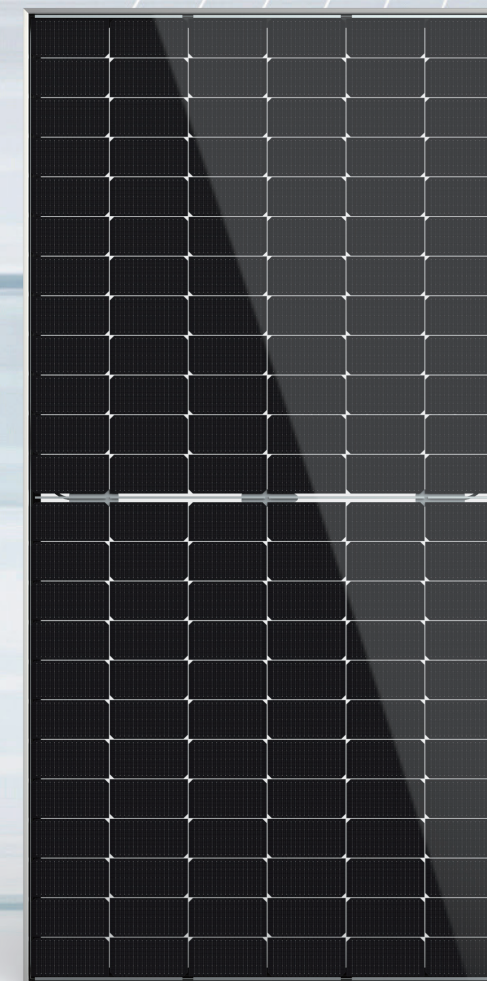
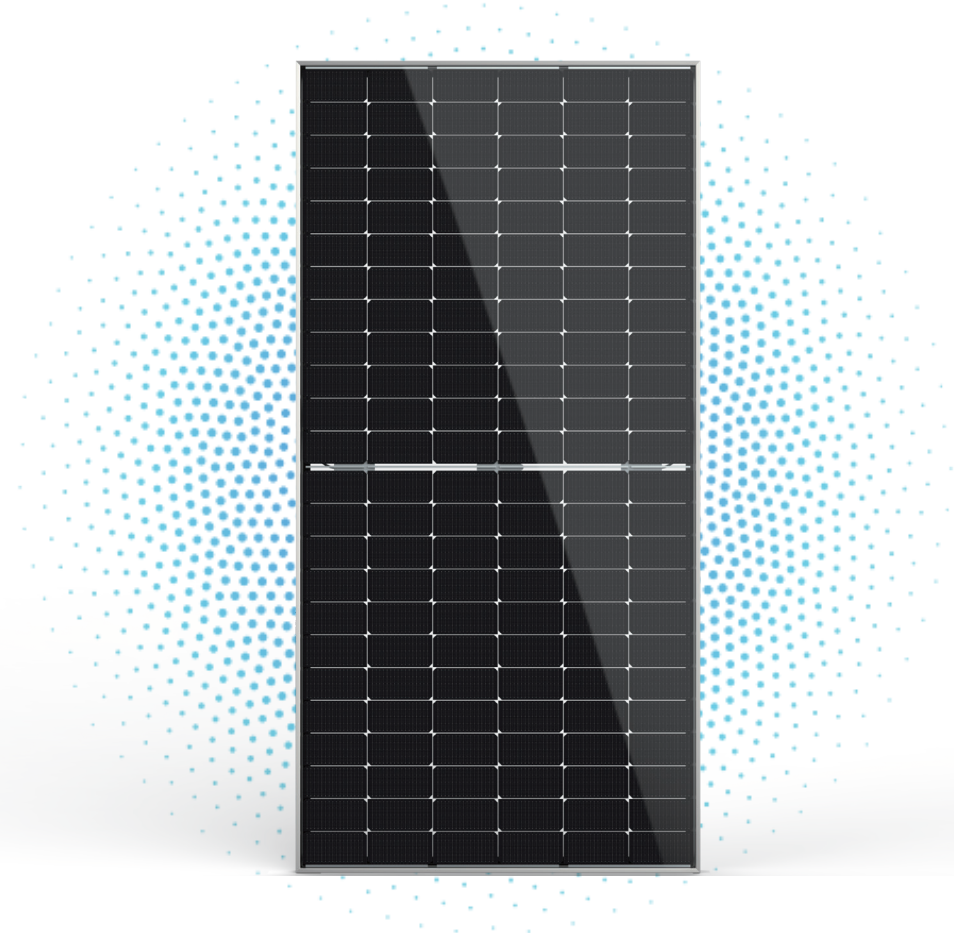


