TIER 1 BloombergNEF

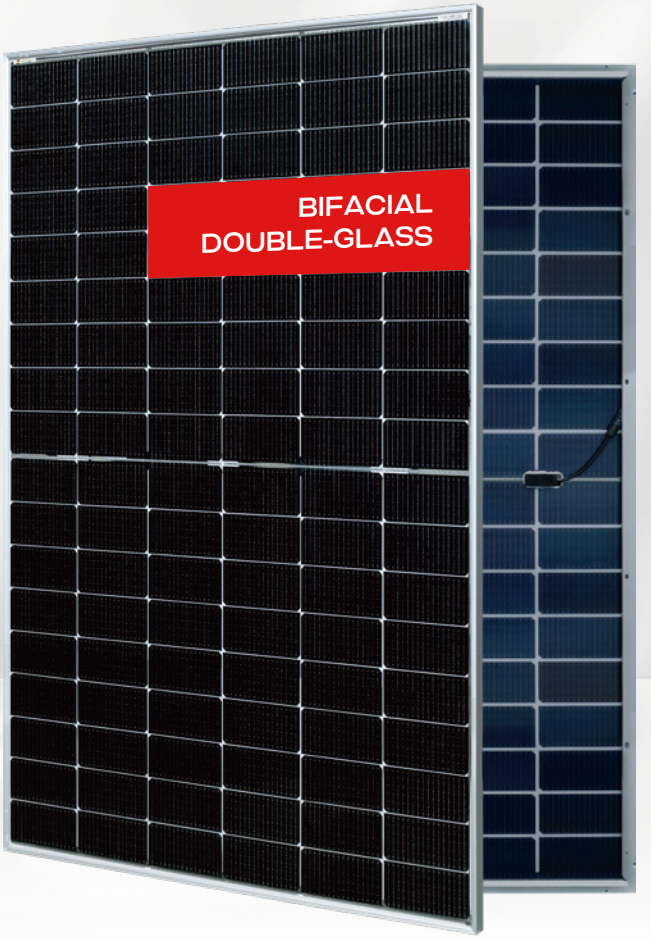
Deutsche
Qualität
Garantiert

NEBULA
N-TYPE TOPCON TECHNOLOGY

CMD-108BDS
420W-440W
More power, less degradation

22.57%
MAXIMUM EFFICIENCY

108
HALF CELLS



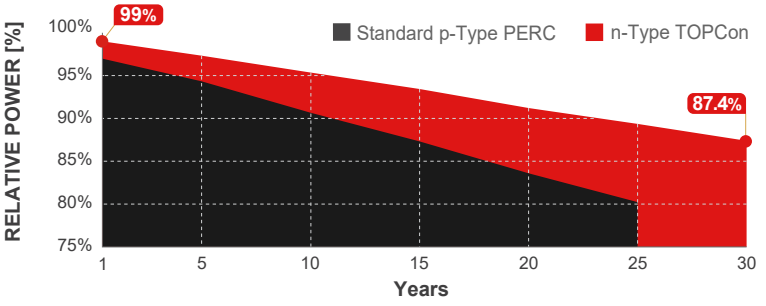
30 YEARS
Performance Warranty

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.

LID RESISTANT | PID RESISTANT | SALT CORROSION RESISTANT | SAND RESISTANT | AMMONIA RESISTANT | HIGHLY STABLE AND TOUGH

OUR PERFORMANCE WARRANTY



SYSTEM AND PRODUCT CERTIFICATIONS

IEC 61215 IEC 61730
Regular Production Surveillance
www.tuv.com
ID 1111257249

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

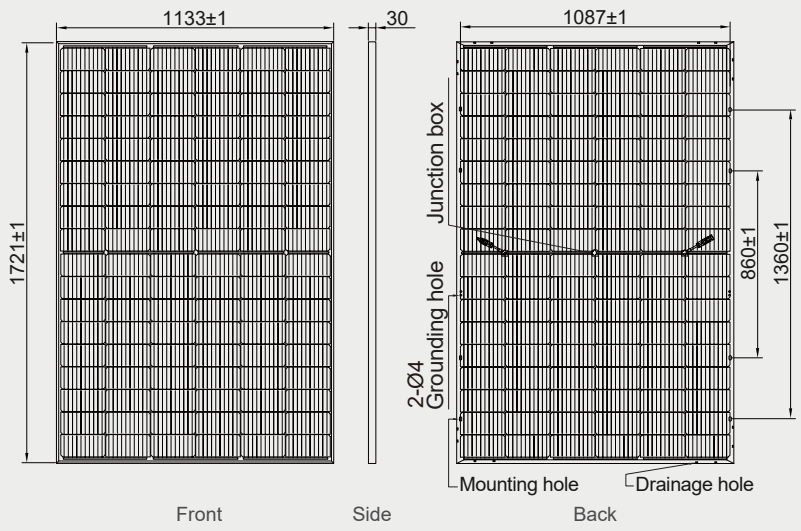
DEUTSUN®

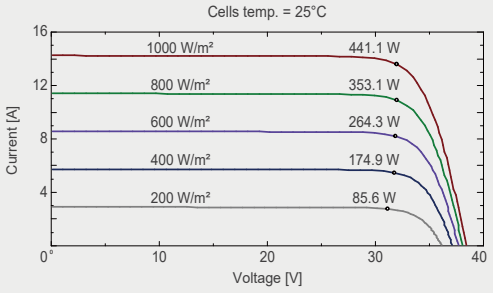
www.deutsun.com

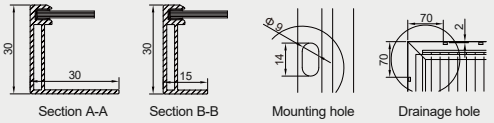
D S **CMD-108BDS420W-440W**

N-TYPE TOPCON TECHNOLOGY PV MODULE

BIFACIAL • DOUBLE-GLASS







Electrical specifications (STC*):

Nominal max. power	P_{max} (Wp)	420	425	430	435	440
Maximum operating voltage	V_{MPP} (V)	32.04	32.25	32.43	32.64	32.84
Maximum operating current	I_{MPP} (A)	13.11	13.18	13.26	13.33	13.40
Open-circuit voltage	V_{oc} (V)	37.86	38.08	38.26	38.46	38.66
Short-circuit current	I_{sc} (A)	14.03	14.10	14.17	14.23	14.30
Module efficiency	η (%)	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/m², cell temperature 25°C and air mass of AM1.5), measurement tolerance Pmax: ±3%

Electrical specifications (NMOT*):

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)	35.80	36.00	36.20	36.40	36.60
Short-circuit current	I_{sc} (A)	11.31	11.37	11.42	11.48	11.54

*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)	420		425		430		435		440	
Backside Power Gain	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%
Total equivalent power $P_{max\ equ}$ (Wp)	441	462	446	468	452	473	457	479	462	484
Module efficiency η (%)	22.62	23.70	22.89	23.98	23.16	24.26	23.43	24.54	23.70	24.83

*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	108
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 mm², 350 mm length or customized
Connectors	MC 4 / MC 4 compatible
Dimension	1721 mm x 1133 mm x 30 mm
Weight	23.5 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)

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

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

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.

DEUTSUN®

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www.deutsun.com