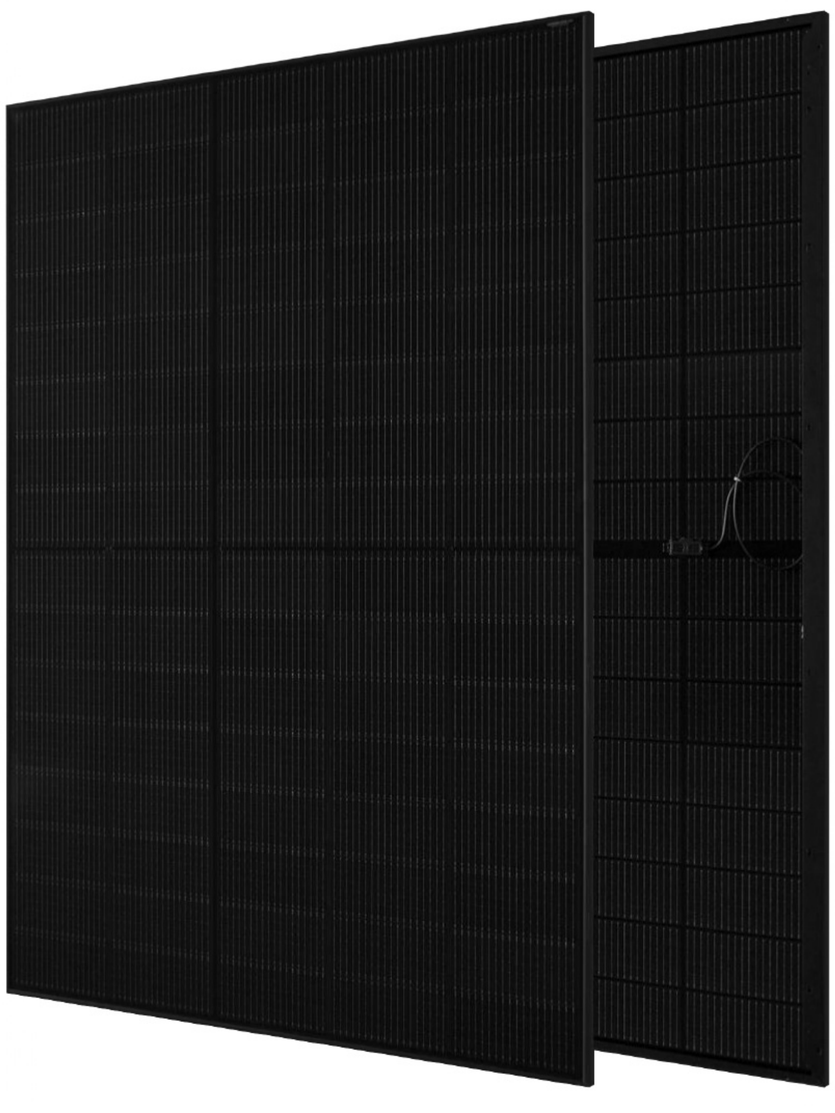
Mono HJT 210mm 80 Cells

MS(410-430)JT-40H
Full Black Bifacial

410/415/420/425/430 WP

SMART SOLAR



Advanced Solar Technology

HJT -Full Black

High bifacial rate

The HJT cell uses a symmetrical front and back structure, showing an ultra-high bifacial rate. The maximum power generation utilization rate on the back can reach 95%.

No PID and LID effects

HJT N-type silicon is doped with phosphorus, and the surface is TCO film, which abandons the insulating layer. Therefore, the HJT cell completely eliminates PID and LID effects.

Low temperature coefficient

The power temperature coefficient of HJT PV modules is only -0.24%/°C. HJT modules operating in hot environments can bring more power generation gains.

APPLICATIONS >>

On-grid residential roof-tops

On-grid commercial/ industrial roof-tops

Consistent color

Due to the characteristics of HJT cell process, HJT module color is basically the same without color difference. It creates a beautiful and coherent visual effect. HJT technology is the first choice for full-black modules.

High profitability

With cutting-edge technology and excellent performance, within the product life cycle, the return on investment of HJT modules is 18% higher than that of PERC modules and 12% higher than that of Topcon modules.