Tiger Neo N-Type TOPCon Module

Product Whitepaper



Best Advantage of N-Type Solar Panels



30 Years
Long warranty for power production

22%-23.23%
Highest efficiency

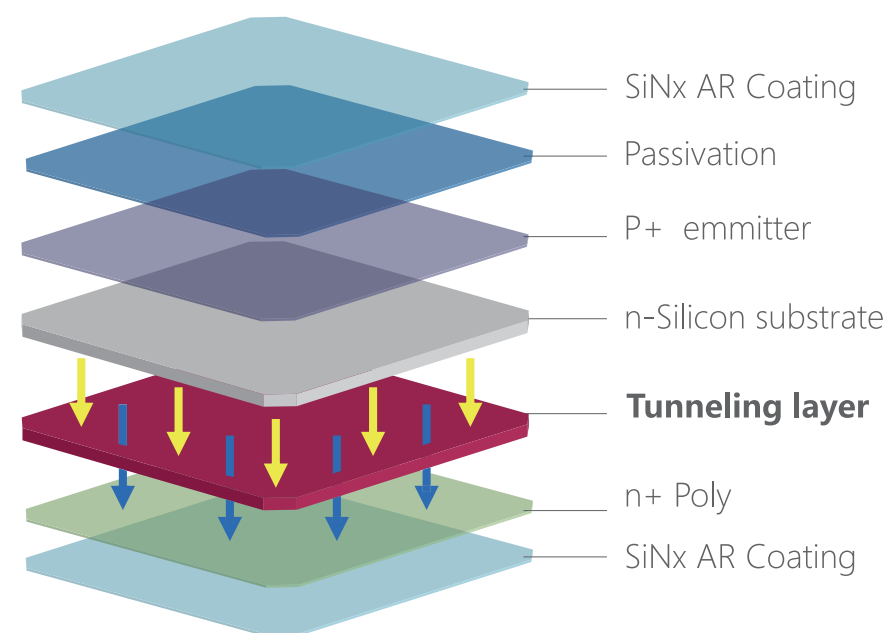
0.4%
Low yearly degradation

80±5%
Best bifaciality

-0.29 %/°C
Lowest temperature coefficient

Highest Average Cell Efficiency of Jinkosolar's N-type TOPCon Cell: > 25.1%

N-type TOPCon cell can achieve even 28.2-28.7% efficiency while Jinkosolar mass-produced N-type TOPCon cell with 25.1% efficiency.



Highest Average Module Efficiency of Jinkosolar's N-type TOPCon Panel: >22%

Jinkosolar N-type TOPCon Tiger Neo panels have the best efficiency in serial production, scoping between 22%-23.23%. N-type Tiger Neo module has the best generation performance and reliable characteristic resistance for common fail from all over solar technology

