

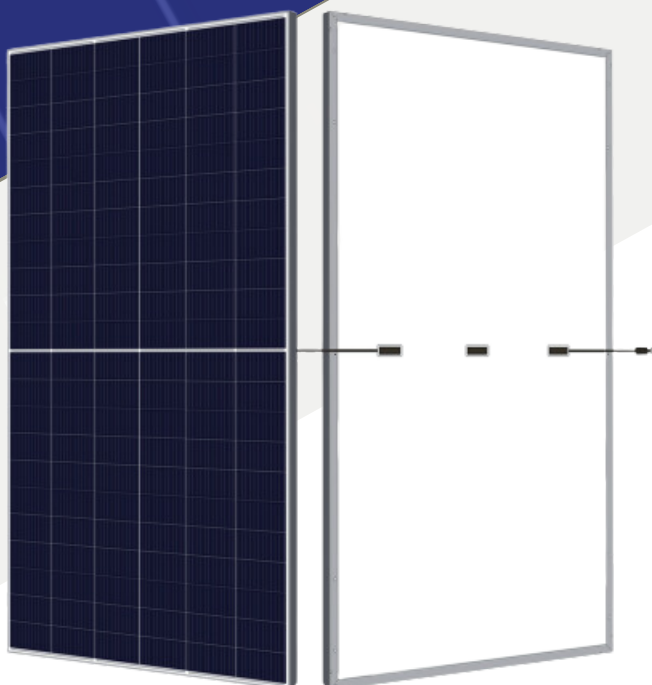
TOP - 465/485M-120HC

120 CELL
Mono N - Type Module









465 - 485Wp
Power Output Range

1500VDC
Maximum System Voltage

22.39%
Maximum Efficiency



KEY SALIENT FEATURES

-  Industry leading lowest thermal co-efficient of power
-  Industry leading 15 years product warranty
-  Excellent low irradiance performance
-  Excellent PID resistance
-  Positive power tolerance of 0~+3%
-  Fully automated production at all stages
-  Fully Reduced power loss by minimizing the effect of shadow shading (9 - 18 Busbar)
-  European Warranty & After - Sales Service



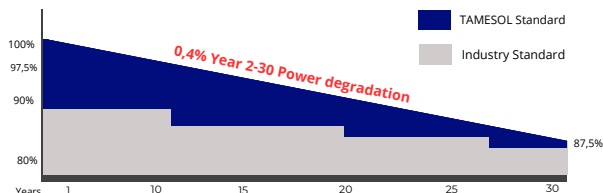
TAMESOL BUILDING A GREEN FUTURE S.L

TAMESOL is a global provider of high-efficiency PV panels with a 10GW annual production capacity and a 100% automated production line, innovating state-of-the-art products for over 15 years. Our panels have been installed in more than 50 countries, with over 20 million panels already connected to the grid.

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LINEAR PERFORMANCE WARRANTY

15 year Product Warranty / 30-Year Linear Power Warranty



22,39%

MAX MODULE
EFFICIENCY

0 - 5%

POWER
TOLERANCE

1,0%

FIRST YEAR POWER
DEGRADATION

0,40%

YEAR 2-30
POWER DEGRADATION

N-TYPE CELL

Lower operating temperature

ELECTRICAL CHARACTERISTICS

STC: AM1.5 1.000W/m² NOTC: AM1.5 800W/m² 20° 1 m/s Test uncertainty for Pmax + -3%

Module type	TOP - 465M-120HC		TOP - 470M-120HC		TOP - 475M-120HC		TOP - 480M-120HC		TOP - 485M-120HC	
	STC	NOTC	STC	NOTC	STC	NOTC	STC	NOTC	STC	NOTC
Testing condition										
Maximum Power (Pmax/w)	465	349	470	350	475	353	480	361	485	361
Open Circuit Voltage (Voc/V)	42.63	40.63	42.85	40.81	43.06	40.99	43.27	41.17	43.48	41.35
Short Circuit Current (Isc/A)	13,98	11,26	14,05	11,32	14,12	11,38	14,19	11,44	14,26	11,50
Voltage at Maximum Power (Vmp/V)	35.63	32.80	34.82	32.99	36.01	33.18	36.20	33.36	36.38	33.55
Current at maximum Power (Imp/A)	13,05	10,64	13,12	10,70	13,19	10,76	13,26	10,82	13,33	10,88
Module Efficiency (%)	21,47%		21,70%		21,93%		22,16%		22,39%	

MECHANICAL PARAMETERS

Cell Orientation single crystal N-Topcon 182x91mm (120 pieces)

Junction Box IP68, three diodes

Output Cable 1000mm (can be customized)

Glass 3.2mm tempered coated glass, low iron

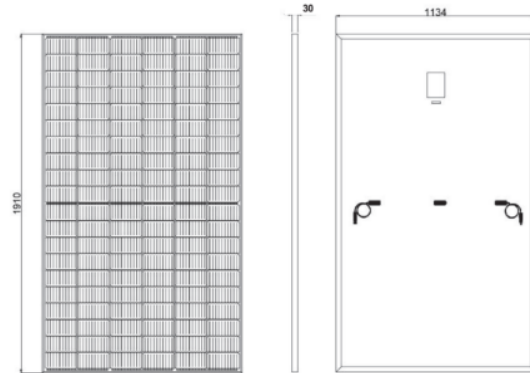
Frame Anodized aluminum alloy frame

Weight 24 kg

Dimensión 1919x1134x30/35mm

Packaging 36 pcs*pallet / 744/ 864pcs*40HC

PHYSICAL CHARACTERISTICS



OPERATING PARAMETERS

Operational Temperature -40°C - +85°C

Power Output Tolerance (0, +5%)

Voc and Isc Tolerance ±5%

Maximum System Voltage 1500V DC

Maximum Series Fuse Rating 25 A

Nominal Operating Cell Temperature 45±2°C

Protection Glass Class II

Fire Rating Class C

MECHANICAL LOADING

Front Side Maximum Static Loading 5400 PA

Rear Side Maximum Static Loading 2400 PA

Hailstone Test Diameter 25mm, impact speed 23m/s

TEMPERATURA RATINGS (STC)

Temperature Coefficient of Isc +0.046%/°C

Temperature Coefficient of Voc -0.25%/°C

Temperature Coefficient of Pmax -0.30%/°C

PACKING MANNER

Container 40ft(HQ)

Number of modules per container 744/864

Number of modules per pallet 31/36

Number of pallets per container 24

TAMESOL Authorized Solar Dealer

Note: The specifications are obtained under the Standard Test Conditions (STCs): 1000 W/m² solar irradiance, 1.5 Air Mass, and cell temperature of 25°C. The NOCT is obtained under the Test Conditions: 800 W/m², 20°C ambient temperature, 1m/s wind speed, AM 1.5 spectrum. Please contact info@tamesol.com for technical support. The actual transactions will be subject to the contracts. This parameter is for reference only and it is not a part of the contracts. The specifications are subject to change without prior notice.