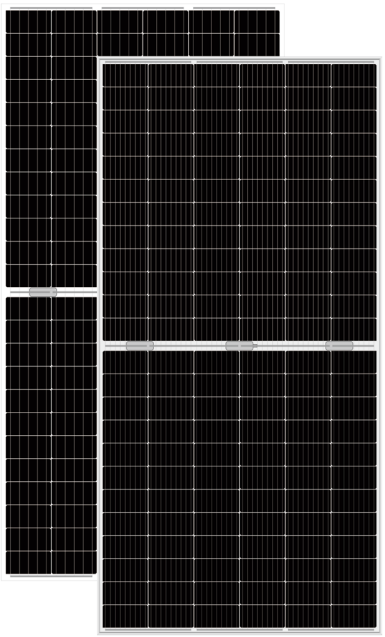
YLM GG 144HD

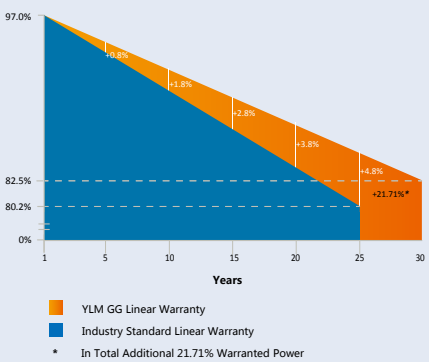


22.5%
CELL EFFICIENCY

12 YEAR
PRODUCT WARRANTY

0 to +5W
POWER SELECTION TOLERANCE

30 Years Linear Warranty



YINGLISOLAR.COM

YINGLI SOLAR
Power Your Life

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.

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

+ W/m² 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 bifacialilty 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.

Optimal Self-cleaning
Choose our frameless “HDL“ module for optimal self-cleaning.

Mechanical Performance
Choose our specially designed aluminium framed “HDF“ module for enhanced mechanical performance and more ease of use in traditional installation methods.

Yingli Green Energy
Founded in 1987, Yingli Green Energy Holding 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.

YLM GG 144HD

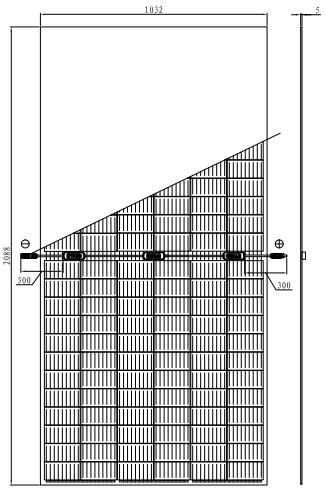
ELECTRICAL PERFORMANCE

Module type	144HDL (144 half-cell, p-type mono-Si, frameless): YLxxxDL72 1/2 (xxx=Pmax) 144HDF (144 half-cell, p-type mono-Si, framed): YLxxxDF72 1/2 (xxx=Pmax)

