

# JW-HD96N-R2

n-type Bifacial Dual-Glass Module

- JW-HD96N-R2-445    JW-HD96N-R2-450
- JW-HD96N-R2-455    JW-HD96N-R2-460
- JW-HD96N-R2-465    JW-HD96N-R2-470



<b>470W</b> Maximum Power Output	<b>23.5%</b> Maximum Module Efficiency	<b>0~+3%</b> Power Output Tolerance
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IEC61215(2021),IEC61730(2023)



### Aesthetic Design

Framed in pure black with ultra-thin busbars for seamless visual integration.



### Zero LID (Light-Induced Degradation)

n-type cells are naturally LID-free, ensuring stable power output.



### Optimized Temperature Coefficient

Lower operating temperature and optimized temperature coefficient (-0.28%/°C) brings more power generation.



### Better Low-light Performance

Higher power output even under low-light conditions such as cloudy or foggy days.



### Ultra-High Reliability

J-TOPCon New technology, greater resistance to hot-spot.



### Wider Application Scenarios

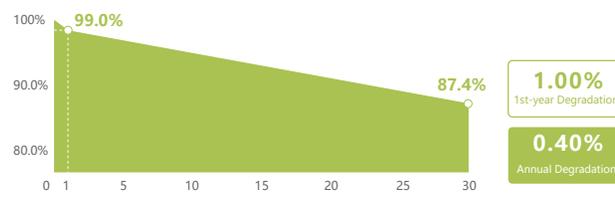
Bifacial and dual-glass design enables broader applications like vertical installation, snow/sand/high-humidity regions.

## Jolywood Delivers Reliable Performance Over Time

- Leader of N-type bifacial manufacturer
- Full-automatic facility and industry-leading technology
- Best-in-class durability and reliability
- BNEF Tier One

\*The specification and key features described in this datasheet may deviate slightly and are not guaranteed. Due to ongoing innovation, R&D enhancement, Jolywood (Taizhou) Solar Technology Co., Ltd. reserves the right to make any adjustment to the information described herein at any time without notice. Please always obtain the most recent version of the datasheet which shall be duly incorporated into the binding contract made by the parties governing all transactions related to the purchase and sale of the products described herein.

## Linear Performance Warranty



25 Years Product Material & Workmanship / 30 Years Linear Performance Warranty

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# JW-HD96N-R2 Series | n-type Bifacial Dual-Glass Module

Electrical Properties   STC*		JW-HD96N-R2-445	JW-HD96N-R2-450	JW-HD96N-R2-455	JW-HD96N-R2-460	JW-HD96N-R2-465	JW-HD96N-R2-470
Module Type							
Peak Power (Pmax) (W)		445	450	455	460	465	470
MPP Voltage (Vmp) (V)		29.80	29.98	30.16	30.34	30.52	30.70
MPP Current (Imp) (A)		14.93	15.01	15.09	15.16	15.24	15.31
Open Circuit Voltage (Voc) (V)		34.71	34.91	35.11	35.31	35.51	35.71
Short Circuit Current (Isc) (A)		15.79	15.86	15.93	16.00	16.07	16.14
Module Efficiency (%)		22.3	22.5	22.8	23.0	23.3	23.5

\*STC: Irradiance 1000 W/m<sup>2</sup>, Cell Temperature 25°C, AM1.5  
The data above is for reference only and the actual data is in accordance with the practical testing Power Measurement Tolerance ±3%  
Voc Tolerance:±4%, Isc Tolerance:±5% Testing Condition:Front Side

BNPI & Bifaciality Coefficient & BSI		JW-HD96N-R2-445	JW-HD96N-R2-450	JW-HD96N-R2-455	JW-HD96N-R2-460	JW-HD96N-R2-465	JW-HD96N-R2-470
Module Type							
BNPI*	Pmax (W)	489.5	495.0	500.5	506.0	511.5	517.0
	Voc (V)	34.82	35.02	35.22	35.42	35.62	35.82
	Isc (A)	17.37	17.45	17.53	17.60	17.68	17.76
Bifaciality coefficient	ΦPmax (±10%)	80	80	80	80	80	80
	ΦVoc (±3%)	99	99	99	99	99	99
	ΦIsc (±10%)	79	79	79	79	79	79
BSI*	Isc (A)	19.30	19.39	19.47	19.56	19.65	19.73

