


BIFACIAL HJT MONO CRYSTALLINE HALF-CUT MODULE - DOUBLE GLASS

440 / 445 / 450 / 455 / 460 Watts


Heterojunction Series

Overview


Heterojunction (HJT) photovoltaic module is a Ground breaking Technology. HJT technology guarantees high performance and low degradation of the PV module, substantially improving the results and the yield in the time. "Heterojunction" Series module is the ideal solution for end users who want a Quality PV & reliable product over time and a fast turnaround on their investments.



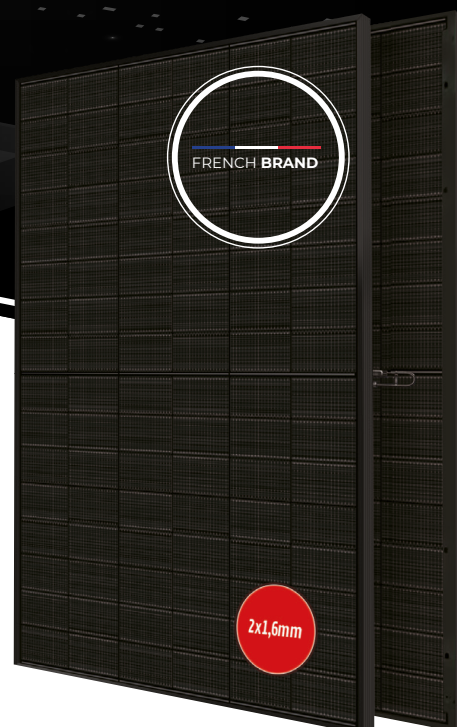
Guaranteed mechanical resistance to severe weather conditions




Positive Tolerance




100 % electroluminescence tested




Key benefits




Zero Light Induced Degradation




0% Front Grid Shading Loss




Low LCOE



25 Years Limited Product Warranty



Low Pmax Temperature Coefficient



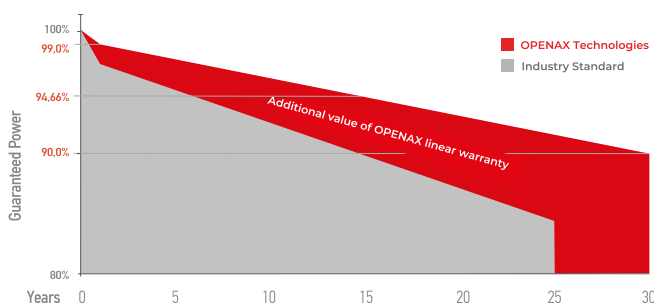
Higher Light Conversion

Tests, Certifications and Guarantees

Standard tests	IEC 61215, IEC 61730
Factory quality testing	ISO 9001: 2015. ISO 14001: 2015
Certifications	Conformity to CE. PV CYCLE Fire safety Class C according to UL790
Wind and Snow Loads Testing	Module certified to withstand extreme wind [2400 Pascal] and snow loads [5400 Pascal]
Power Tolerance	Guaranteed +0/+5W [STC condition]

- Warranties**
- ✓ 30-year limited product warranty
 - ✓ 15-year manufacturer warranty on 94, 10% of the nominal performance
 - ✓ Linear power output guarantee over 25 years

Linear performance guarantees



Production 1st year	≥ 99.0%	Power between 2 and 25 years	≤ 0.31%	Power output at 25 years	≥ 90.0%
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HJT MONO CRYSTALLINE HALF-CUT MODULE - DOUBLE GLASS

OX-xxx-HJTBBV108-01(xxx=440-460)

Electrical performance

POWER CLASS ⁽¹⁾			440		445		450		455		460	
Measurement condition			STC ⁽²⁾	NMOT ⁽³⁾	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum power	Pmax [Wp]		440	335	445	338	450	342	455	346	460	350
Voltage at Pmax	Vmp [V]		30,43	28,91	30,66	29,11	30,88	29,30	31,10	29,51	31,30	29,71
Current at Pmax	Imp [A]		14,47	11,58	14,53	11,62	14,60	11,68	14,66	11,73	14,72	11,78
Open Circuit Voltage	Voc [V]		36,68	35,01	36,95	35,27	37,22	35,52	37,47	35,77	37,72	36,00
Short circuit current	Isc [A]		15,62	12,21	15,30	12,24	15,36	12,29	15,41	12,33	15,45	12,36
Surface efficiency	Eff [%]		22,02		22,27		22,52		22,77		23,02	
Max. Reverse Current	Ir [A]		30									
System voltage max	Vsys [V]		1500V CD (IEC)									

