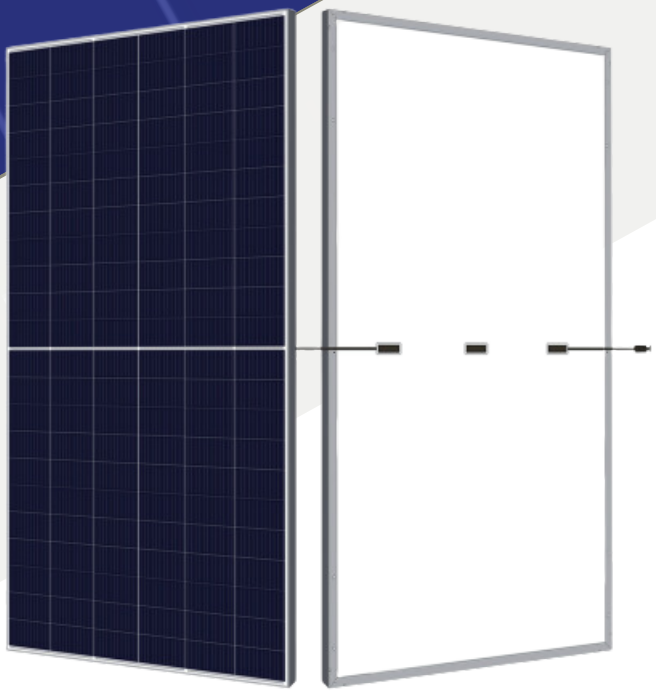
TOPSUN

HIGH PERFOMANCE MONOCRYSTALLINE N-TYPE TECHNOLOGY



TOP - 420/440M-108HC

108 CELL
Mono N - Type Module

420 - 440Wp
Power Output Range

1500VDC
Maximum System Voltage

22.54%
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

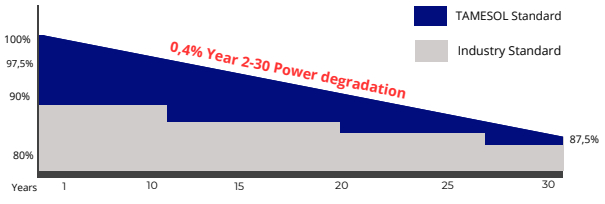
TAMESOL BUILDING A GREEN FUTURE S.L

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.

Tel : **+34 872 222 388**
E - mail: **info@tamesol.com** Website: **www.tamesol.com**

LINEAR PERFORMANCE WARRANTY

15 year Product Warranty / 30-Year Linear Power Warranty



TAMESOL
Energia para vivir

Since 2007, building a green future

TOPSUN

TOP-420/440M-108HC

22,54%	0 - +3%	1,0%	0,40%	N-TYPE CELL
MAX MODULE EFFICIENCY	POWER TOLERANCE	FIRST YEAR POWER DEGRADATION	YEAR 2-30 POWER DEGRADATION	Lower operating temperature

ELECTRICAL CHARACTERISTICS

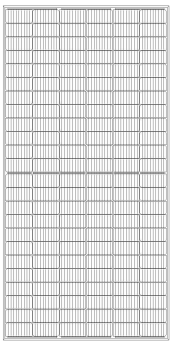
STC: AM1.5 1.000W/m2 NOTC: AM1.5 800W/m2 20º 1 m/s Test uncertainty for Pmax 0 - +3%

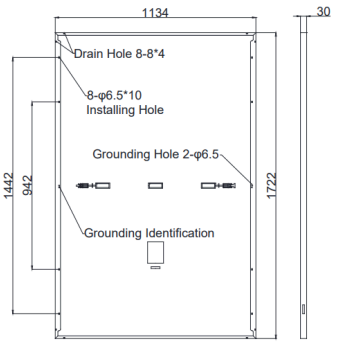
Module type	TOP - 420M-108HC		TOP - 425M-108HC		TOP - 430M-108HC		TOP - 435M-108HC		TOP - 440M-108HC	
Testing condition	STC	NOTC	STC	NOTC	STC	NOTC	STC	NOTC	STC	NOTC
Maximum Power (Pmax/w)	420	316	425	320	430	323	435	327	435	331
Open Circuit Voltage (Voc/V)	38,11	36,20	38,30	36,39	38,49	36,57	38,68	36,75	38,68	36,92
Short Circuit Current (Isc/A)	14,07	11,15	14,15	11,22	14,23	11,26	14,31	11,33	14,31	11,63
Voltage at Maximum Power (Vmp/V)	31,51	29,93	31,70	30,12	31,88	30,29	32,06	30,46	32,24	30,63
Current at maximum Power (Imp/A)	13,33	10,56	13,41	10,63	13,49	10,67	13,57	10,74	13,65	11.07
Module Efficiency (%)	21,51%		21,76%		22,02%		22.28%		22.54%	

MECHANICAL PARAMETERS

Cell Orientation	Single crystal N-Topcon 182x91/182mm (108 pieces)
Junction Box	IP68, three diodes
Output Cable	4.0mm² 300mm(+) / 300mm(-) or customized
Glass	3.2mm tempered coated glass, low iron
Frame	Anodized aluminum alloy frame
Weight	20,5/ 21,5/ 24 kg
Dimensión	1722/1766*1134*30mm
Packaging	31/36/37pcs*pallet /806/ 936/962pcs*40HC

PHYSICAL CHARACTERISTICS





OPERATING PARAMETERS

Operational Temperature	-40ºC - +85ºC
Power Output Tolerance	(0, +3%)
Maximum System Voltage	1500V DC
Maximum Series Fuse Rating	25 A
Nominal Operating Cell Temperature	45±2℃
Protection Glass	Class Ⅱ
Fire Rating	Class C

MECHANICAL LOADING

Front Side Maximum Static Loading	5400 PA
Rear Side Maximum Static Loading	2400 PA

TEMPERATURA RATINGS (STC)

Temperature Coefficient of Isc	+0.046%/℃
Temperature Coefficient of Voc	-0.25%/℃
Temperature Coefficient of Pmax	-0.30%/℃

PACKING MANNER

Container	40ft(HQ)
Number of modules per container	806/936/962
Number of modules per pallet	31/36/37
Number of pallets per container	26

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.