



410-430W

NDXXX-108TC10 BFS DG

SEE-THROUGH

Topcon 16BB Half-cut Bifacial Dual-Glass Module



Blackframe NORD EcoSeries SEE-THROUGH Module ►



SEE-THROUGH TECHNOLOGY

The see-through technology of the PV module allows daylight to shine through the module thanks to transparent foil. This unique design element offers many possibilities, it can be used for residential applications, for example a terrace, or also in commercial applications such as hall roofing. Anywhere, with natural daylight.



N-TYPE TOPCON TECHNOLOGY FOR LOWER LCOE

The lower temperature coefficient and better low irradiance performance of Topcon technology can effectively reduce LCOE.



30-YEARS POWER WARRANTY

The longest lifespan with dual-glass technology, lasts through generations. The average life of dual-glass modules is 30 years.



DOUBLE-SIDED POWER GENERATION, HIGHER INCOME

The dual-glass module has a double-sided ratio of up to 80% and a power generation gain of 7%-25% on the back side.



TIER 1 MANUFACTURER

PV modules are manufactured on the Tier 1 manufacturer's production lines under strict control.

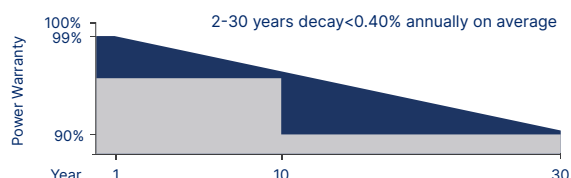
LINEAR PERFORMANCE WARRANTY

18
years

Product warranty on materials and workmanship

30
years

Linear power output warranty



CERTIFICATES

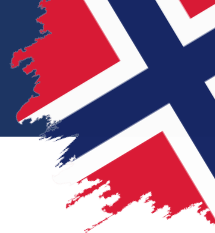
ISO 9001: 2015
Quality Management System

ISO 14001: 2015
Environmental Management System

IEC EN 61215 / IEC EN 61730

OHSAS 18001: 2007
Occupational Health &
Safety Management System





ELECTRICAL PARAMETERS AT STC

Max. Power Output Pmax (W)	410	415	420	425	430
Power Tolerance	0~+3%	0~+3%	0~+3%	0~+3%	0~+3%
Max. Power Voltage Vmp (V)	31.28	31.49	31.70	31.91	32.12
Max. Power Current Imp (A)	13.11	13.18	13.25	13.32	13.39
Short Circuit Current Voc (V)	37.90	38.11	38.32	38.53	38.74
Short Circuit Current Isc (A)	13.84	14.07	14.30	14.53	14.76
Module Efficiency (%)	21.00	21.25	21.51	21.77	22.02

*STC (Standard Test Condition): Irradiance 1000W/m², Cell Temperature 25°C, Air Mass 1.5

*Measurement Tolerance (±3.0%)

INTEGRATED POWER AT STC (Reference to 420W front)

Power Gains	5%	10%	15%	20%	25%
Max. Power Output Pmax (W)	455	477	483	504	525
Max. Power Voltage Vmp (V)	32.70	32.70	31.70	31.70	31.70
Max. Power Current Imp (A)	13.91	14.58	15.24	15.90	16.56
Open circuit Voltage Voc (V)	38.32	38.32	39.32	39.32	39.32
Short Circuit Current Isc (A)	15.02	15.73	16.45	17.16	17.88

TEMPERATURE COEFFICIENTS

Temperature Coefficients of Pmp	-0.30%/°C
Temperature Coefficients of Voc	-0.25%/°C
Temperature Coefficients of Isc	+0.046%/°C

MECHANICAL PARAMETERS

Cell Type	Topcon 182×91mm
Number of Cells	108pcs (6×18)
Dimensions (L*W*H)	1722×1134×30mm
Weight	20.8kg
Frame	Anodised Aluminum, blackframe
Junction Box	IP68, 3 bypass diodes
Cable / Length	MC4 connectors 4.0mm ² / 1.2m
Transparent Glass	1.6mm + 1.6mm

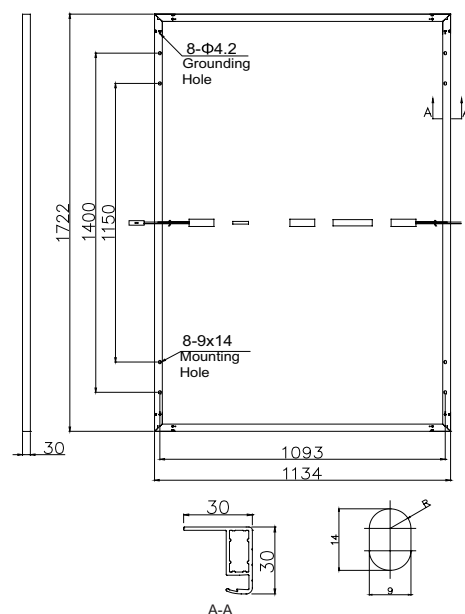
OPERATING CONDITION

Maximum System Voltage (V)	1500 (DC)
Operating Temperature (°C)	-40~+85
Max. Wind Load / Snow Load (Pa)	2400/5400
Max. Series Fuse Rating (A)	25
Fire Rating	Class A
Bifaciality	80±5%
NOCT	45°C

PACKAGE INFORMATION

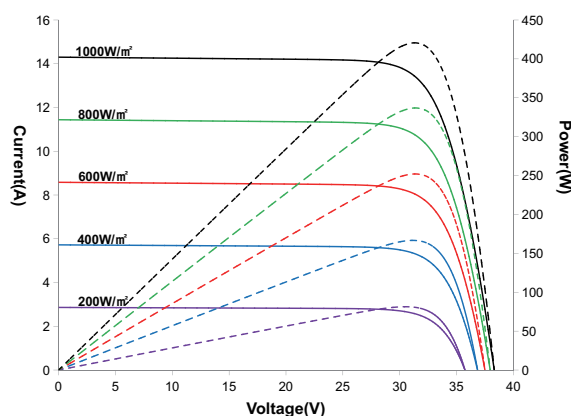
Container 40'HQ	936pcs
Quantity / Pallet	36pcs
Package size / Net weight / Gross weight	1750×1120×1254mm / 882kg / 924kg

ASSEMBLY DRAWING (Unit: mm)



I-V CURVES

Test temperature 25°C



Irradiance: AM1.5, 1000W/m²