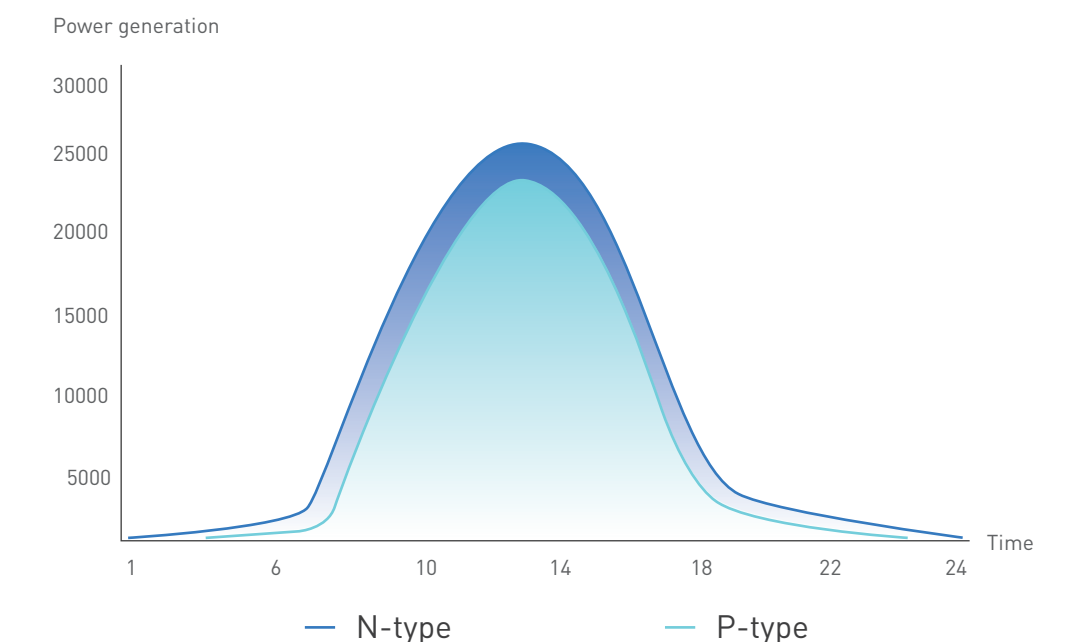


More Power Productivity per Watt

Higher power, bifaciality, efficient production under extreme conditions, combined with the lower degradation, no LID and LeTID effects and a glass-glass structure of Jinkosolar's N-type Tiger Neo allows you to generate significantly more power per watt (kWh/kW) over 30 years of use compared to PERC panels.

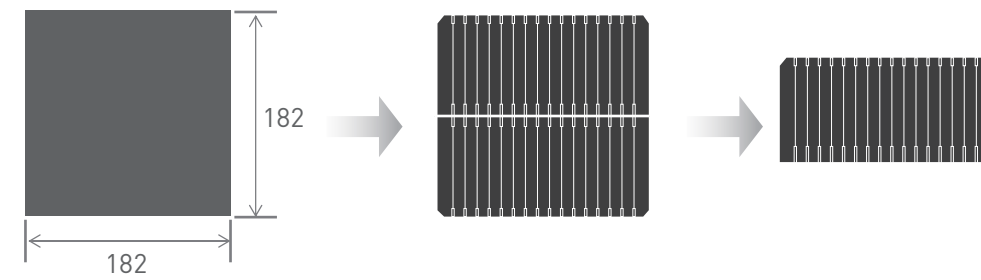
Longer Generation Time of Tiger Neo

Jinkosolar's N-type TOPCon Tiger Neo panels demonstrate better power generation characteristics than conventional P-type modules under low light condition. Therefore, the effective power generation time of Tiger Neo is 11.07% more than that of conventional solar modules



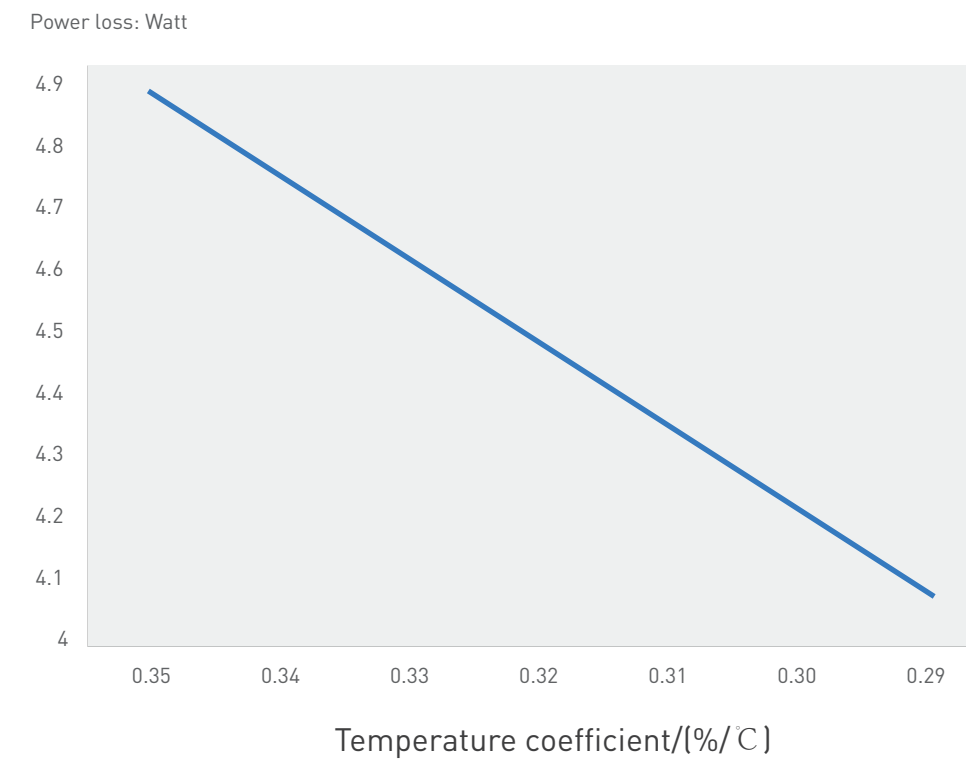
Jinkosolar's N-Type Panel Power?