High flexibility

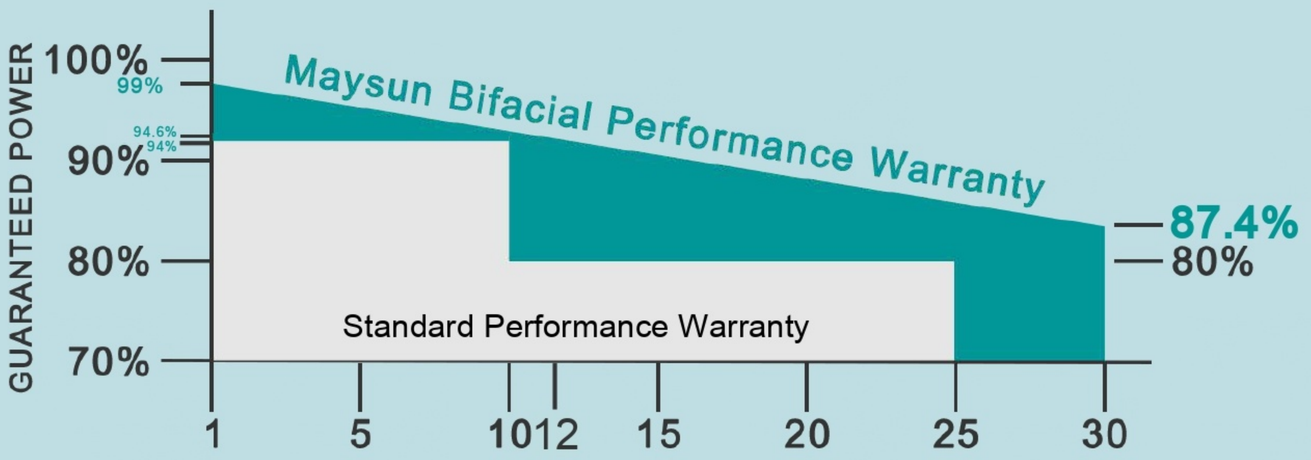
Because of the excellent cell flexibility of HJT modules, the risk of module cracks during transportation and installation is reduced. The reliability of the power station is improved.

MAXIMUM EFFICIENCY

22.3%

POSITIVE POWER TOLERANCE

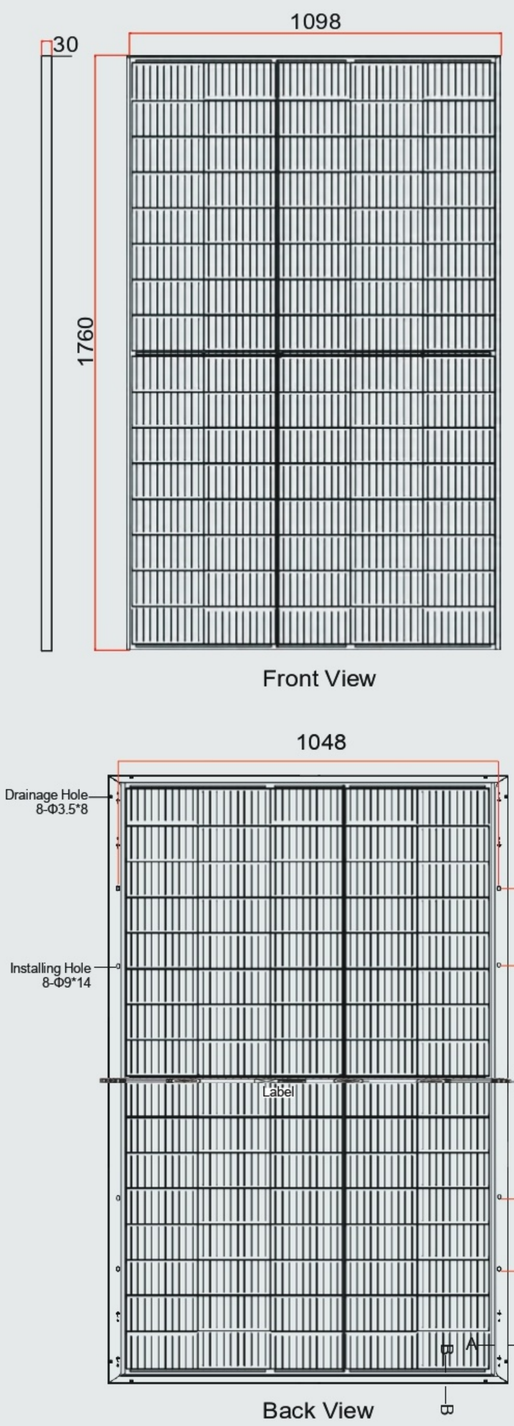
0 ~+5W

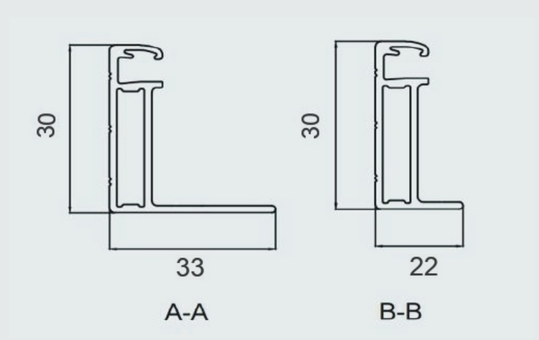


SMART SOLAR

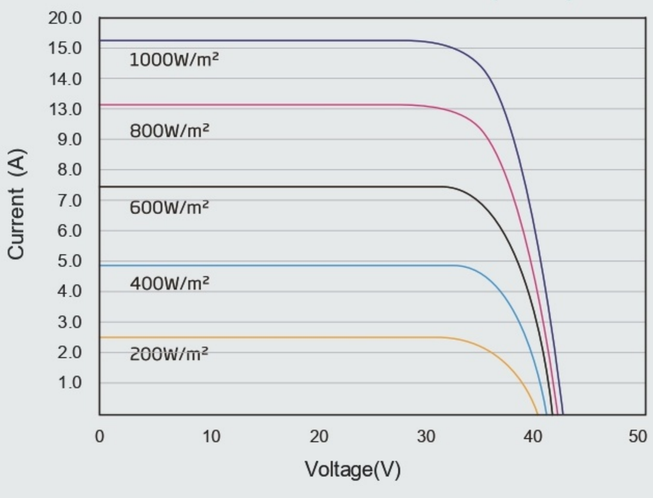
MS(410-430)JT-40H Full Black Bifacial

DIMENSIONS OF PV MODULE (mm)

