YINGLI SOLAR

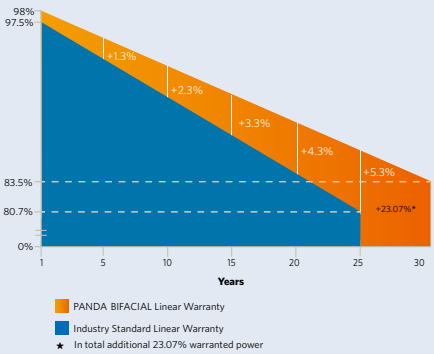
PANDA BIFACIAL 72CL

20.5%
CELL EFFICIENCY

10 YEAR
PRODUCT WARRANTY

0 - 5W
POWER TOLERANCE

PANDA BIFACIAL
30 Years Linear Warranty



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DUAL POWER
MAXIMIZED YIELD

PANDA BIFACIAL modules generate power from the front as well as from the back side. 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 increased by 10-30%*.

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 can yield up to 30% power more, depending on the albedo.

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 or known PID risk factors.

Optimal Self-cleaning
Optimal self-cleaning due to frameless module design.

Yingli Green Energy
Yingli Green Energy Holding Company Limited (NYSE: YGE), 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.

*Depending on the environmental condition of installation.

PANDA BIFACIAL 72CL

ELECTRICAL PERFORMANCE

Electrical parameters at Standard Test Conditions (STC)							
Module type			YLxxxCG2536L-1 (xxx=Pmax)				
Power output	P_{max}	W	350	345	340	335	330
Power output tolerance	ΔP_{max}	W	0 / + 5				
Module efficiency	η_m	%	17.9	17.6	17.4	17.1	16.8
Voltage at P_{max}	V_{mpp}	V	37.7	37.4	37.1	36.7	36.4
Current at P_{max}	I_{mpp}	A	9.29	9.23	9.17	9.13	9.07
Open-circuit voltage	V_{oc}	V	46.5	46.3	46.0	45.8	45.6
Short-circuit current	I_{sc}	A	9.79	9.76	9.72	9.69	9.66

STC: 1000W/m² irradiance, 25°C cell temperature, AM1.5 spectrum according to EN 60904-3.
Average relative efficiency reduction of 1.9% at 200W/m² according to EN 60904-1.

Electrical parameters at Nominal Operating Cell Temperature (NOCT)							
Power output	P_{max}	W	257.7	254.0	250.3	246.6	242.9
Voltage at P_{max}	V_{mpp}	V	34.8	34.5	34.3	33.9	33.6
Current at P_{max}	I_{mpp}	A	7.40	7.35	7.31	7.27	7.23
Open-circuit voltage	V_{oc}	V	43.1	42.9	42.7	42.5	42.3
Short-circuit current	I_{sc}	A	7.90	7.87	7.84	7.82	7.79

NOCT: open-circuit module operation temperature at 800W/m² irradiance, 20°C ambient temperature, 1m/s wind speed.

THERMAL CHARACTERISTICS

Nominal operating cell temperature	NOCT	°C	46 + / - 2
Temperature coefficient of P_{max}	γ	%/°C	-0.38
Temperature coefficient of V_{oc}	β_{Voc}	%/°C	-0.30
Temperature coefficient of I_{sc}	α_{Isc}	%/°C	0.04

OPERATING CONDITIONS

Max. system voltage	1500V_{DC}
Max. series fuse rating	20A
Limiting reverse current	20A
Operating temperature range	-40°C to 85°C
Max. snow load, front	5400Pa
Max. wind load, back	2400Pa
Max. hailstone impact (diameter / velocity)	25mm / 23m/s
Fire class	A

CONSTRUCTION MATERIALS

Front and back cover (material / thickness)	low-iron tempered glass / 2.5mm x 2
Cell (quantity / material / dimensions / number of busbar)	72/ monocrystalline silicon / 156.75mm x 156.75mm (±0.25mm) / 4 or 5
Frame	N / A
Junction box (protection degree)	≥ IP67
Cable (length / cross-sectional area)	200mm / 4mm²
Plug connector (type / protection degree)	RH 05-8 / IP67 or LSC-R1 / IP68 or LSC-R4 / IP68

- 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.

QUALIFICATIONS & CERTIFICATES

IEC 61215, IEC 61730, CE, ISO 9001:2008, ISO 14001:2004,
BS OHSAS 18001:2007, PV Cycle, SA 8000

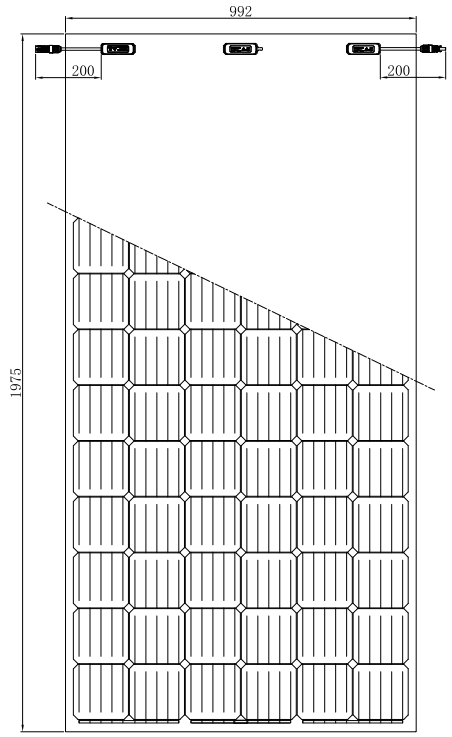
GENERAL CHARACTERISTICS

Dimensions(K/W/H)	1975mm / 992mm / 6mm
Weight	27.5kg

PACKAGING SPECIFICATIONS

Number of modules per pallet	30
Number of pallets per 40' container	21
Packaging box dimensions	2085mm / 1140mm / 1184mm
Box weight	900Kg