Jinkosolar's Tiger Neo with N-type TOPCon technology solar panels with 144 cells (182' wafer) have a scope of power between 575W-610W and for 156 cells 605W - 630W. Residential standard 108 cells has standard 430W-450W.



Low Temperature Coefficient

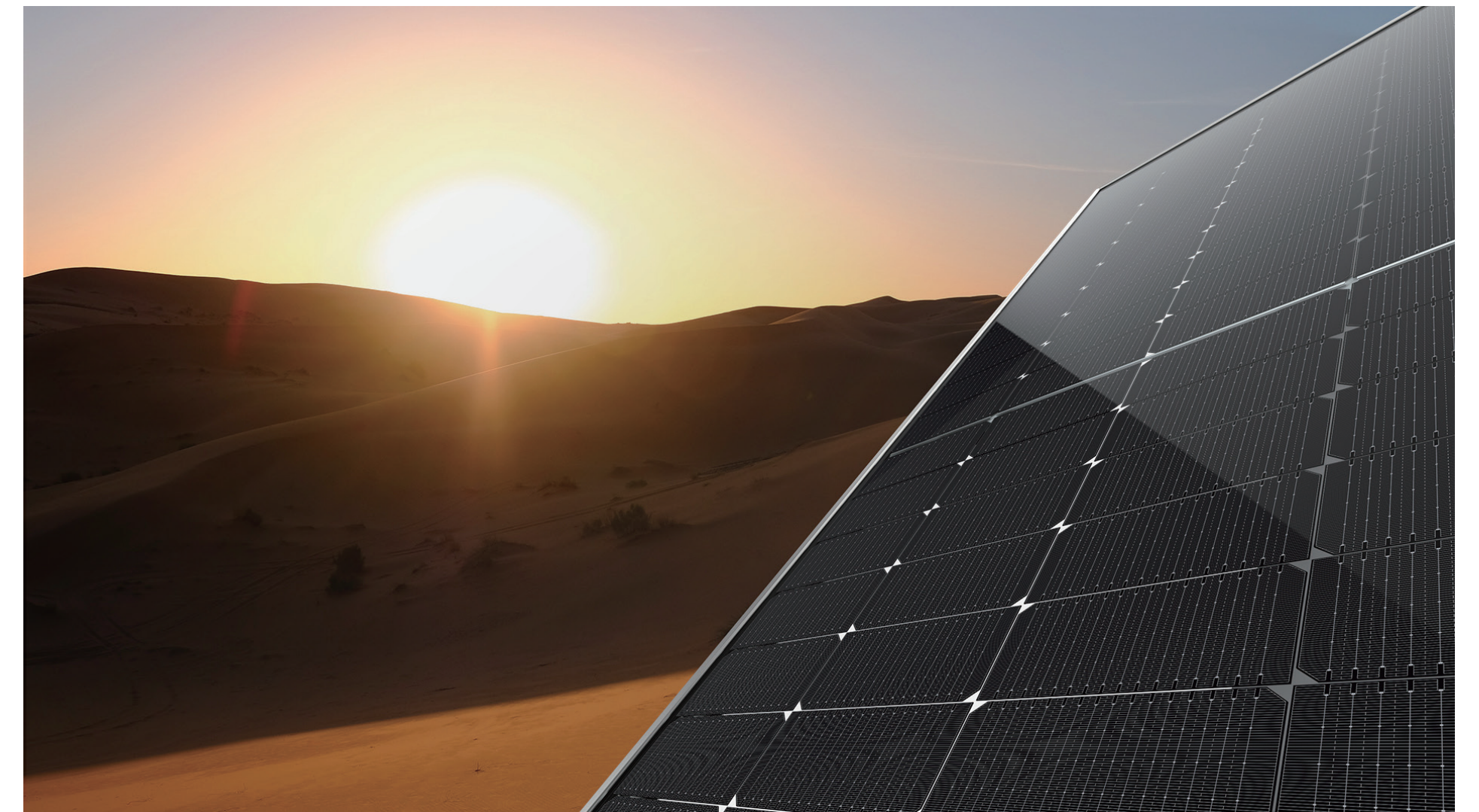
Low temperature coefficient of Tiger Neo $-0.29\%/^{\circ}\text{C}$ (other N-type producers provide $-0.3\%/^{\circ}\text{C}$) panel allows it to bring more energy yield particularly in hot climates conditions which account for 80% market. It demonstrates unique advantages in high temperature/high irradiance areas. Compared to the PERC module, Tiger Neo features a lower power temperature coefficient and higher output power. It is about 4.5% more efficient in power output than the PERC module under 60°C operation temperature which is not unusual in tropic and desert regions. between 575W-610W and for 156 cells 605W - 630W. Residential standard 108 cells has standard 430W-450W.



