

450-475 W Topcon N-Type

 96 mm bifacial half cell

 1.762 x 1.134 mm

 24 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

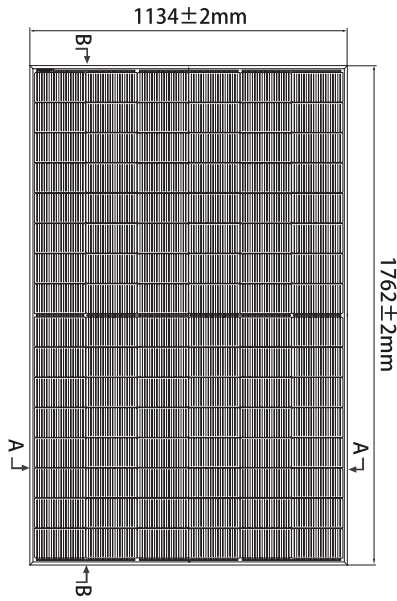
NEW ENERGY FINANCE

CERTIFIED
IEC
61730 Ed.1

CERTIFIED
IEC
61215 Ed.2

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





DATOS MECÁNICOS MECHANICAL SPECIFICATIONS

Dimensions:	1762*1134mm
N° of cells:	96 (48x2)
Cells:	N type Mono-crystalline
Front glass:	2.0 mm, Anti-reflection Coating
Back glass:	2.0 mm, Heat Strengthened Glass
Connector:	JK03M/JK03M2/Others*
Weight:	24 kg
Junction Box:	IP68 Rated
Frame:	Anodized aluminum alloy
Cable:	4mm2 (+): 400 mm , (-): 200 mm or Customized Length
Protection:	Class Class II
IEC Fire Type:	Class C

TIPO TYPE	EX450TC-186HC(BF)		EX455TC-186HC(BF)		EX460TC-186HC(BF)		EX465TC-186HC(BF)		EX470TC-186HC(BF)		EX470TC-186HC(BF)	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Potencia de salida Maximum Power	450	338,43	455	342,37	460	345,56	465	349,50	470	353,44	475	357,38
Voltaje máximo Max. voltage, VMP (V)	30,25	28,74	30,48	28,95	30,71	29,17	30,94	29,39	31,17	29,61	31,40	29,83
Intensidad máxima actual Current, IMP (A)	14,88	12,01	14,93	12,06	14,98	12,09	15,03	12,14	15,08	12,17	15,13	12,22
Voltaje circ. abierto Voltage open circuit, VOC (V)	36,04	33,51	36,21	33,63	36,38	33,75	36,55	33,88	36,72	34,00	36,89	34,12
Intensidad cortocircuito Short circuit current, ISC (A)	15,81	12,78	15,86	12,84	15,91	12,89	15,96	12,95	16,01	13,00	16,06	13,05
Modulo eficiencia Module Efficiency (%)	22,52	12,78	22,77		23,02		23,27		23,52		23,77	
Max. potencia tolerada Max. power tolerance (W)	0~+3%											
Max. system Voltage (V)	1500VDC (IEC)											
Maximum Series Fuse Rating (A)	30A											

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

		EX450TC-186HC(BF)	EX455TC-186HC(BF)	EX460TC-186HC(BF)	EX465TC-186HC(BF)	EX470TC-186HC(BF)	EX470TC-186HC(BF)
5%	Maximum Power (Pmax)	472,31	478,12	483,19	488,25	493,31	498,37
	Module Efficiency STC (%)	23,64	23,93	24,18	24,44	24,69	24,94
10%	Maximum Power (Pmax)	517,69	523,62	528,81	534,75	540,69	548,13
	Module Efficiency STC (%)	25,91	26,21	26,47	26,76	27,06	27,43
15%	Maximum Power (Pmax)	562,31	569,12	575,19	581,25	587,31	593,37
	Module Efficiency STC (%)	28,14	28,48	28,79	29,09	29,39	29,70

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~+70°C

I-V CURVAS CURVES

Temperatura celdas | Cells temperature: 25°C. Current-Voltage & Power Voltage Curve (460)

