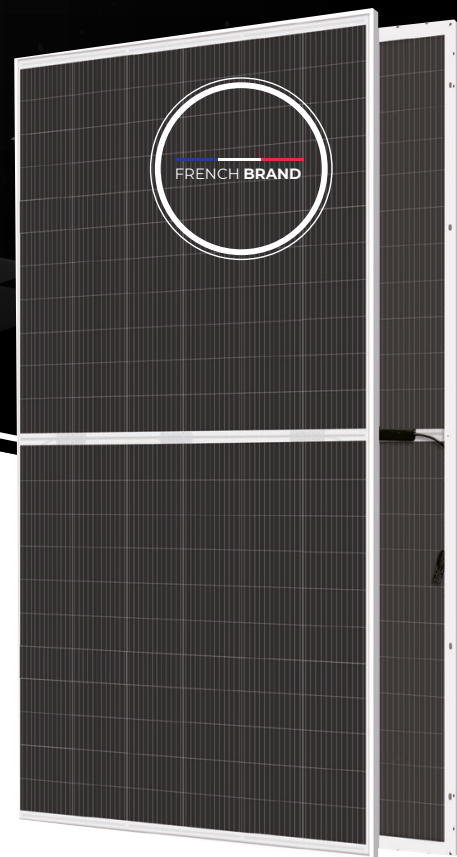


MONO CRYSTALLINE HALF-CUT BIFACIAL MODULE

645 / 650 / 655 / 660 / 665 Watts



Half-Cut Series

Overview

Ground breaking technology; higher power output, improved system performance - the ideal solution for end users who want a fast turnaround on their investments. A fully certified premium quality and high efficiency module made with A Grade materials.



Guaranteed mechanical resistance to severe weather conditions



Positive Tolerance



100 % electroluminescence tested



Key benefits



Certified by Independent Engineering Bodies



Product Liability Insurance



Ultra High Power Output



25 Years Limited Product Warranty



Low Resistive Losses



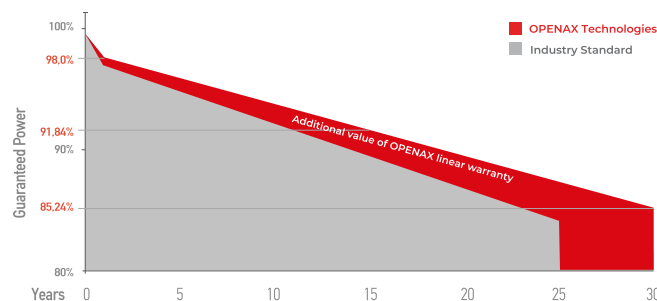
Low LCOE

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	<ul style="list-style-type: none"> 30-year limited product warranty 15-year manufacturer warranty on 94, 10% of the nominal performance Linear power output guarantee over 25 years
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Linear performance guarantees



Production 1st year	≥ 98.0%	Power between 2 and 25 years	≤ 0.44%	Power output at 25 years	≥ 85.24%
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MONO CRYSTALLINE HALF-CUT BIFACIAL MODULE

OX-xxx-G12TBVB210-01(xxx=645-665)

Electrical performance

POWER CLASS ⁽¹⁾			645		650		655		660		665	
Measurement condition			STC ⁽²⁾	NMOT ⁽³⁾	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum power	Pmax	[Wp]	645	480	650	483	655	487	660	491	665	494
Voltage at Pmax	Vmp	[V]	37,70	34,47	37,91	34,67	38,11	34,83	38,29	35,01	38,49	35,19
Current at Pmax	Imp	[A]	17,11	13,92	17,15	13,94	17,19	13,99	17,24	14,02	17,28	14,05
Open Circuit Voltage	Voc	[V]	44,80	41,65	45,00	41,83	45,21	42,02	45,39	42,19	45,59	42,37
Short circuit current	Isc	[A]	18,35	14,82	18,83	14,85	18,44	14,89	18,47	14,92	18,51	14,95
Surface efficiency	Eff	[%]	20,77		20,93		21,09		21,25		21,41	
Max. Reverse Current	Ir	[A]	30									
System voltage max	Vsys	[V]	1500V CD									

(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)

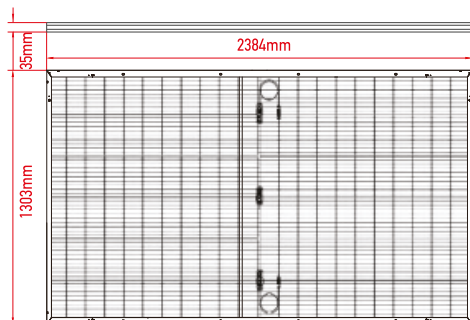
POWER CLASS		645		650		655		660		665	
Power with Backside Gain		P _{max} (Wp)	Eff (%)	P _{max} (Wp)	Eff (%)	P _{max} (Wp)	Eff (%)	P _{max} (Wp)	Eff (%)	P _{max} (Wp)	Eff (%)
	+5 (%)	677,3	21,8%	682,5	22,0%	687,8	22,1%	693,0	22,3%	698,3	22,5%
	+10 (%)	709,5	22,8%	715,0	23,0%	720,5	23,2%	726,0	23,4%	731,5	23,5%
	+15 (%)	741,8	23,9%	747,5	24,1%	753,3	24,2%	759,0	24,4%	764,5	24,6%
	+20 (%)	774,0	24,9%	780,0	25,1%	786,0	25,3%	792,0	25,5%	798,0	25,7%
	+25 (%)	806,3	26,0%	812,5	26,2%	818,8	26,4%	825,0	26,6%	831,3	26,8%
	+30 (%)	838,5	27,0%	845,0	27,2%	851,5	27,4%	858,0	27,6%	864,5	27,8%

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

Mechanical characteristics

Dimensions	2384mm x 1303 x 35mm
Weight	34.4 Kg
Cells	Mono Perc - 210mm x 105mm (2x66 Pcs) - G12
Front panel	3.2mm Tempered and low iron glass + ARC
Rear panel	Anti-aging film (Clear)
Frame	Anodized aluminum alloy
Junction box	IP68 - 3 Bypass Diodes
Connectors	MC4 Compatible
Cables	Cross-section: 4mm ² - Length 300mm or customized

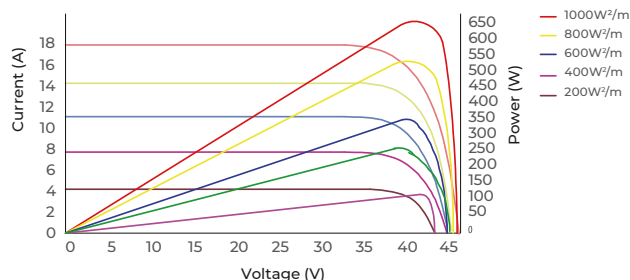
Dimensions



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

I-V curve

Power loss in low-light environments: 200W/m² is less than 3%.



Thermal coefficients

Coeff./ P _{max}	-0.34% / °C
Coeff./ V _{oc}	-0.25% / °C
Coeff./ I _{sc}	+0.048% / °C
Operating temperature	-40~+85 °C
Nominal module operating temperature (NMOT)	42 ± 2 °C

Packaging configuration

Container	40' (HC)
Pieces per Pallet	31
Pallets per Container	18
Pieces per Container	(31 + 31) x 9 = 558 pcs