Unit: mm



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

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PANDA BIFACIAL 72CL

YL350CG2536L-1 Optimized electrical parameters (considering the power gain from rear side)							
Power output from the front	$P_{max'}$	W	350				
Energy yield			5%	10%	15%	20%	25%
Power output from both sides	P_{max}	W	368	385	403	420	438
Module efficiency	η_m	%	18.8	19.7	20.6	21.4	22.4
Voltage at P_{max}	V_{mpp}	V	37.7	37.7	37.7	37.7	37.7
Current at P_{max}	I_{mpp}	A	9.75	10.22	10.68	11.15	11.61
Open-circuit voltage	V_{oc}	V	46.5	46.5	46.5	46.5	46.5
Short-circuit current	I_{sc}	A	10.28	10.77	11.26	11.75	12.24

STC: 1000W/m² irradiance, 25°C cell temperature, AM1.5 spectrum according to EN 60904-3. Average relative efficiency reduction of 1.9% at 200W/m² according to EN 60904-1.

YL345CG2536L-1 Optimized electrical parameters (considering the power gain from rear side)							
Power output from the front	$P_{max'}$	W	345				
Energy yield			5%	10%	15%	20%	25%
Power output from both sides	P_{max}	W	362	380	397	414	431
Module efficiency	η_m	%	18.5	19.4	20.3	21.1	22.0
Voltage at P_{max}	V_{mpp}	V	37.4	37.4	37.4	37.4	37.4
Current at P_{max}	I_{mpp}	A	9.69	10.15	10.61	11.08	11.54
Open-circuit voltage	V_{oc}	V	46.3	46.3	46.3	46.3	46.3
Short-circuit current	I_{sc}	A	10.25	10.74	11.22	11.71	12.20

STC: 1000W/m² irradiance, 25°C cell temperature, AM1.5 spectrum according to EN 60904-3. Average relative efficiency reduction of 1.9% at 200W/m² according to EN 60904-1.

YL340CG2536L-1 Optimized electrical parameters (considering the power gain from rear side)							
Power output from the front	$P_{max'}$	W	340				
Energy yield			5%	10%	15%	20%	25%
Power output from both sides	P_{max}	W	357	374	391	408	425
Module efficiency	η_m	%	18.2	19.1	20.0	20.8	21.7
Voltage at P_{max}	V_{mpp}	V	37.1	37.1	37.1	37.1	37.1
Current at P_{max}	I_{mpp}	A	9.63	10.09	10.55	11.00	11.46
Open-circuit voltage	V_{oc}	V	46.0	46.0	46.0	46.0	46.0
Short-circuit current	I_{sc}	A	10.21	10.69	11.18	11.66	12.15

STC: 1000W/m² irradiance, 25°C cell temperature, AM1.5 spectrum according to EN 60904-3. Average relative efficiency reduction of 1.9% at 200W/m² according to EN 60904-1.

YL335CG2536L-1 Optimized electrical parameters (considering the power gain from rear side)							
Power output from the front	$P_{max'}$	W	335				
Energy yield			5%	10%	15%	20%	25%
Power output from both sides	P_{max}	W	352	369	385	402	419
Module efficiency	η_m	%	18.0	18.8	19.7	20.5	21.4
Voltage at P_{max}	V_{mpp}	V	36.7	36.7	36.7	36.7	36.7
Current at P_{max}	I_{mpp}	A	9.59	10.04	10.50	10.96	11.41
Open-circuit voltage	V_{oc}	V	45.8	45.8	45.8	45.8	45.8
Short-circuit current	I_{sc}	A	10.17	10.66	11.14	11.63	12.11

STC: 1000W/m² irradiance, 25°C cell temperature, AM1.5 spectrum according to EN 60904-3. Average relative efficiency reduction of 1.9% at 200W/m² according to EN 60904-1.

YL330CG2536L-1 Optimized electrical parameters (considering the power gain from rear side)							
Power output from the front	$P_{max'}$	W	330				
Energy yield			5%	10%	15%	20%	25%
Power output from both sides	P_{max}	W	347	363	380	396	413
Module efficiency	η_m	%	17.7	18.5	19.4	20.2	21.1
Voltage at P_{max}	V_{mpp}	V	36.4	36.4	36.4	36.4	36.4
Current at P_{max}	I_{mpp}	A	9.52	9.98	10.43	10.88	11.34
Open-circuit voltage	V_{oc}	V	45.6	45.6	45.6	45.6	45.6
Short-circuit current	I_{sc}	A	10.14	10.63	11.11	11.59	12.08

STC: 1000W/m² irradiance, 25°C cell temperature, AM1.5 spectrum according to EN 60904-3. Average relative efficiency reduction of 1.9% at 200W/m² according to EN 60904-1.

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