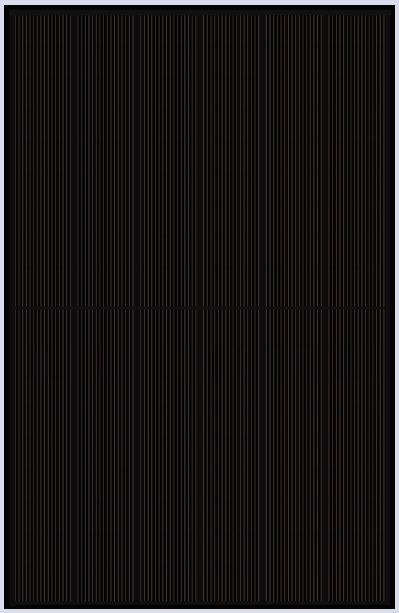
YINGLI SOLAR

PANDA 3.0 PRO
410-435 W

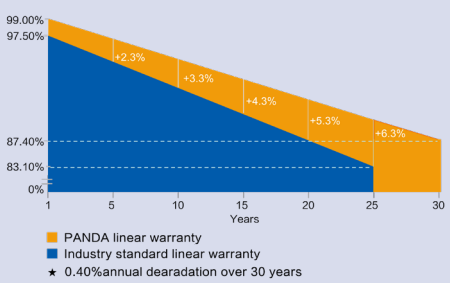


108 CELL
CELL QUANTITY

0–5 W
POWER TOLERANCE

12 YEAR
PRODUCT WARRANTY

30 YEAR
POWER WARRANTY



YINGLISOLAR.COM

YINGLI SOLAR

IMPROVED POWER
NEVER SETTLE FOR LESS

PANDA 3.0 modules use the industry's cutting-edge n-type monocrystalline TOPCon cell technology. PANDA 3.0 modules wake up earlier than conventional p-type modules and go to sleep later, with the superimposed excellent features such as bifacial generation, the energy yield can be highest increased by 30%.

Backside Yield
The backside of the module effectively uses reflected and scattered light from the environment to generate electricity.

Superior Yield
The large size cell enhances the module's power output, with the excellent temperature coefficient, superior low light performance and comprehensive LID/LeTID degradation suppression technology, allows the module to generate more energy yield once in use.

Excellent Durability
The modules meet IEC standard testing requirements and are resistant to salt mist, ammonia, dust and sand, snail trail and PID risks.

Wide Applications
The glass-glass structure, special material selection and extra-strong frames effectively enhance the mechanical performance of the modules, their compatibility with mainstream trackers and inverters, and their adaptability to harsh environments.

Outstanding Bifaciality
The modules have industry-leading bifaciality for bifacial modules.

QUALIFICATIONS & CERTIFICATES

IEC 61215, IEC 61730, CE, IEC 62941:2019 Terrestrial photovoltaic (PV) modules–Quality system for PV module manufacturing, ISO 9001:2015 Quality management systems, ISO 14001:2015 Environmental management systems, ISO 45001:2018 Occupational health and safety management systems

Yingli Solar

Headquartered in Baoding, China, Yingli Energy Development Company Limited, known as Yingli Solar, is a leading solar solution provider. Yingli Solar is committed to providing clean, renewable energy through PV power generation technology for factories, homes and utilities around the world. Yingli Solar provides reliable products and services through continuous technological advancement and management innovation.

PANDA 3.0 PRO

Electrical parameters at Standard Test Conditions (STC*)

Module type			YLxxxCF54 e/2 (xxx=Pmax)					
Power output	P_{max}	W	410	415	420	425	430	435
Power output tolerances	ΔP_{max}	W	0 / + 5					
Module efficiency	η_m	%	21.00	21.25	21.51	21.76	22.02	22.27
Voltage at P_{max}	V_{mpp}	V	31.13	31.32	31.51	31.70	31.89	32.08
Current at P_{max}	I_{mpp}	A	13.18	13.26	13.33	13.41	13.49	13.56
Open-circuit voltage	V_{oc}	V	37.75	37.94	38.13	38.32	38.51	38.69
Short-circuit current	I_{sc}	A	13.91	13.97	14.03	14.09	14.15	14.22

*STC: 1000 W · m^{-2} irradiance, 25°C cell temperature, AM 1.5 spectrum according to EN 60904-3.

