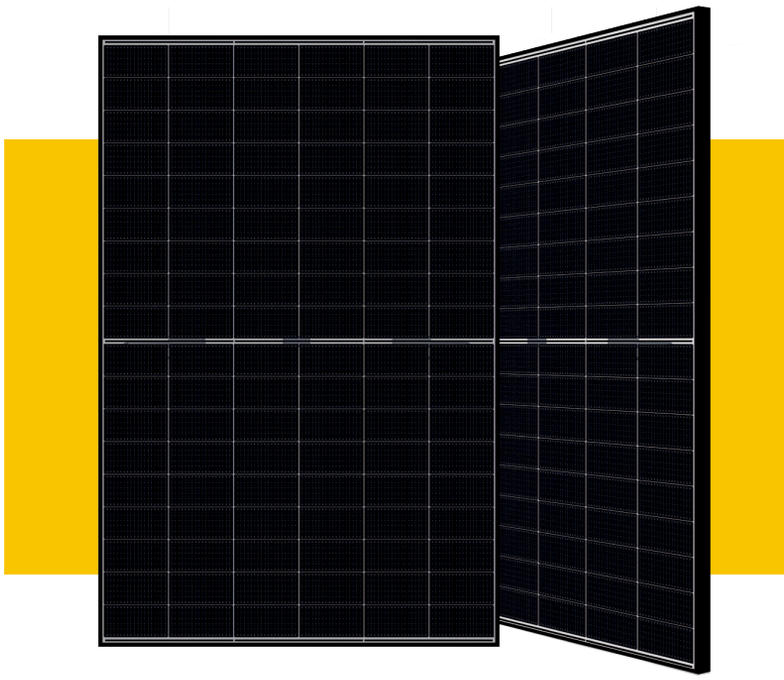
München Energieprodukte
MAXIMALENERGIE

MSMDxxxM10-HJT108DS

430-450w

108-cell Bifacial HJT Half Cell
Double-glass Solar Module



Product Advantages

HJT 3.0
Combining gettering process and double-sided μc-Si to maximize cell efficiency and module power.

-0.26%/℃ Pmax temperature coefficient
More stable power generation performance and even better in hot climate.

Small Chamfer Design
Bigger power generation area on the solar cell, increasing 1% cell power of single piece.

SMBB design with Half-Cut Technology
Shorter current transmission distance, less resistive loss and higher cell efficiency.

Up to 90% Bifaciality
Natrual symmetrical bifacial structure bringing more energy yield from the backside.

Sealing with PIB based sealant
Stronger water resistance, greater air impermeability to extent module lifespan.

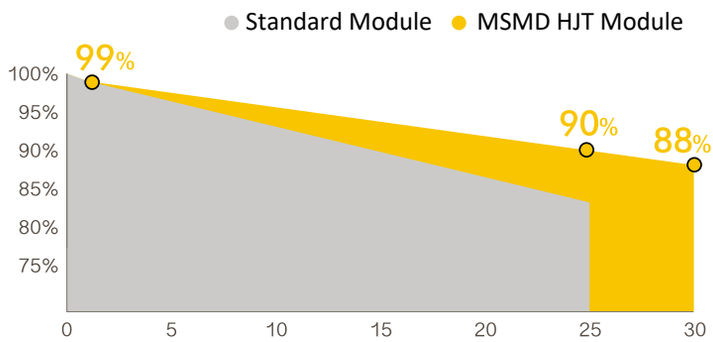
Higher reliability
Industrial leading product and performance warranty, ensuring module's consistent outstanding performance.

Ideal choice for residential rooftop
Suitable for various rooftop projects.

