

PERC**MAX**

BISOL

HIGH PERFORMANCE
BIFACIAL MONOCRYSTALLINE
P.E.R.C MODULE

144

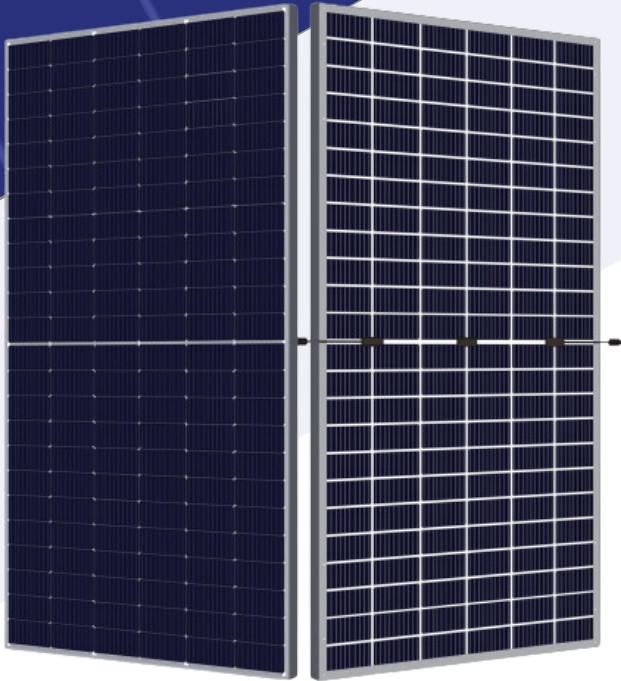
TM - 430/450M-144BI

144 CELL
Mono PERC Module

430 - 450Wp
Power Output Range

1500VDC
Maximum System Voltage

20.7%
Maximum Efficiency



KEY SALIENT FEATURES



Industry leading lowest thermal co-efficient of power



Industry leading 25 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

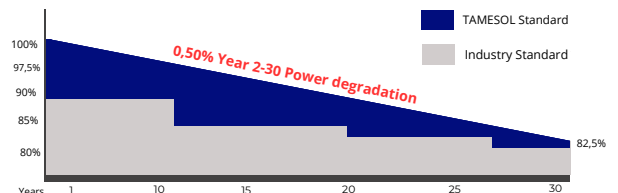
TAMESOL is a global provider of high-efficiency PV panels with a 10GW annual production capacity and a 100% automated production line, innovating state-of-the-art products for over 15 years. Our panels have been installed in more than 50 countries, with over 20 million panels already connected to the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

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LINEAR PERFORMANCE WARRANTY

25 year Product Warranty / 30-Year Linear Power Warranty



TAMESOL
— be bright, go solar —

Since 2007, building a green future

21,00% MAX MODULE EFFICIENCY	0 - 3% POWER TOLERANCE	2,0% FIRST YEAR POWER DEGRADATION	0,50% YEAR 2-30 POWER DEGRADATION	PERC CELL Lower operating temperature
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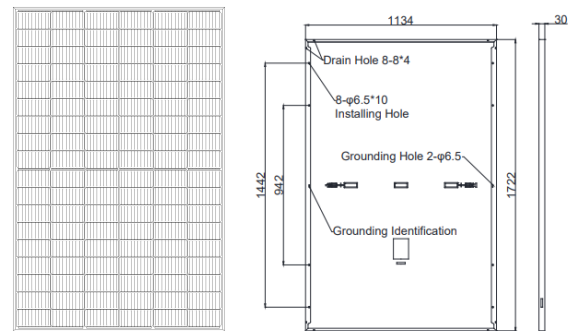
ELECTRICAL CHARACTERISTICS STC: AM1.5 1.000W/m2 NOTC: AM1.5 800W/m2 20° 1 m/s Test uncertainty for Pmax +3%

Module type	TM - 390 M-108BI		TM - 395 M-108BI		TM - 400 M-108BI		TM - 405M-108BI		TM - 410M-148BI	
	STC	NOTC	STC	NOTC	STC	NOTC	STC	NOTC	STC	NOTC
Maximum Power (Pmax/w)	390	290	395	294	400	298	405	301	410	305
Open Circuit Voltage (Voc/V)	36,7	34,7	36,9	34,9	37,1	35,1	37,3	35,3	37,5	35,5
Short Circuit Current (Isc/A)	13,59	10,61	13,66	10,69	13,73	10,78	13,81	10,82	13,88	10,92
Voltage at Maximum Power (Vmp/V)	30,53	28,87	30,70	29,04	30,87	29,2	31,03	29,37	31,20	29,54
Current at maximum Power (Imp/A)	12,78	10,05	12,87	10,13	12,96	10,21	13,06	10,25	13,15	10,32
Module Efficiency (%)	19,97%	14,85%	20,23%	15,06%	20,48%	15,26%	20,74%	15,42%	21,00%	15,43%

MECHANICAL PARAMETERS

Cell Orientation	single crystal PERC182x91mm (108 pieces)
Junction Box	IP68, three diodes
Output Cable	4.0mm² 300mm(+) / 300mm(-) or customized
Glass	1.6mm tempered coated glass, low iron
Frame	Anodized aluminum alloy frame
Weight	23 kg
Dimensión	1722*1134*30mm
Packaging	36 pcs*pallet / 366pcs*20GP / 936pcs*40HC

PHYSICAL CHARACTERISTICS



OPERATING PARAMETERS

Operational Temperature	-40°C - +85°C
Power Output Tolerance	(0, +3%)
Voc and Isc Tolerance	±3%
Maximum System Voltage	1500V DC
Maximum Series Fuse Rating	30 A
Nominal Operating Cell Temperature	45±2°C
Protection Glass	Class II
Fire Rating	Class C
Bifacial- Factor	70%±10%

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	+0.05%/°C
Temperature Coefficient of Voc	-0.27%/°C
Temperature Coefficient of Pmax	-0.35%/°C

PACKING MANNER

Container	40ft(HQ)
Number of modules per container	936
Number of modules per pallet	36
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.