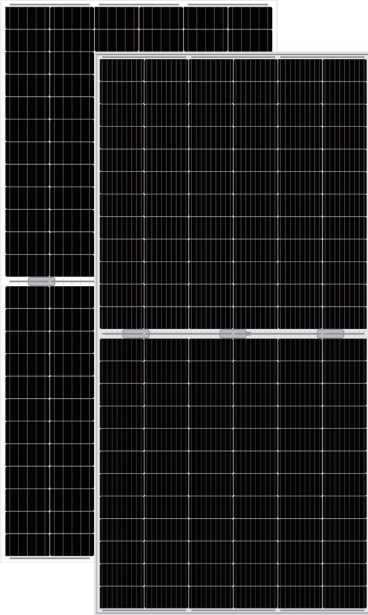


PANDA BIFACIAL 144HC

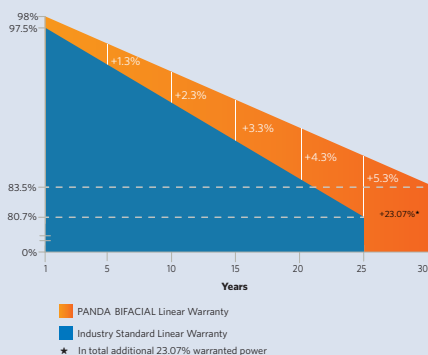


22.0%
CELL EFFICIENCY

10 YEAR
PRODUCT WARRANTY

0-5W
POWER TOLERANCE

30 Years Linear Warranty



DUAL POWER MAXIMIZED YIELD

PANDA BIFACIAL modules generate power from the front side as well as from the back. Together with the cutting-edge PANDA n-type crystalline silicon solar cells, which wake up earlier than conventional p-type and go to sleep later, the energy yield can be highest increased by 30%.



Bifacial Power

In contrast to conventional modules, PANDA BIFACIAL modules generate energy from both sides. As the backside makes use of the reflected and scattered light from the surroundings, the modules could yield more.



High Power Output

Multi-busbar half cells and series & parallel electrical structure could reduce CTM loss and increase module output power.



High Yield

Once used, PANDA BIFACIAL modules generate more energy, because of low LID, good low-light performance and temperature coefficient of n-type monocrystalline silicon solar cells.



Durability

Durable PANDA BIFACIAL modules work well in muggy conditions, and independently tested for harsh environmental conditions beyond IEC standards, such as exposure to salt mist, ammonia, dust or known PID risk factors.



Optimal Self-cleaning@CL

Optimal self-cleaning due to frameless module design.



Mechanical Performance@CF

Specially designed aluminium frames enhance the mechanical performance of modules and the installation efficiency of systems.

Yingli Green Energy

Yingli Green Energy Holding Company Limited, known as "Yingli Solar", is one of the world's leading solar panel manufacturers with the mission to provide affordable green energy for all. Yingli Solar makes solar power possible for communities everywhere by using our global manufacturing and logistics expertise to address unique local challenges.

PANDA BIFACIAL 144HC

ELECTRICAL PERFORMANCE

Module type	144HCL (144 half-cell, frameless): YLxxxCG2536L-2 1/2 144HCF (144 half-cell, framed): YLxxxCG2536F-2 1/2 (xxx=Pmax)									
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Electrical Parameters at Standard Test Conditions (STC)										
Power output	P_{max}	W	415	410	405	400	395	390	385	380
Voltage at P_{max}	V_{mpp}	V	42.74	42.40	42.06	41.72	41.37	41.01	40.66	40.30
Current at P_{max}	I_{mpp}	A	9.71	9.67	9.63	9.59	9.55	9.51	9.47	9.43
Open-circuit voltage	V_{oc}	V	50.70	50.30	49.90	49.50	49.10	48.70	48.30	47.90
Short-circuit current	I_{sc}	A	10.20	10.16	10.12	10.08	10.04	10.00	9.96	9.92
Power output tolerance	ΔP_{max}	W	0 / +5							
Module efficiency@144HCL	η_{mpp}	%	20.45	20.21	19.96	19.71	19.47	19.22	18.98	18.73
Module efficiency@144HCF	η_{mpp}	%	20.27	20.03	19.78	19.54	19.29	19.05	18.81	18.56

Electrical Parameters at Nominal Module Operating Temperature (NMOT)										
Power output	P_{max}	W	315.74	311.93	308.15	304.39	300.58	296.72	292.95	289.13
Voltage at P_{max}	V_{mpp}	V	40.76	40.44	40.11	39.79	39.45	39.11	38.78	38.43
Current at P_{max}	I_{mpp}	A	7.75	7.71	7.68	7.65	7.62	7.59	7.55	7.52
Open-circuit voltage	V_{oc}	V	48.08	47.71	47.33	46.95	46.57	46.19	45.81	45.43
Short-circuit current	I_{sc}	A	8.21	8.17	8.14	8.11	8.08	8.04	8.01	7.98

Bifacial Output (Backside Power Gain)										
Power output (power gain 10%)	W	457	451	446	440	435	429	424	418	
Power output (power gain 15%)	W	477	472	466	460	454	449	443	437	
Power output (power gain 25%)	W	519	513	506	500	494	488	481	475	

STC: 1000W·m⁻² irradiance, 25°C cell temperature, AM1.5 spectrum according to EN 60904-3.
NMOT: temperature near maximum power point at 800W·m⁻² irradiance, 20°C ambient temperature, 1m·s⁻¹ wind speed.

