

BlackLux

MW-SP440-2RB96DFB-10

N-Type HJT
Full Black Double Glass

440W **22.02%**
Power Efficiency



PRODUCT
WARRANTY



LINEAR POWER
WARRANTY



Exceeds the requirements of hail resistance 4 (HW4) confirmed by TÜV Süd



2 X2 mm Glass Front and Back

- Better hail resistance with 45 mm ice ball at 110 km/h
vs IEC Standard: 25 mm ice ball at 83 km/h
- Higher snow load and wind load resistance with tested up to 6336 pa (Front) and 5530 pa (Rear)
vs IEC Standard: 5400 pa (Front) and 2400 pa (Rear)



HJT Technology

Combining gettering process and double-sided $\mu\text{-Si}$ to maximize cell efficiency and module power.



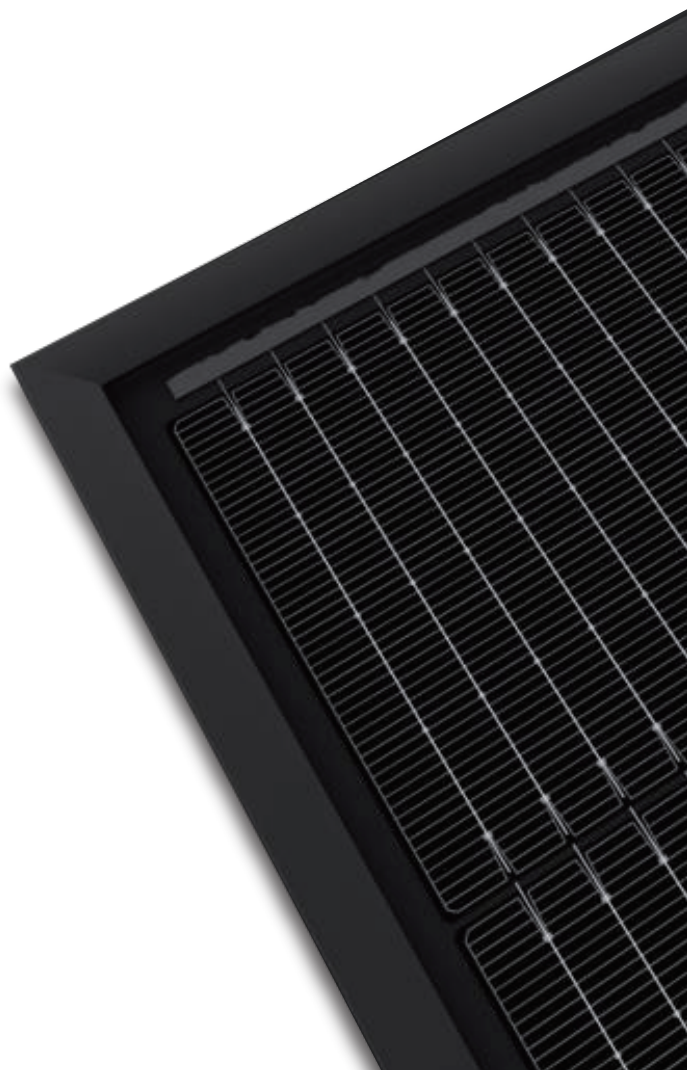
Butyl Edge Sealing

- Zero water ingress → zero corrosion
- Superb durability for a longer lifespan



Up to 95% Bifaciality

vs PERC: 70%.
vs TOPCon: 80%



Electrical Characteristics (STC*)

Module Type	MW-SP440-2RB96DFB-10
Maximum Power (Pmax)	440W
Module Efficiency	22.02%
Maximum Power Voltage (Vmp)	30.61V
Maximum Power Current (Imp)	14.38A
Open Circuit Voltage (Voc)	36.52V
Short Circuit Current (Isc)	15.31A
Operating Temperature	-40°C to + 85 °C
Maximum System Voltage	DC1500V(IEC)
Maximum Series Fuse Rating	30A
Power Tolerance	0 ~ +5W
Bifaciality	90% ± 5%