Temperature Coefficient what is it?

The temperature coefficient in PV refers to the change in the output power of a photovoltaic (PV) module or cell as the temperature changes. It is usually expressed as a percentage change in power output per degree Celsius. For example, a PV module with a temperature coefficient of $-0.5\%/^{\circ}\text{C}$ will have a 0.5% decrease in power output for every 1°C increase in temperature. The temperature coefficient can vary depending on the type of PV technology used and the materials used in the module or cell.

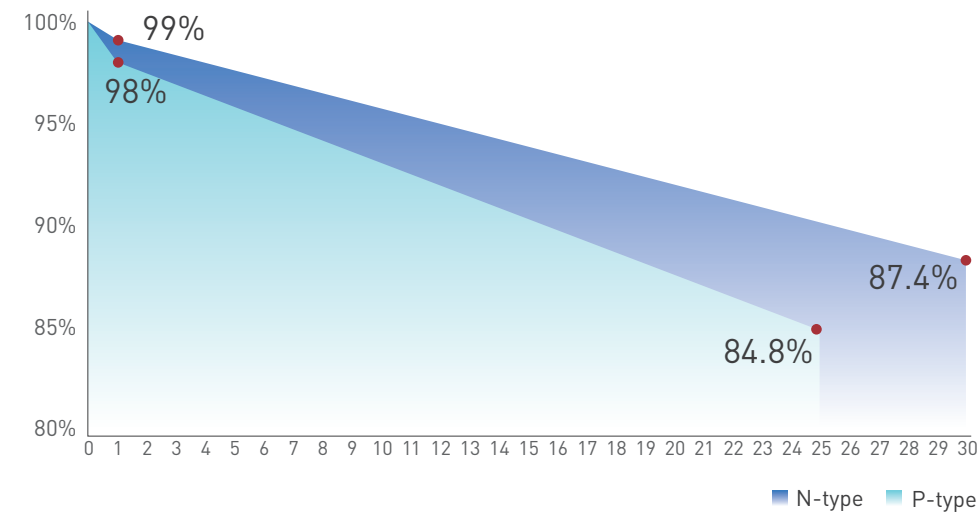
The temperature coefficient is important because it affects the performance and efficiency of a PV system. As temperature increases, the output power of a PV module decreases, which can result in a significant reduction in the overall performance of a PV system. This can be especially significant in hot climates where PV systems are exposed to high temperatures for long periods of time. Additionally, temperature coefficient is also important in the design and optimization of PV systems. By understanding the temperature coefficient of a PV module, engineers can design a PV system that will perform well even in high temperature environments. They can also use this information to estimate the energy output of a PV system under different temperature conditions. In summary, temperature coefficient is important in PV systems because it affects the performance and efficiency of the system, it's a key parameter in the design and optimization of PV systems, and it's useful in estimating the energy output of a PV system under different temperature conditions.



