	STC	BNPI
Nominal Max. Power	$P_{max}$ (Wp)	420	465.4	425	470.9	430	476.4	435	482.0	440	487.5
Maximum operating voltage	$V_{MPP}$ (V)	32.04	32.04	32.25	32.25	32.43	32.43	32.64	32.64	32.84	32.84
Maximum operating current	$I_{MPP}$ (A)	13.11	14.52	13.18	14.60	13.26	14.69	13.33	14.77	13.40	14.85
Open-circuit voltage	$V_{oc}$ (V)	37.86	37.86	38.08	38.08	38.26	38.26	38.46	38.46	38.66	38.66
Short-circuit current	$I_{sc}$ (A)	14.03	15.36	14.10	15.46	14.17	15.57	14.23	15.66	14.30	15.76
Module efficiency	$\eta$ (%)	21.54		21.80		22.05		22.31		22.57	
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)

\*BNPI: Bifacial Nameplate Irradiance (Front side irradiance 1000 W/m<sup>2</sup>, Back side reflected irradiance 135 W/m<sup>2</sup>, Cell temperature 25°C and air mass of AM1.5)

Power measurement tolerance: ±3%

## Electrical specifications (NMOT\*): AE420CMD-108BDE AE425CMD-108BDE AE430CMD-108BDE AE435CMD-108BDE AE440CMD-108BDE

		AE420CMD-108BDE	AE425CMD-108BDE	AE430CMD-108BDE	AE435CMD-108BDE	AE440CMD-108BDE
Nominal Max. Power	$P_{max}$ (Wp)	320.0	323.5	327.1	331.0	335.3
Maximum operating voltage	$V_{MPP}$ (V)	29.70	29.90	30.10	30.30	30.51
Maximum operating current	$I_{MPP}$ (A)	10.76	10.81	10.87	10.93	10.99
Open-circuit voltage	$V_{oc}$ (V)	35.8	36.0	36.2	36.4	36.6
Short-circuit current	$I_{sc}$ (A)	11.31	11.37	11.42	11.48	11.54

\*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)

Country of Manufacturer: China

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.

