

# TM Series®

## HALF CELL

108 Cells (54) - 182mm

# 390 - 410 WP

- Mismatch loss reduction for maximum efficiency
- Reduced power loss by minimizing the effect of shadow shading (**9-12 BusBar**)
- **Positive** (0 - 3%) **tolerance** in all our TM Series® modules
- Proven reliability through PVEL's weatherproofing tests
- **Fully automated production** at all stages



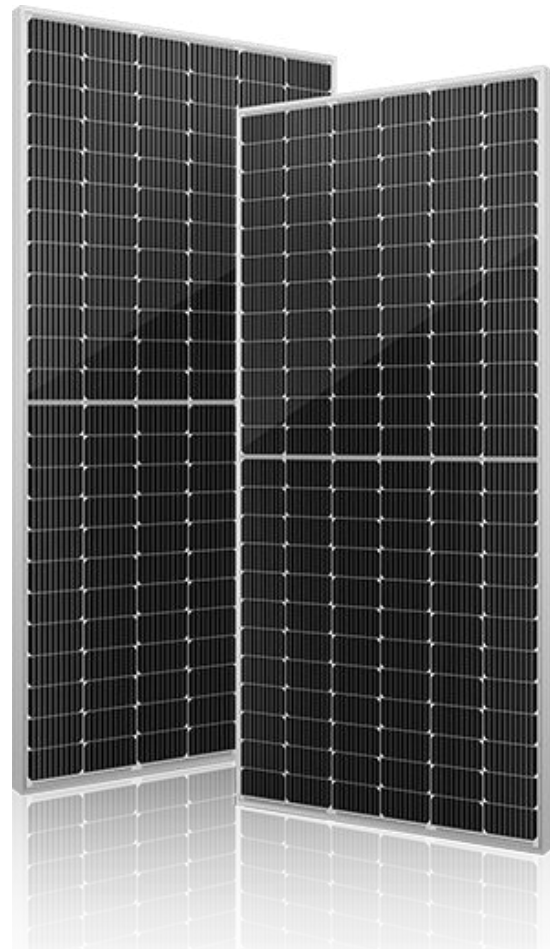
**25-YEAR WARRANTY**  
**MATERIALS & PROCESSING**



**30-YEAR WARRANTY**  
**LINEAR POWER OUTPUT**



**EUROPEAN WARRANTY &**  
**AFTER-SALES SERVICE**



## Product Certifications

CE

EC 61215

IEC 61730

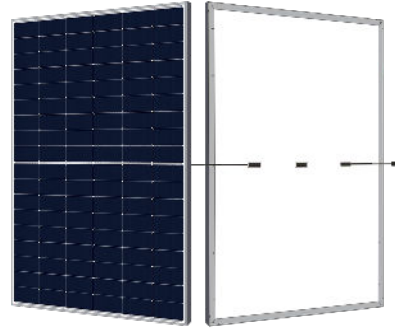
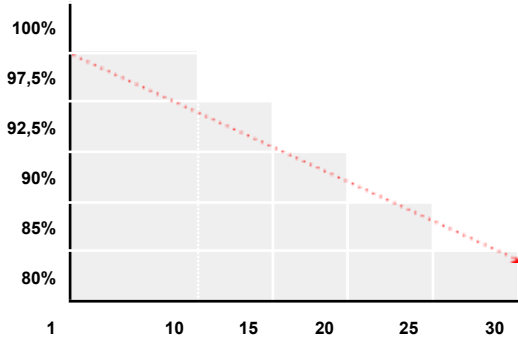
ISO 9001: Quality Management System

ISO 14001: Environmental Management System



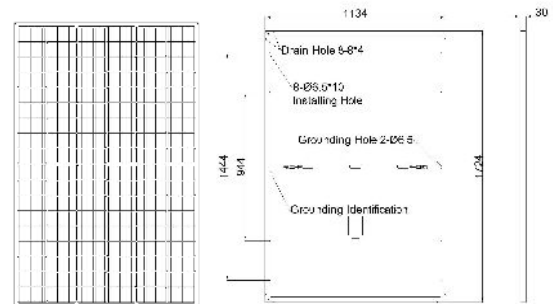
<b>20,97%</b> MAX MODULE EFFICIENCY	<b>0 - 3%</b> POWER TOLERANCE	<b>2,5%</b> FIRST YEAR POWER DEGRADATION	<b>0,50%</b> YEAR 2-30 POWER DEGRADATION	<b>HALF CELL</b> Lower operating temperature
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### 30-Year Linear Power Warranty



### Mechanical parameters

Cell Orientation	single crystal PERC182x91mm (108 pieces)
Junction Box	IP68, three diodes
Output Cable	4.0mm <sup>2</sup> 1200mm(+) / 1200mm(-) or customized
Glass	3.2mm tempered coated glass, low iron
Frame	Anodized aluminum alloy frame
Weight	21 kg
Dimensión	1724x1134x30mm
Packaging	36 pcs*pallet / 366 cs*20GP / 936pcs*40HC



### Electrical Characteristics

STC: AM1.5 1.000W/m<sup>2</sup>

NOTC: AM1.5 800W/m<sup>2</sup>

20° 1 m/s

Test uncertainty for Pmax +-3%

Module type	TM - 390 M-108 HC		TM - 395 M-108 HC		TM - 400 M-108 HC		TM - 405 M-108 HC		TM - 410 M-108 HC	
	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	30,7	29,04	30,87	29,2	31,03	29,37	31,2	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	10,35
Module Efficiency (%)	19,95%	14,83%	20,20%	15,04%	20,46%	15,24%	20,72%	15,40%	20,97%	15,60%

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