23.04%
Module efficiency

450W
Highest power output

Performance Warranty



-1.00%
First year power degradation

-0.375%
Annual degradation

15 Years
Materials and workmanship warranty

30 Years
Linear power warranty

Product Certification

info@muenchen-energieprodukte.de

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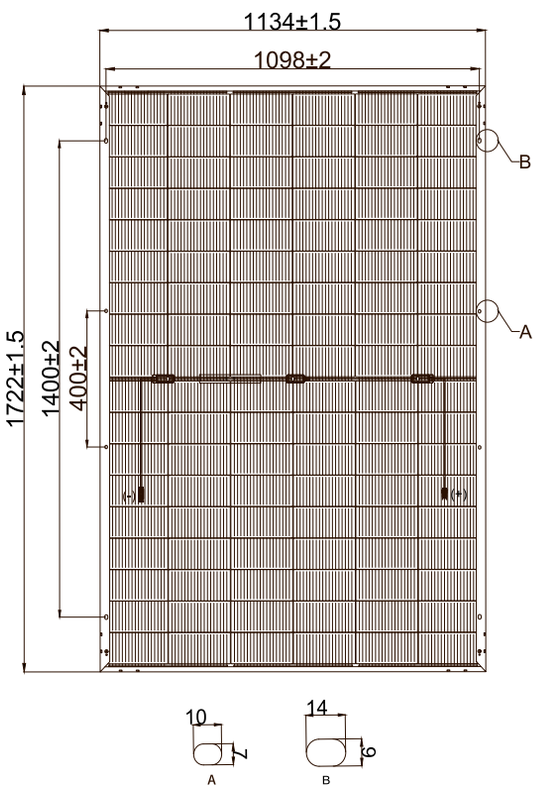
Engineering Drawings

Unit: mm



Electrical Characteristics (STC*)

MSMDxxxM10-HJT108DS		430	435	440	445	450
Maximum Power	(Pmax)	430W	435W	440W	445W	450W
Module Efficiency	(%)	22.02%	22.28%	22.53%	22.79%	23.04%
Optimum Operating Voltage	(Vmp)	33.49V	33.75V	34.01V	34.26V	34.51V
Optimum Operating Current	(Imp)	12.84A	12.89A	12.94A	12.99A	13.04A
Open Circuit Voltage	(Voc)	40.30V	40.56V	40.83V	41.09V	41.34V
Short Circuit Current	(Isc)	13.30A	13.35A	13.40A	13.45A	13.50A
Operating Module Temperature		-40 to +85℃				
Maximum System Voltage		DC1500V (IEC)				
Maximum Series Fuse		25A				
Power Tolerance		0~+5W				
Bifaciality		85±5%				

*STC: Irradiance 1000 W/m², cell temperature 25℃, AM=1.5. Tolerance of Pmax is within +/- 3%.

BSTC**

Maximum Power	(Pmax)	475W	480W	485W	490W	495W
Optimum Operating Voltage	(Vmp)	33.49V	33.75V	34.01V	34.26V	34.51V
Optimum Operating Current	(Imp)	14.18A	14.23A	14.27A	14.31A	14.35A
Open Circuit Voltage	(Voc)	40.30V	40.56V	40.83V	41.09V	41.34V
Short Circuit Current	(Isc)	14.69A	14.73A	14.77A	14.81A	14.85A

**BSTC: Front side irradiation 1000W/m², back side reflection irradiation 135W/m², AM=1.5, ambient temperature 25℃.

Mechanical Characteristics

Cell Type	HJT Mono 182×91.75mm
Cell Connection	108 (6×18)
Module Dimension	1722×1134×30 mm
Weight	26/22 kg
Junction Box	IP68
Output Cable	4mm², 1200mm in length, length can be customized / UV resistant
Connectors Type	MC4 original
Frame	Anodised aluminum alloy (Black)
Front Load	5400 Pa
Rear Load	2400 Pa
Glass Thickness	Double glass, 2.0mm/1.6mm

Temperature Characteristics

Nominal Operating Cell Temp. (NOCT)	44℃±2℃
Temperature Coefficiency of Pmax	-0.26%/℃
Temperature Coefficiency of Voc	-0.24%/℃
Temperature Coefficiency of Isc	0.04%/℃

Safety & Warranty

Safety Class	Class Ⅱ
Product Warranty	15 yrs Workmanship
Performance Warranty	30 yrs Linear Warranty*

* 1st year 99%, after 2nd year 0.375% annual degradation to year 30.

Shipping Configurations

		HC
Container Length		40'
Pallets Per Container		26
Modules Per Pallet	(pcs)	36
Modules Per Container	(pcs)	936

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