



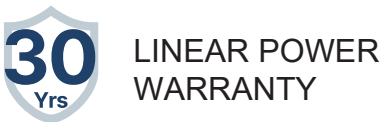
Lowest CO<sub>2</sub> Footprint  
Solar Panel

# BlackLux

MW-SP440-2RB96DFB-10

**N-Type HJT**  
**Full Black Double Glass**

**440W**      **22.02%**  
Power          Efficiency



**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)



## 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/m<sup>2</sup>, cell temperature 25°C, AM=1.5. Tolerance of Pmax is within±3%.

## BSCT\*\*

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/m<sup>2</sup>, back side reflection irradiation 135W/m<sup>2</sup>, AM=1.5, ambient temperature 25 °C.

## Mechanical Characteristics

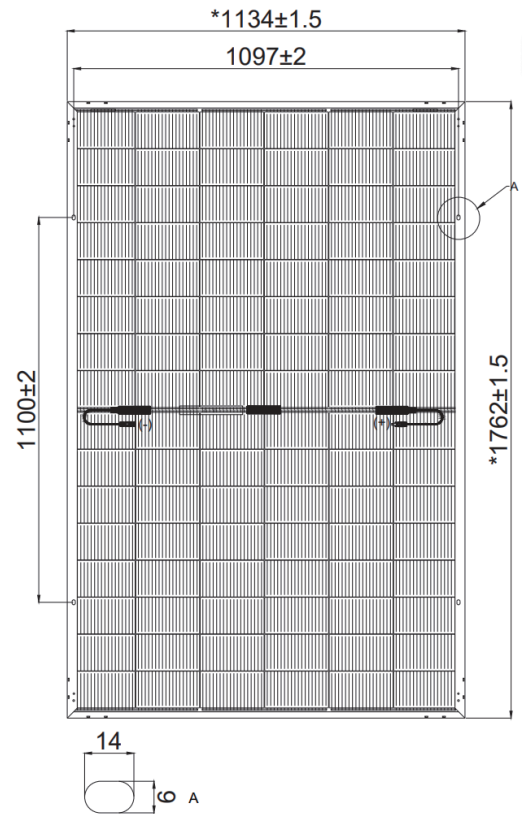
Cell Type	HJT Mono 182×105mm
Cell Connection	96 (6×16)
Module Dimension	1762×1134×30 mm
Weight	26 kg
Junction Box	IP68
Output Cable	4mm <sup>2</sup> , 1250mm in length, length can be customized / UV resistant
Connectors Type	MC4 original
Frame	Anodised aluminum alloy(Black)
Front Load	5400Pa
Rear Load	2400Pa
Glass Thickness	Double glass, 2.0mm

## Shipping Configurations

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

## Engineering Drawings

Unit: mm



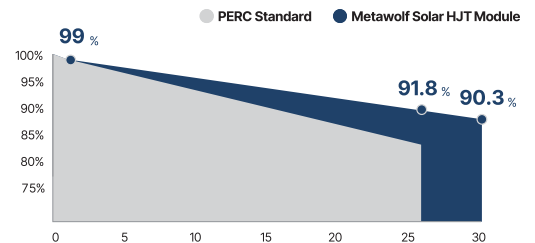
## Temperature Characteristics

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
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.



\* 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