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

BSTC**

Module Type	MW-SP440-2RB96DFB-10
Maximum Power (Pmax)	493W
Maximum Power Voltage (Vmp)	30.72V
Maximum Power Current (Imp)	16.07A
Open Circuit Voltage (Voc)	36.65V
Short Circuit Current (Isc)	17.17A

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

Mechanical Characteristics

Cell Type	HJT Mono 182x105mm
Cell Connection	96 (6x16)
Module Dimension	1,762x1,134x30 mm
Weight	24.7 kg
Junction Box	IP68
Output Cable	4mm², 1,250mm in length, length can be customized / UV resistant
Connectors Type	MC4 original
Frame	Anodised aluminum alloy(Black)
Front Load	5,400Pa
Rear Load	2,400Pa
Glass Thickness	Double glass, 2.0mm

Shipping Configurations

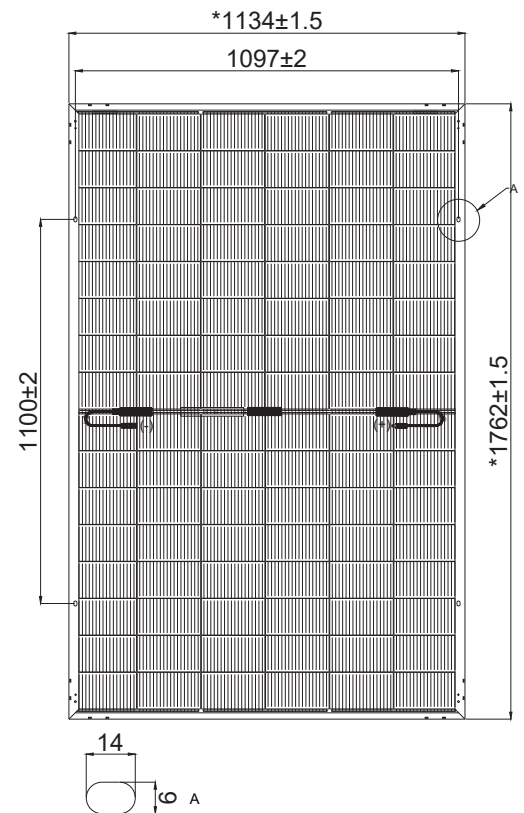
Container Size	40'HQ
Pallets Per Container	26
Modules Per Pallet (pcs)	36
Modules Per Container (pcs)	936

* The module recycling should be carried out by the professional institutions at the end of module life cycle
* Copyright@2023 Specifications are subject to change without further notification

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Engineering Drawings

Unit: mm



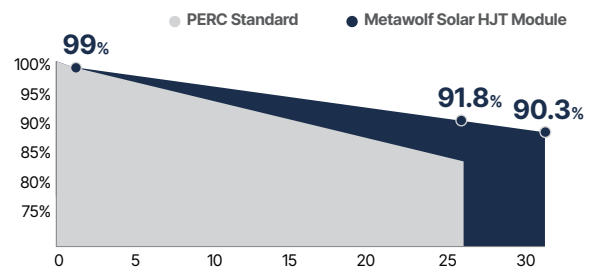
Temperature Characteristics

Nominal Operating Cell Temp. (NOCT)	44°C±2°C
Temperature Coefficient of Pmax	-0.24%/°C
Temperature Coefficient of Voc	-0.24%/°C
Temperature Coefficient of Isc	0.04%/°C

Safety & Warranty

Safety Class	Class II
Product Warranty	30 yrs Workmanship (For Rooftop Installation)*
Performance Warranty	30 yrs Linear Warranty*

*Less than 1% attenuation in the 1st year, the annual attenuation from the 2nd year is no more than 0.3%, and the power is no less than 90.3% until the 30th year.



*Refer to Metawolf Solar standard warranty for details.