









# Nebula 430-445w

Lightweight high efficiency bifacial modules



**TOPCon 182mm**

• **TOPCon MODULE ADVANTAGE**

-  Multi-Busbar technology
-  Superior load capacity
-  High module efficiency
-  Excellent low-light performance
-  Lower annual attenuation  
Longer warranty
-  Low BOS and LCOE
-  Reduce hot spot effect
-  Higher bifaciality

• **QUALITY SYSTEM**

ISO9001 / ISO14001 / ISO45001

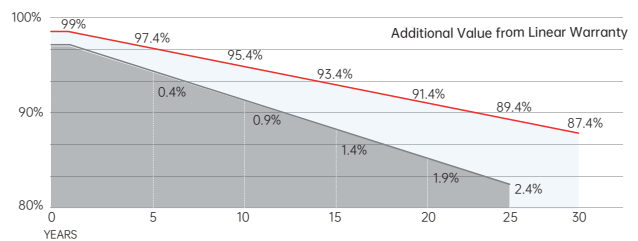
• **PRODUCT CERTIFICATION**



• **INSURANCE**



• **WARRANTY**



**15 YEARS** Guarantee on product material and workmanship

**30 YEARS** Linear power output warranty



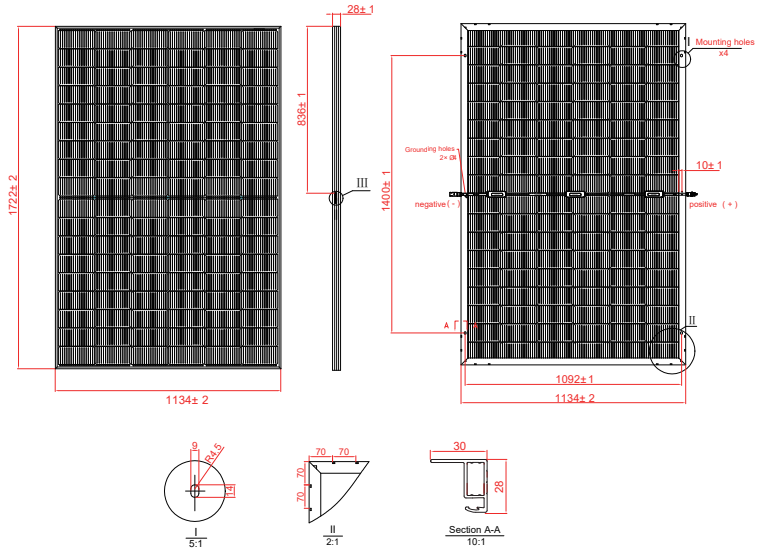
## Mechanical Specifications

External Dimension	1722 x 1134 x 28 mm
Weight	21.0 kg
Solar Cells	TOPCon 182 x 91mm (108pcs)
Front / Back Glass	1.6mm 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	39	39
Pallets per Container	6	26
Pieces per Container	234	1014

## Technical drawing



## Electrical Characteristics

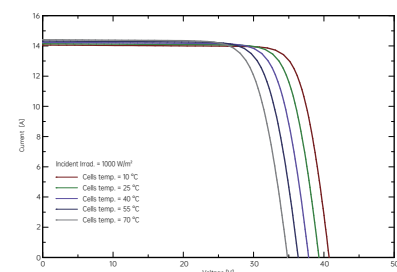
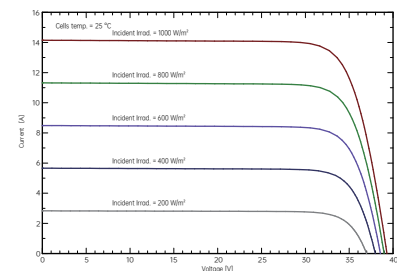
Module Type	SRP-430-BTD-BG			SRP-435-BTD-BG			SRP-440-BTD-BG			SRP-445-BTD-BG		
	Front STC	Front BNPI	Back STC	Front STC	Front BNPI	Back STC	Front STC	Front BNPI	Back STC	Front STC	Front BNPI	Back STC
Maximum Power -P <sub>mp</sub> (W)	430	471	344	435	477	348	440	482	352	445	488	356
Open Circuit Voltage -V <sub>oc</sub> (V)	38.90	38.98	38.88	39.10	39.18	39.08	39.30	39.38	39.28	39.50	39.58	39.48
Short Circuit Current -I <sub>sc</sub> (A)	13.99	15.33	11.19	14.07	15.42	11.26	14.15	15.51	11.32	14.23	15.60	11.38
Maximum Power Voltage -V <sub>mp</sub> (V)	32.30	32.38	32.28	32.50	32.58	32.48	32.70	32.78	32.68	32.90	32.98	32.88
Maximum Power Current -I <sub>mp</sub> (A)	13.32	14.55	10.66	13.39	14.63	10.72	13.47	14.71	10.78	13.54	14.79	10.84
Module Efficiency STC-η <sub>m</sub> (%)	22.02			22.28			22.53			22.79		
Power Tolerance (W)	(0, +4.99)											
Pmax Temperature Coefficient	-0.29 %/°C											
Voc Temperature Coefficient	-0.25 %/°C											
Isc Temperature Coefficient	+0.046 %/°C											

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( SRP-440-BTD-BG )

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



## 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