\*BNPI: Power Measurement Tolerance ±3%, Voc Tolerance:±4%, Isc Tolerance:±5%  
\*BSI: Isc Tolerance:±5%

Electrical Properties Under Different Rear Gain   JW-HD96N-R2-460					
Power Gain (%)	Peak Power (Pmax) (W)	MPP Voltage (Vmp) (V)	MPP Current (Imp) (A)	Open Circuit Voltage (Voc) (V)	Short Circuit Current (Isc) (A)
10	506.00	30.34	16.68	35.31	17.60
15	529.00	30.34	17.44	35.31	18.40
20	552.00	30.34	18.19	35.31	19.20
25	575.00	30.44	18.89	35.41	19.95
30	598.00	30.44	19.65	35.41	20.75

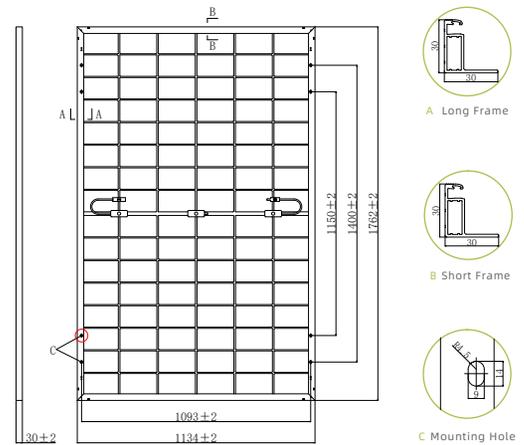
Operating Properties	
Operating Temperature (°C)	-40°C~+85°C*
Maximum System Voltage (V)	1500V DC (IEC)
Maximum Series Fuse Rating (A)	35
Maximum Test Load	Front side 5400Pa, Rear side 2400Pa

\*T98(Max):70°C

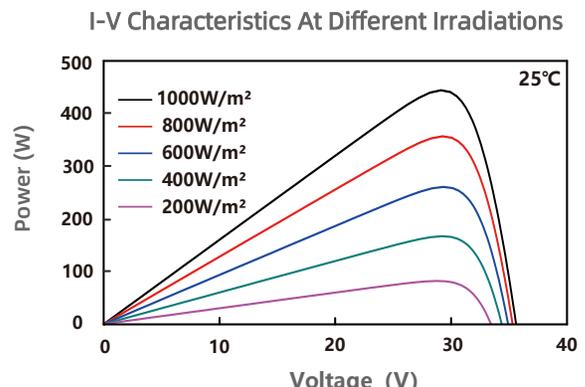
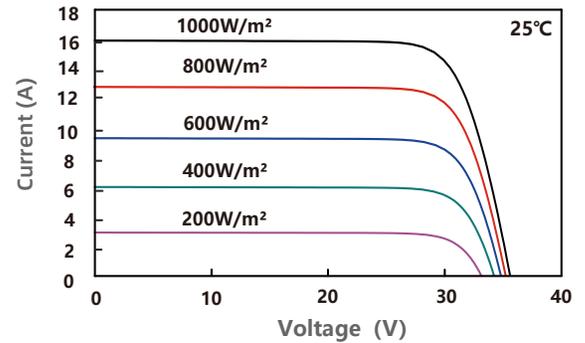
Temperature Coefficient	
Temperature Coefficient of Pmax	-0.280%/°C
Temperature Coefficient of Voc	-0.250%/°C
Temperature Coefficient of Isc	+0.045%/°C
Nominal Operating Cell Temperature	45±2°C

Mechanical Properties	
Number of Cells	96pcs
Module Dimension	1762mm*1134mm*30mm
Weight	21.2kg
Front / Rear Glass	1.6mm/1.6mm Heat-strengthened glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68 (3 diodes)
Length of Cable	4.0mm <sup>2</sup> , +1200mm/-1200mm (Cable length can be customized)
Packaging Configuration	37pcs/Pallet,962pcs/40'HQ
Country of Origin	China
Fire Rating	C

## Engineering Drawing (unit: mm)



## Characteristic Curves | JW-HD96N-R2-460



## Connector Model

Staubli: PV-KST4-EVO 2/xy UR, PV-KBT4-EVO 2/xy UR PV-KST4-EVO 2A/xy UR, PV-KBT4-EVO 2A/xy UR	
Jolywood: JWC2xyzu	Renhe: RHC2xyzu
Zhonghuan: PV-ZH202B	Xtong: PV-XT101.2

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