

YLM  
GG  
132CELL

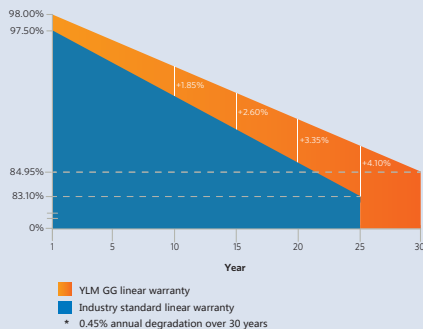


22.8%  
CELL EFFICIENCY

12 YEAR  
PRODUCT WARRANTY

0 to +5W  
POWER SELECTION TOLERANCE

30 Years Linear Warranty



# DOUBLED STRENGTH FOR MULTIPLIED RELIABILITY

Whenever the conditions are requiring a more robust solution, our modules are the right choice. Carefully chosen materials, state of the art solar cells and our experience in manufacturing to ensure high product quality.



### Bifacial Power

In contrast to conventional modules, YLM GG modules can generate energy from both sides. As the backside makes use of the reflected and scattered light from the surroundings, these modules could yield significantly more power, depending upon the albedo.



### Higher Yield

YLM GG modules often generate more energy due to their low LID and the temperature coefficient of p-type monocrystalline silicon solar cells.



### Higher Bifaciality

Imagine a solar module flipped upside down with its back to the sun. The amount of power that it can still produce is compared against the nameplate badge, which is the bifaciality factor. A major advantage of choosing YLM GG modules is that the backside will perform at an industry leading of the p-type bifacial modules.



### Higher Durability

The double glass construction improves the long-term mechanical performance of the module. Furthermore, YLM GG modules work well in muggy conditions, and independently tested for harsh environmental conditions, such as exposure to salt mist, ammonia, dust or known PID risk factors.



### Mechanical Performance

Choose our specially designed aluminium framed YLM GG modules for enhanced mechanical performance and more ease of use in traditional installation methods.

### Yingli Solar

Founded in 1987, Yingli Energy (China) Company Limited, known as "Yingli Solar", is one of the world's oldest 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.

MODULE TYPE		132DF (132 cell, p-type mono-Si, framed): YLxxDF66 f/2 (xxx=Pmax)						
Electrical Parameters at STC								
Power output	P <sub>max</sub>	W	645	650	655	660	665	670
Voltage at P <sub>max</sub>	V <sub>Pmax</sub>	V	37.30	37.50	37.70	37.90	38.10	38.30
Current at P <sub>max</sub>	I <sub>Pmax</sub>	A	17.29	17.34	17.38	17.42	17.46	17.50
Open-circuit voltage	V <sub>oc</sub>	V	45.10	45.30	45.50	45.70	45.90	46.10
Short-circuit current	I <sub>sc</sub>	A	18.31	18.36	18.42	18.48	18.54	18.58
Power output tolerance	ΔP <sub>max</sub>	W	0 / + 5					
Module efficiency	η <sub>Pmax</sub>	%	20.76	20.92	21.09	21.25	21.41	21.57

Electrical Parameters at NMOT								
Power output	P <sub>max'</sub>	W	484.42	488.18	491.93	495.69	499.44	503.20
Voltage at P <sub>max'</sub>	V <sub>Pmax'</sub>	V	35.02	35.19	35.38	35.57	35.76	35.94
Current at P <sub>max'</sub>	I <sub>Pmax'</sub>	A	13.83	13.87	13.90	13.94	13.97	14.00
Open-circuit voltage	V <sub>oc'</sub>	V	42.64	42.83	43.02	43.21	43.40	43.59
Short-circuit current	I <sub>sc'</sub>	A	14.75	14.79	14.84	14.89	14.94	14.97