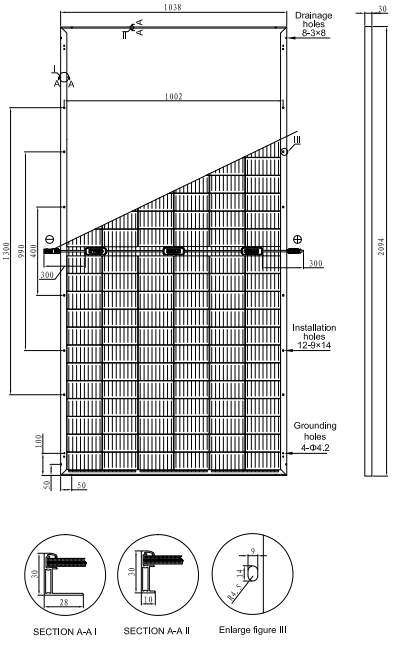
Electrical Parameters at Standard Test Conditions (STC)								
Power output	P_{max}	W	455	450	445	440	435	430
Voltage at P_{max}	V_{Pmax}	V	41.90	41.67	41.44	41.20	40.97	40.72
Current at P_{max}	I_{Pmax}	A	10.86	10.80	10.74	10.68	10.62	10.56
Open-circuit voltage	V_{oc}	V	50.05	49.80	49.55	49.30	49.05	48.80
Short-circuit current	I_{sc}	A	11.48	11.42	11.36	11.30	11.24	11.18
Power output tolerance	ΔP_{max}	W	0 / + 5					
Module efficiency@144HDL	H_{Pmax}	%	21.12	20.88	20.65	20.42	20.19	19.96
Module efficiency@144HDF	η_{Pmax}	%	20.93	20.70	20.47	20.24	20.01	19.78
Electrical Parameters at Nominal Module Operating Temperature (NMOT)								
Power output	P_{max}'	W	346.19	342.39	338.61	334.76	331.03	327.15
Voltage at P_{max}'	V_{Pmax}'	V	39.96	39.74	39.52	39.29	39.07	38.83
Current at P_{max}'	I_{Pmax}'	A	8.66	8.62	8.57	8.52	8.47	8.42
Open-circuit voltage	V_{oc}'	V	47.47	47.23	46.99	46.76	46.52	46.28
Short-circuit current	I_{sc}'	A	9.24	9.19	9.14	9.09	9.04	8.99
Bifacial Power Output (Backside Power Gain)								
Power output (power gain 10%)	P_{max10}	W	501	495	490	484	479	473
Power output (power gain 15%)	P_{max15}	W	523	518	512	506	500	495
Power output (power gain 25%)	P_{max25}	W	569	563	556	550	544	538

Other Characteristics							
Nominal module operating temperature	NMOT	°C	39±2	Temperature coefficient of I_{sc}	α_{Isc}	% / °C	0.04
Bifaciality factor	ϕ	%	70±5	Temperature coefficient of V_{oc}	β_{Voc}	% / °C	-0.30
Measurement tolerance of Pmax, Voc and Isc		%	±3	Temperature coefficient of P_{max}	γ_{Pmax}	% / °C	-0.35

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.



Figure@144HDL unit: mm



Figure@144HDF unit: mm

OPERATING CONDITIONS

Max. system voltage	1500V_{DC}
Max. series fuse rating*	20A
Operating temperature range	-40°C to 85°C
Hailstone impact (diameter / velocity)	25mm / 23m·s^{-1}
Snow load, front (144HDL / 144HDF)	3000Pa / 5400Pa
Wind load, back (144HDL / 144HDF)	2400Pa / 2400Pa

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

CONSTRUCTION MATERIALS

Cell (material / number)	p-type mono-Si / 6 x 24
Glass (material / thickness)	low-iron semi-tempered glass / 2.0mm x 2
Frame (144HDL / 144HDF)	none / anodized aluminium alloy
Junction box (type / protection degree)	3 diodes / ≥ IP67
Cable (length / cross-sectional area)	300mm, can be customized / 4mm^2
Plug connector (type / protection degree)	RH 05-8 / IP67

PACKAGING SPECIFICATIONS

Packaging Specifications@144HDL		Packaging Specifications@144HDF	
Dimensions (L / W / H)	2088mm / 1032mm / 5mm	Dimensions (L / W / H)	2094mm / 1038mm / 30mm
Weight	24.1kg	Weight	25.6kg
Number of modules per pallet	32	Number of modules per pallet	35
Number of pallets per 40' container*	20	Number of pallets per 40' container*	22
Packaging pallets dimensions (L / W / H)	2210mm / 1125mm / 1215mm	Packaging pallets dimensions (L / W / H)	2145mm / 1110mm / 1190mm
Pallet weight	848kg	Pallet weight	942kg

*Truck transport is prohibited to exceed its maximum load.

QUALIFICATIONS & CERTIFICATES

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

- Certificates are held by Yingli Energy (China) Co., Ltd., which is a wholly owned subsidiary of Yingli Green Energy Holding Co., Ltd.
- 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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