(1) Measurement tolerances: P_{max} (± 3%), I_{sc} & V_{oc} (± 3%) - Power classification 0/+5W

(2) STC (Standard Test Conditions): Irradiance 1000W/m² Cell Temperature 25°C, AM 1.5

(3) NMOT (Nominal Module Operating Temperature): Irradiance 800W/m² Ambient Temperature 20°C, AM

Bi Facial Output (4)

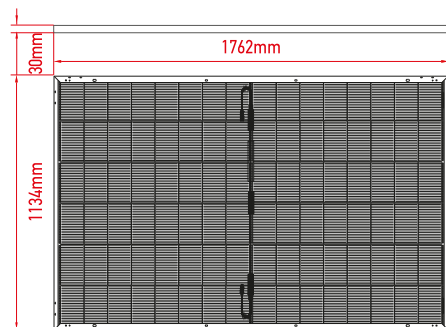
POWER CLASS		440		445		450		455		460	
		P _{max} (Wp)	Eff (%)	P _{max} (Wp)	Eff (%)	P _{max} (Wp)	Eff (%)	P _{max} (Wp)	Eff (%)	P _{max} (Wp)	Eff (%)
Power with Backside Gain	+5 (%)	462,0	23,1%	467,3	23,4%	472,5	23,6%	477,8	23,9%	483,0	24,2%
	+10 (%)	484,0	24,2%	489,5	24,5%	495,0	24,8%	500,5	25,0%	506,0	25,3%
	+15 (%)	506,0	25,3%	511,8	25,6%	517,5	25,9%	523,3	26,2%	529,0	26,5%
	+20 (%)	528,0	26,4%	534,0	26,7%	540,0	27,0%	546,0	27,3%	552,0	27,6%
	+25 (%)	550,0	27,5%	556,3	27,8%	562,5	28,2%	568,8	28,5%	575,0	28,8%
	+30 (%)	572,0	28,6%	578,5	29,0%	585,0	29,3%	591,5	29,6%	598,0	29,9%

(4) Bifaciality Factor > 90% - Back-side power gain depends upon the specific project albedo - Efficiency is according to the module

Mechanical characteristics

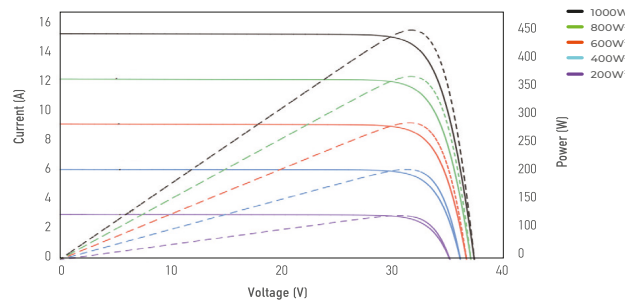
Dimensions	1762mm x 1134 x 30mm
Weight	23.0 Kg
Cells	HJT 182mm x 105mm (2x48 Pcs) - G12R
Front panel	1.6mm Tempered and low iron glass + ARC
Rear panel	1.6mm Tempered and low iron glass
Frame	Anodized aluminum alloy (Black)
Junction box	IP68 - 3 Bypass Diodes
Connectors	Genuine MC4 - MC4 Compatible
Cables	Cross-section: 4mm ² - Length: 300mm or can be customized

Dimensions



OPENAX assumes no responsibility for any typographical, formatting, misinformation, or any other errors or omissions contained herein.

I-V curve



Thermal coefficients

Coeff./ P _{max}	-0.26% / °C
Coeff./ V _{oc}	-0.24% / °C
Coeff./ I _{sc}	+0.04% / °C
Operating temperature	-40~+85 °C
Nominal module operating temperature (NMOT)	42 ± 2 °C

Packaging configuration

Container	40' (HC)
Pieces per Pallet	36
Pallets per Container	26
Pieces per Container	(36+36)x13=936 pcs