



# TN 182\*182 425-450W

High efficiency bifacial modules

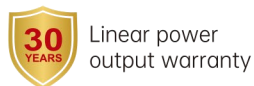
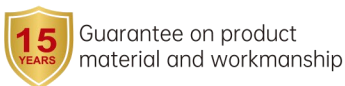
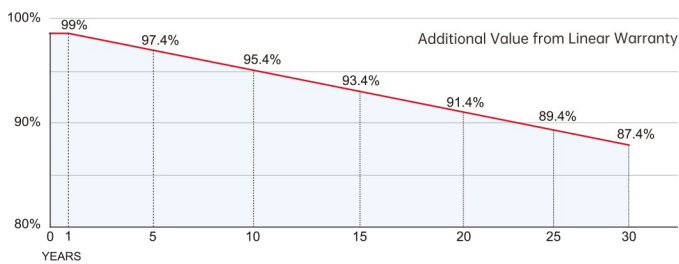
## • QUALITY SYSTEM

ISO9001 / ISO14001 / ISO45001

## • PRODUCT CERTIFICATION



## • WARRANTY



## • TOPCON MODULE ADVANTAGE



Multi-Busbar technology



capacity



High module efficiency



Excellent low-light



Lower annual attenuation  
Longer warranty



LCOE



Reduce hot spot effect



Higher bifaciality





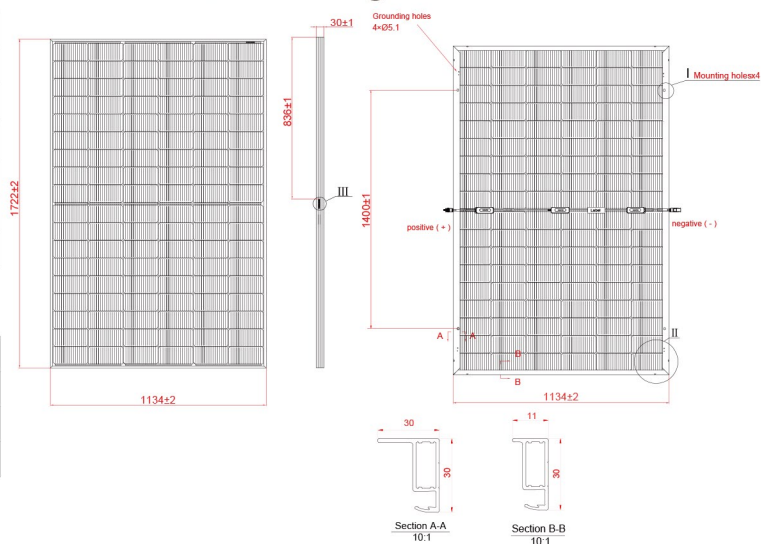
## Mechanical Specifications

External Dimension	1722 x 1134 x 30 mm	
Weight	24.0 kg	
Solar Cells	182N-TOPCon (108pcs)	
Front / Back Glass	2.0mm AR coating semi-tempered glass, low iron	
Frame	Anodized aluminium alloy	
Junction Box	IP68, 3 diodes	
Output Cables	4.0mm <sup>2</sup> , 250mm(+)/350mm(-) or Customized Length	

## Packing Configuration

Container	20'GP	40'HQ
Pieces per Pallet	36	36
Pallets per Container	6	26
Pieces per Container	216	936

## Technical drawing



## Electrical Characteristics

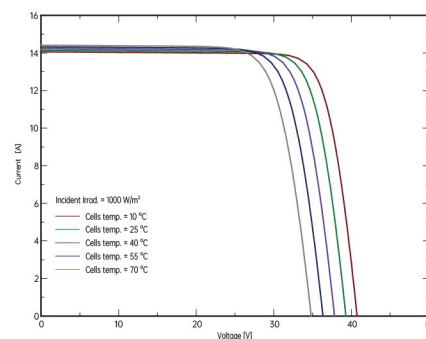
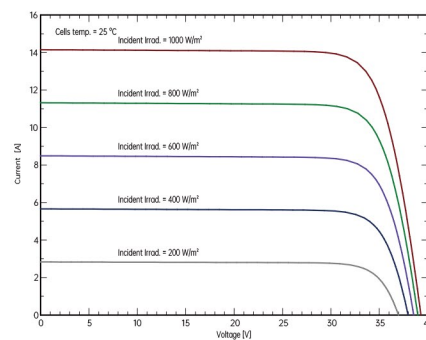
Module Type	425		430		435		440		445		450	
	Front STC	Front BNPI	Front STC	Front BNPI	Front STC	Front BNPI	Front STC	Front BNPI	Front STC	Front BNPI	Front STC	Front BNPI
Maximum Power -P <sub>mp</sub> (W)	425	466	430	471	435	477	440	482	445	488	450	493
Open Circuit Voltage -V <sub>oc</sub> (V)	38.70	38.78	38.90	38.98	39.10	39.18	39.30	39.38	39.50	39.58	39.70	39.78
Short Circuit Current -I <sub>sc</sub> (A)	13.91	15.25	13.99	15.33	14.07	15.42	14.15	15.51	14.23	15.60	14.31	15.68
Maximum Power Voltage -V <sub>mp</sub> (V)	32.10	32.18	32.30	32.38	32.50	32.58	32.70	32.78	32.90	32.98	33.10	33.18
Maximum Power Current -I <sub>mp</sub> (A)	13.24	14.47	13.32	14.55	13.39	14.63	13.47	14.71	13.54	14.79	13.61	14.86
Module Efficiency STC-η <sub>m</sub> (%)	21.76		22.02		22.28		22.53		22.79		23.04	
Power Tolerance (W)	(0, +4.99)											

STC: Irradiance 1000 W/m<sup>2</sup> module temperature 25°C AM=1.5 Power measurement tolerance: +/-3%; Voltage measurement tolerance: +/-3%; Current measurement tolerance: +/-4%  
 BNPI: front 1000 W/m<sup>2</sup> rear 135 W/m<sup>2</sup> Power measurement tolerance: +/-3%; Voltage measurement tolerance: +/-3%; Current measurement tolerance: +/-4%

## Rear Side Power Gain( 440W)

Power Gain	10%	15%	20%	25%	30%
Maximum Power -P <sub>mp</sub> (W)	484	506	528	550	572
Open Circuit Voltage -V <sub>oc</sub> (V)	39.30	39.30	39.30	39.30	39.30
Short Circuit Current -I <sub>sc</sub> (A)	15.57	16.27	16.98	17.69	18.40
Maximum Power Voltage -V <sub>mp</sub> (V)	32.70	32.70	32.70	32.70	32.70
Maximum Power Current -I <sub>mp</sub> (A)	14.82	15.49	16.16	16.84	17.51

## I-V Curve



## Temperature Ratings

Pmax Temperature Coefficient	-0.29 %/°C
Voc Temperature Coefficient	-0.25 %/°C
Isc Temperature Coefficient	+0.046 %/°C

## Application Conditions

Maximum System Voltage	1500V DC
Maximum Series Fuse Rating	25 A
Operating Temperature	-40~+85 °C
Nominal Operating Cell Temperature	45±2 °C
Bifaciality	80%±5%
Mechanical Load	Front side 5400 Pa / Back side 2400 Pa