Electrical parameters at Nominal Operating Cell Temperature (NOCT*)

Power output	P_{max}	W	311.49	315.30	318.89	322.73	326.60	330.26
Voltage at P_{max}	V_{mpp}	V	29.64	29.82	30.01	30.19	30.37	30.55
Current at P_{max}	I_{mpp}	A	10.51	10.57	10.63	10.69	10.76	10.81
Open-circuit voltage	V_{oc}	V	35.78	35.96	36.14	36.32	36.50	36.68
Short-circuit current	I_{sc}	A	11.22	11.26	11.31	11.36	11.41	11.46

*NOCT: open-circuit module operation temperature at 800 W · m^{-2} irradiance, 20°C ambient temperature, 1 m · s^{-1} wind speed.

Bifacial electrical parameters at Standard Test Conditions (STC*)

Power output	P_{max}	W	454.61	460.16	465.39	471.01	476.66	481.99
Voltage at P_{max}	V_{mpp}	V	31.13	31.32	31.51	31.70	31.89	32.08
Current at P_{max}	I_{mpp}	A	14.60	14.69	14.77	14.86	14.95	15.02
Open-circuit voltage	V_{oc}	V	37.75	37.94	38.13	38.32	38.51	38.69
Short-circuit current	I_{sc}	A	15.41	15.48	15.55	15.61	15.68	15.76

*Bifaciality coefficient is 80% ± 5%, rear irradiance is 135 W · m^{-2}.

THERMAL CHARACTERISTICS

Nominal operating cell temperature	NOCT	°C	42 ± 2
Temperature coefficient of P_{max}	γ	%/°C	− 0.30
Temperature coefficient of V_{oc}	β	%/°C	− 0.25
Temperature coefficient of I_{sc}	α	%/°C	0.046

OPERATING CONDITIONS

Max. system voltage	1500 V_{DC}
Max. series fuse rating*	30 A
Operating temperature range	− 40°C to 85°C
Max. static load, front (e.g., snow)	5400 Pa
Max. static load, back (e.g., wind)	2400 Pa
Max. hailstone impact (diameter / velocity)	25 mm / 23 m · s^{-1}

*DO NOT CONNECT FUSE IN COMBINER BOX WITH TWO OR MORE STRINGS IN PARALLEL CONNECTION.

CONSTRUCTION MATERIALS

Cell (material / quantity)	n-type monocrystalline silicon / 6 x 18
Glass (thickness)	1.6 mm / 1.6 mm
Frame (material)	anodized aluminum alloy
Junction box (type / protection degree)	3 bypass diodes / ≥ IP68
Cable (length / cross-sectional area)	± 1200 mm / 4 mm²

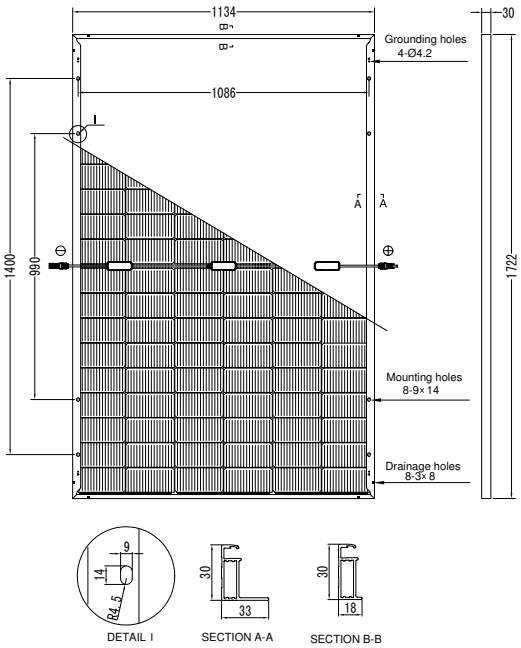
GENERAL CHARACTERISTICS

Dimensions (L / W / H)	1722 mm / 1134 mm / 30 mm
Weight	20.6 kg

PACKAGING SPECIFICATIONS

Number of modules per pallet	36
Number of pallets per 40' container	26
Packaging box dimensions (L / W / H)	1740 mm / 1110 mm / 1245 mm
Box weight	790 kg

BACK VIEW (units: mm)



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

• 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.

Yingli Energy Development Co., Ltd.
service@yingli.com
Tel: +86-312-8922216

© Yingli Energy Development Co., Ltd.