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 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
PANDA BIFACIAL modules often generate more energy due to their low LID, good low-light performance and the temperature coefficient of n-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 PANDA BIFACIAL modules is that the backside will perform at an industry leading of bifacial modules.

Higher Durability
The double glass construction improves the long-term mechanical performance of the module. Furthermore, PANDA BIFACIAL 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 “CL” module for optimal self-cleaning.

Mechanical Performance
Choose our specially designed aluminium framed “CF” module 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.
### PANDA BIFACIAL 144CELL

#### ELECTRICAL PERFORMANCE

| Module type | 144CL (144 cell, n-type mono-Si, frameless): YLxxCG2536L-2 1/2 (xxx=Pmax)  
| 144CF (144 cell, n-type mono-Si, framed): YLxxCG2536F-2 1/2 (xxx=Pmax) |

#### Electrical Parameters at Standard Test Conditions (STC)

| Power output | \( P_{\text{max}} \) | W | 415 | 410 | 405 | 400 | 395 | 390 |
| Voltage at \( P_{\text{max}} \) | \( V_{\text{max}} \) | V | 42.74 | 42.40 | 42.06 | 41.72 | 41.37 | 41.01 |
| Current at \( P_{\text{max}} \) | \( I_{\text{max}} \) | A | 9.71 | 9.67 | 9.63 | 9.59 | 9.55 | 9.51 |
| Open-circuit voltage | \( V_{\text{oc}} \) | V | 50.70 | 50.30 | 49.90 | 49.50 | 49.10 | 49.00 |
| Short-circuit current | \( I_{\text{sc}} \) | A | 10.20 | 10.16 | 10.12 | 10.08 | 10.04 | 10.00 |
| Power output tolerance | \( \Delta P_{\text{max}} \) | W | 0 / +5 |
| Module efficiency@144CL | \( H_{\text{max}} \) | % | 20.45 | 20.21 | 19.96 | 19.71 | 19.47 | 19.22 |
| Module efficiency@144CF | \( \eta_{\text{max}} \) | % | 20.27 | 20.03 | 19.78 | 19.54 | 19.29 | 19.05 |

#### Electrical Parameters at Nominal Module Operating Temperature (NMOT)

| Power output | \( P_{\text{max}} \) | W | 315.74 | 311.93 | 308.15 | 304.39 | 300.58 | 296.72 |
| Voltage at \( P_{\text{max}} \) | \( V_{\text{max}} \) | V | 40.76 | 40.44 | 40.11 | 39.79 | 39.45 | 39.11 |
| Current at \( P_{\text{max}} \) | \( I_{\text{max}} \) | A | 7.75 | 7.71 | 7.68 | 7.65 | 7.62 | 7.59 |
| Open-circuit voltage | \( V_{\text{oc}} \) | V | 48.08 | 47.71 | 47.33 | 46.95 | 46.57 | 46.47 |
| Short-circuit current | \( I_{\text{sc}} \) | A | 8.21 | 8.17 | 8.14 | 8.11 | 8.08 | 8.04 |

#### Bifacial Power Output (Backside Power Gain)

| Power output (power gain 10%) | \( P_{\text{max}15} \) | W | 477 | 472 | 466 | 460 | 454 | 449 |
| Power output (power gain 15%) | \( P_{\text{max}25} \) | W | 519 | 513 | 506 | 500 | 494 | 488 |

#### Other Characteristics

- Nominal module operating temperature (NMOT): °C 39±2
- Temperature coefficient of \( \Delta P_{\text{max}} \): % / °C 0.04
- Bifaciality factor (\( \Phi \)): % 80±5
- Temperature coefficient of \( \eta_{\text{max}} \): % / °C -0.30
- Measurement tolerance of \( P_{\text{max}}, V_{\text{oc}} \) and \( I_{\text{sc}} \): % ±3
- Temperature coefficient of \( V_{\text{oc}} \): % / °C -0.30
- Temperature coefficient of \( I_{\text{sc}} \): % / °C 0.04
- Temperature coefficient of \( P_{\text{max}} \): % / °C -0.35

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### OPERATING CONDITIONS & CERTIFICATES

- Max. system voltage: 1500Vdc
- Cell (material / number): n-type mono-Si / 2 x 6 x 12
- Max. series fuse rating*: 20A
- Operating temperature range: -40°C to 85°C
- Fire resistance: Class A
- Halstone impact (diameter / velocity): 25mm / 23m/s²
- Snow load, front (144CL / 144CF): 3000Pa / 5400Pa
- Wind load, back (144CL / 144CF): 2400Pa / 2400Pa
- Packaging Specifications@144CL
  - Dimensions (L / W / H): 2037mm / 1005mm / 30mm
  - Weight: 24.2kg
  - Number of modules per pallet: 32
  - Number of pallets per 40’ container*: 22
  - Packaging pallets dimensions (L / W / H): 2160mm / 1125mm / 1182mm
  - Pallet weight: 850kg

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

### QUALIFICATIONS & CERTIFICATES

- 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.

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