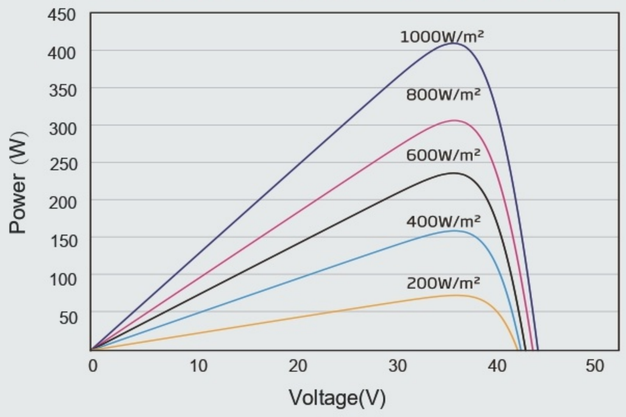




I-V CURVES OF PV MODULE (410W)



P-V CURVES OF PV MODULE (410W)



ELECTRICAL DATA (STC)

Peak Power Watts-P_{MAX} (Wp)*	410	415	420	425	430
Power Tolerance-P_{MAX} (W)	0 ~ +5				
Maximum Power Voltage-V_{MPP} (V)	25.02	25.08	25.14	25.20	25.26
Maximum Power Current-I_{MPP} (A)	16.38	16.54	16.71	16.86	17.02
Open Circuit Voltage-V_{OC} (V)	29.72	29.79	29.86	29.93	30.0
Short Circuit Current-I_{SC} (A)	17.29	17.46	17.63	17.75	17.92
Module Efficiency η m (%)	21.2	21.5	21.7	22.0	22.3

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5.
* Measuring tolerance: ±3%.

Electrical characteristics with different rear side power gain

5% Maximum Power-P_{MAX} (Wp)	430.5	435.75	441	446.25	451.5
5% Module Efficiency η m (%)	22.26	22.58	22.79	23.1	23.42
15% Maximum Power-P_{MAX} (Wp)	471.5	477.25	483	488.75	494.5
15% Module Efficiency η m (%)	24.38	24.73	24.96	25.3	25.65
25% Maximum Power-P_{MAX} (Wp)	512.5	518.75	525	531.25	537.5
25% Module Efficiency η m (%)	26.5	26.88	27.13	27.5	27.88

Power Bifaciality: 90±5%.

ELECTRICAL DATA (NOCT)

Maximum Power-P_{MAX} (Wp)	317	321	325	329	333
Maximum Power Voltage-V_{MPP} (V)	23.67	23.87	24.09	24.28	24.5
Maximum Power Current-I_{MPP} (A)	13.39	13.45	13.49	13.55	13.59
Open Circuit Voltage-V_{OC} (V)	28.54	28.81	29.05	29.31	29.56
Short Circuit Current-I_{SC} (A)	14.05	14.1	14.15	14.2	14.25

NOCT: Irradiance at 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s.

MECHANICAL DATA

Solar Cells	Monocrystalline, HJT
Cell Orientation	80 cells (5 x 16)
Module Dimensions	1760 mm × 1098 mm × 30 mm
Weight	22 kg
Front Glass	2.0 mm, High Transmission, AR Coated Heat Strengthened Glass
Encapsulant Material	POE
Back Glass	1.6 mm, High Transmission, Heat Strengthened Glass
Frame	30 mm Black, anodized aluminium alloy
J-Box	IP 68 rated (3 bypass diodes)
Cables	Photovoltaic Technology Cable 4.0 mm² Portrait: N 1000 mm/P 1000 mm Length can be customized
Connector	MC4 Compatible

* Please refer to regional datasheet for specific connector.

TEMPERATURE RATINGS

NOCT(Nominal Operating Cell Temperature)	43°C (±3°C)
Temperature Coefficient of P_{MAX}	-0.24%/°C
Temperature Coefficient of V_{OC}	-0.22%/°C
Temperature Coefficient of I_{SC}	0.047%/°C

APPLICATION ENVIRONMENT

Operational Temperature	-40 ~ +85°C
Maximum System Voltage	1500VDC
Max Series Fuse Rating	(IEC) 35A
Mechanical Performance	P 5400 Pa/N 2400 Pa

(Do not connect Fuse in Combiner Box with two or more strings in parallel connection)

WARRANTY

30 Years Product Warranty
30 Years Power Warranty
1% First Year Degradation
0.45% Annual Power Degradation

(Please refer to product warranty for details)

PACKAGING CONFIGURATION

Modules per Pallet: 36 pieces
Modules per 40’ Container: 936 pieces

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