Bifacial Electrical Parameters at STC*								
Power output	P <sub>max''</sub>	W	705.95	711.43	716.90	722.37	727.84	733.32
Voltage at P <sub>max''</sub>	V <sub>Pmax''</sub>	V	37.30	37.50	37.70	37.90	38.10	38.30
Current at P <sub>max''</sub>	I <sub>Pmax''</sub>	A	18.93	18.97	19.02	19.06	19.10	19.15
Open-circuit voltage	V <sub>oc''</sub>	V	45.10	45.30	45.50	45.70	45.90	46.10
Short-circuit current	I <sub>sc''</sub>	A	20.04	20.10	20.16	20.23	20.29	20.34

Other Characteristics							
Bifaciality coefficient	φ	%	70 ± 5	Temperature coefficient of I <sub>sc</sub>	α <sub>Isc</sub>	% / °C	0.04
Nominal module operating temperature	NMOT	°C	43 ± 2	Temperature coefficient of V <sub>oc</sub>	β <sub>Voc</sub>	% / °C	-0.25
Measurement tolerance of V <sub>oc</sub> and I <sub>sc</sub>		%	± 3	Temperature coefficient of P <sub>max</sub>	γ <sub>Pmax</sub>	% / °C	-0.34

STC: 1000 W·m<sup>-2</sup> irradiance, 25 °C cell temperature, AM 1.5 spectrum according to EN 60904-3.  
 NMOT: temperature near maximum power point at 800 W·m<sup>-2</sup> irradiance, 20 °C ambient temperature, 1 m·s<sup>-1</sup> wind speed.  
 \*Bifaciality coefficient is 70%, rear irradiance is 135 W·m<sup>-2</sup>.

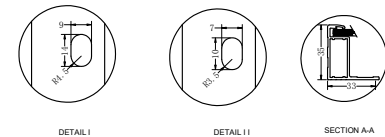
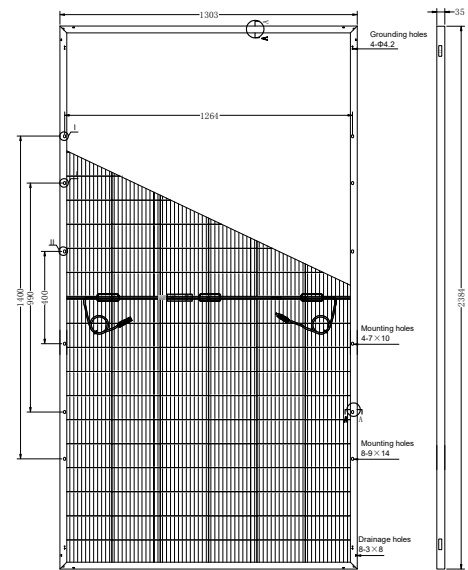
OPERATING CONDITIONS		CONSTRUCTION MATERIALS	
Max. system voltage	1500 V <sub>DC</sub>	Cell (material / number)	p-type mono-Si / 2 x 6 x 11
Max. series fuse rating*	35 A	Glass (material / thickness)	low-iron semi-tempered glass / 2.0 mm
Operating temperature range	- 40 °C to 85 °C	Frame (type)	anodized aluminium alloy
Snow load, front	5400 Pa	Cable (length / cross-sectional area)	± 300 mm, can be customized / 4 mm <sup>2</sup>
Wind load, back	2400 Pa	Plug connector (type)	match the junction box
Hailstone impact (diameter / velocity)	25 mm / 23 m·s <sup>-1</sup>	Junction box (type / protection degree)	3 diodes / ≥ IP67

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

## PACKAGING SPECIFICATIONS

Packaging Specifications@132DF	
Dimensions (L / W / H)	2384 mm / 1303 mm / 35 mm
Weight	38.4 kg
Number of modules per pallet	31
Number of pallets per 40' container*	17
Packaging pallets dimensions (L / W / H)	1340 mm / 1140 mm / 2500 mm
Pallet weight	1243 kg

\*Truck transport is prohibited to exceed its maximum load.



Figure@132DF 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 does 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.  
 Proudly made in China.



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

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