

### 470-490 W

### Topcon N-Type

 182 mm bifacial half cell

 1.909 x 1.134 mm

 27 kg



#### SMBB Technology

Better light trapping and current collection to improve module power output and reliability.



#### PID Resistance

Excellent Anti-PID performance guarantee via optimized mass-production process and materials control.



#### Durability Against Extreme Environmental Conditions

High salt mist and ammonia resistance.



#### Hot 2.0 Technology

The N-Type module with hot 2.0 technology has better reliability and lower LID/LETID.



#### Enhanced Mechanical Load

Certified to withstand: wind load (2400 Pascal) and snow load (5400 Pascal).

## Warranty | Garantía



**25** Years | Años  
Product  
Producto



**30** Years | Años  
Linear power  
Rendimiento lineal



# Bloomberg

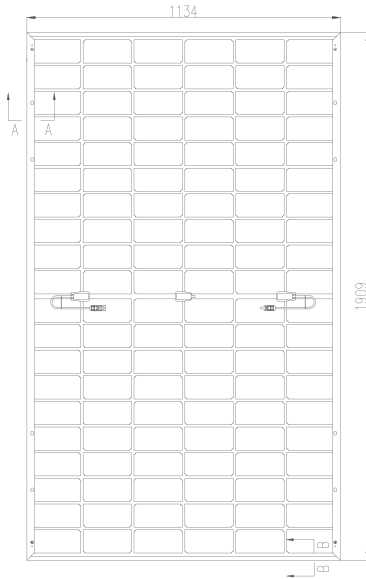
NEW ENERGY FINANCE

CERTIFIED  
**IEC**  
61730 Ed.1

CERTIFIED  
**IEC**  
61215 Ed.2

 **Anti-PID**  
System voltage durability  
PPP 56042





### DATOS MECÁNICOS MECHANICAL SPECIFICATIONS

Dimensions: 1909*1134mm
Nº of cells: 120 [ 2 x ( 10 x 6 ) ]
Cells: N type Mono-crystalline.
Front glass: 2.0mm, Anti-Reflection Coating
Back glass: 2.0mm, Heat Strengthened Glass
Weight: 27 kg
Junction Box: IP68 (3 diodes)
Frame: Anodized aluminum alloy
Cable: 4mm2
Front load: 5400Pa
Real Load: 2400Pa

TIPO TYPE	EX470TC-120BF		EX475TC-120BF		EX480TC-120BF		EX485TC-120BF		EX490TC-120BF	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Potencia de salida   Maximum Power	470	353	475	357	480	361	485	365	490	369
Voltaje máximo   Max. voltage, VMP (V)	35.05	32.94	35.21	33.10	35.38	33.27	35.54	33.44	35.70	33.61
Intensidad máxima actual   Current, IMP (A)	13.41	10.73	13.49	10.79	13.57	10.85	13.65	10.91	13.73	10.97
Voltaje circ. abierto   Voltage open circuit, VOC (V)	42.38	40.25	42.54	40.41	42.71	40.57	42.88	40.73	43.05	40.89
Intensidad cortocircuito   Short circuit current, ISC (A)	14.15	11.42	14.23	11.49	14.31	11.55	14.39	11.61	14.47	11.67
Modulo eficiencia   Module Efficiency (%)	21.71		21.94		22.17		22.40		22.63	
Max. potencia tolerada   Max. power tolerance (W)	0~+3%									
Max. system Voltage (V)	1500VDC (IEC)									
Maximum Series Fuse Rating (A)	25A									

STC 1000 W/M2. Module Temperature 25°C A.M.1,5 | NOCT 800W/M2 Environment. Temperature 20°C A.M. 1,5

### GANANCIA POTENCIA BIFACIALIDAD BIFACIAL OUTPUT-REAR SIDE POWER GAIN

Power Gain	Power Output	Voltage Mpp-Vmpp	Current Mpp-Imp	Voltage Open Circuit-Voc	Short Circuit Current-Isc
10%	517 Wp	35.15 V	14.71 A	42.32 V	15.55 A
15%	541 Wp	35.15 V	15.38 A	42.32 V	16.26 A
20%	564 Wp	35.15 V	16.04 A	42.32 V	16.97 A
25%	588 Wp	35.15 V	16.71 A	42.32 V	17.68 A
30%	611 Wp	35.15 V	17.38 A	42.32 V	18.38 A

### COEFICIENTES DE TEMPERATURA TEMPERATURE COEFFICIENTS

Coefficiente de temp.   Temp. Coefficient (PMAX)	-0.29%/°C
Coefficiente de temp.   Temp. Coefficient (ISC)	0.045%/°C
Coefficiente de temp.   Temp. Coefficient (VOC)	-0.25%/°C
Nominal Operating Cell Temp. (NOCT)	45°C (±2°C)
Operating Temperature	-40~+85°C
Refer. Bifacial Factor	80±5%

### I-V CURVAS CURVES

Temperatura celdas | Cells temperature: 25°C. Current-Voltage & Power Voltage Curve (470)