THERMAL CHARACTERISTICS

Nominal module operating temperature	NMOT	°C	39±2	Bifaciality			
Temperature coefficient of P_{max}	γ_{Pmax}	% / °C	-0.35	Bifaciality of P_{max}	ϕ_{Pmax}	%	82.0
Temperature coefficient of V_{oc}	β_{Voc}	% / °C	-0.30	Bifaciality of V_{oc}	ϕ_{Voc}	%	99.1
Temperature coefficient of I_{sc}	α_{Isc}	% / °C	0.04	Bifaciality of I_{sc}	ϕ_{Isc}	%	81.5

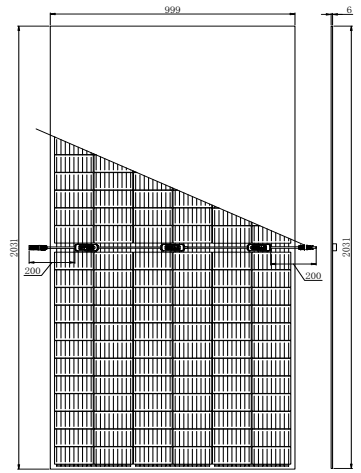
OPERATING CONDITIONS

Max. system voltage	1500V _{DC}	Front and back cover (material / thickness)	low-iron semi-tempered glass / 2.5mm x 2
Max. series fuse rating*	20A	Cell (material / number of busbar)	n-type monocrystalline / 5-12
Operating temperature range	-40°C to 85°C	Frame (144HCL / 144HCF)	none / anodized aluminium alloy
Fire resistance	Class A	Cable (length / cross-sectional area)	200mm / 4mm ²
Hailstone impact (diameter / velocity)	25mm / 23m·s ⁻¹	Junction box (protection degree)	≥ IP67
Snow load, front (144HCL / 144HCF) Wind load, back (144HCL / 144HCF)	3000Pa / 5400Pa 2400Pa / 2400Pa	Plug connector (type / protection degree)	RH 05-8 / IP67

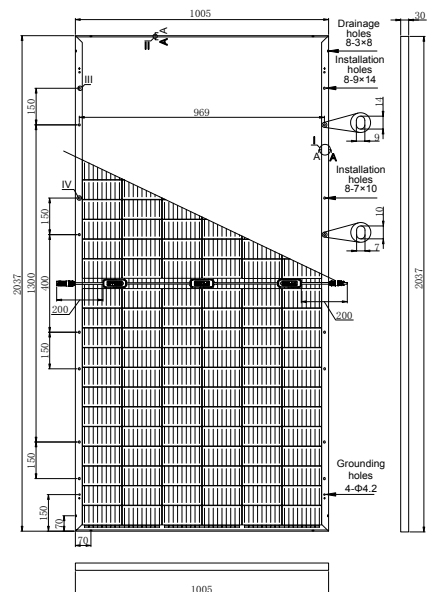
*DO NOT connect Fuse in Combiner Box with two or more strings in parallel connection.

PACKAGING SPECIFICATIONS

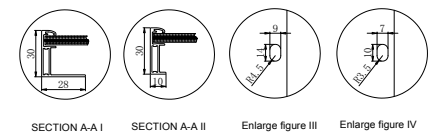
Packaging Specifications@144HCL		Packaging Specifications@144HCF	
Dimensions (L / W / H)	2031mm / 999mm / 6mm	Dimensions (L / W / H)	2037mm / 1005mm / 30mm
Weight	28.4kg	Weight	29.8kg
Number of modules per pallet	32	Number of modules per pallet	35
Number of pallets per 40' container	22	Number of pallets per 40' container	22
Packaging pallets dimensions (L / W / H)	2160mm / 1125mm / 1182mm	Packaging pallets dimensions (L / W / H)	2090mm / 1110mm / 1157mm
Pallet weight	984kg	Pallet weight	1087kg



Figure@144HCL unit: mm



Figure@144HCF unit: mm



QUALIFICATIONS & CERTIFICATES

IEC 61215, IEC 61730, CE, ISO 9001: 2015, ISO 14001: 2015, BS OHSAS 18001: 2007



- Due to continuous innovation, research and product improvement, the specifications in this product information sheet are subject to change without prior notice. The specifications may deviate slightly and are not guaranteed.
- The data do not refer to a single module and they are not part of the offer, they only serve for comparison to different module types. The company reserves the final right to explain any of the data included here.

Warning: Read the Installation and User Manual in its entirety before handling, installing and operating Yingli Solar modules.

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