Tiger Neo's Low Degradation:

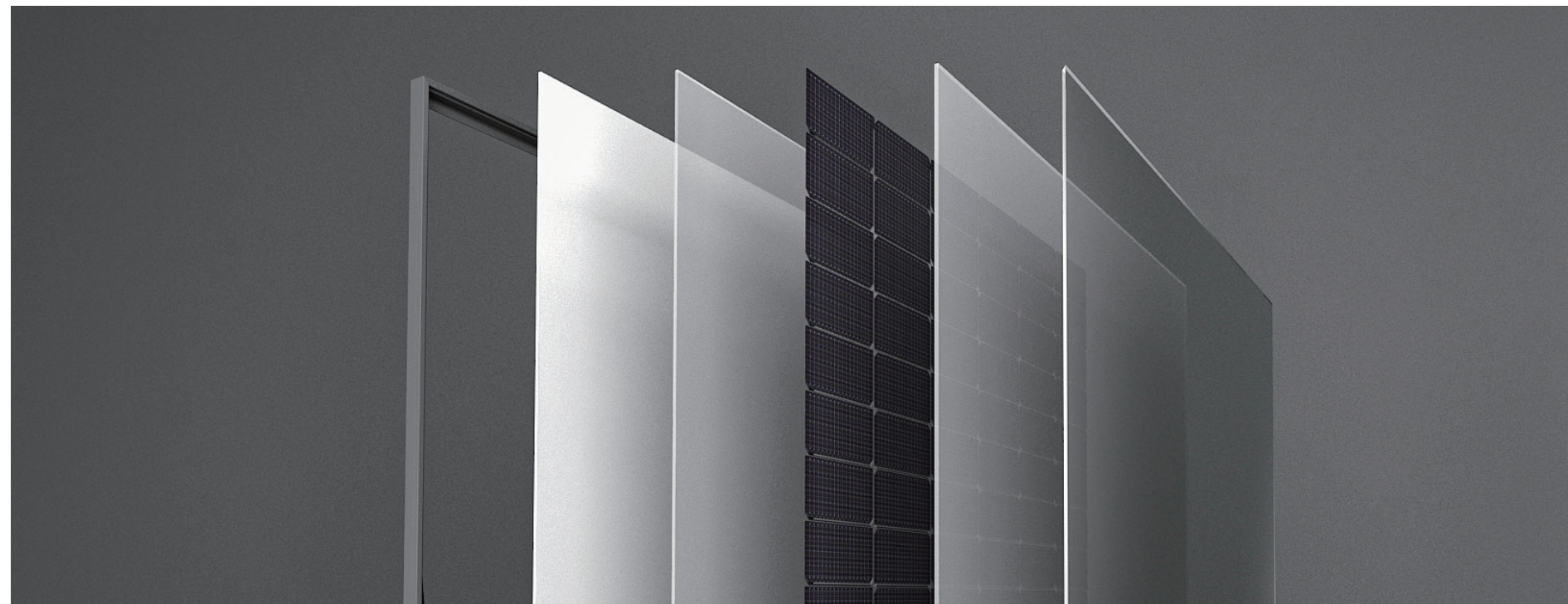
<1% Initial Year | **0,4% Yearly** | **87.4% after 30 years**

Tiger Neo modules works with TOPCon cells, which have much lower degradation than PERC panels, more stable and long-lasting power generation. N-type promises to provide the best quality assurance to ensure maximum customer value. Degradation is only 1% in the first year and after 0.4% yearly in 30 years, allowing 87.4% of rated power after 30 years



Jinkosolar's N-Type Tiger Neo Panels Warranty?

Long Warranty for Jinkosolar's N-Type Tiger Neo Panels. 30 years for linear power loss and at least 15 years for product (other N-type producers provide 12 years for product) give Tiger Neo modules Top positions in the PV market.



Why Higher Bifaciality of Tiger Neo Matters?

N-type TOPCon is considered one of the top cell technologies with higher bifaciality. Higher bifaciality allows more energy yield on the back. Jinkosolar's N-type Tiger Neo bifacial solar modules with bifaciality of up to 85% can catch and convert solar light fully, generating 15-30% more power.

Due to the technical production and properties of N-type TOPCon cells as well as the optical dual glass design, the bifaciality of Jinkosolar's Tiger Neo N-type panel is the highest commercialized available today at 75%-85% compared to PERC average of 65%-70%. Glass-glass structure is the best solution for N-type bifacial module since it maximize the advantage of N-type cells as well as better reinforce and protect the cells externally.

Albedo (%)



Water

Grass

Sand

Cement

White paint