

2023 Jinko Solar

TIGER Neo

N-type TOPCon Introduction

Jinko Performance: Global Leader

150GW

Cumulative Delivered

* 2023 Q1

No.1

2016-2019
Module Shipments

22

World Records

40GW

N-type
module Capacity

* 2023 Q4

15%

2022 Market Share

* Data as of 2023 Q2

Jinko Solar Global Layout

Jinko^{Solar}

14

Production Facilities

35

Sales Offices

160+

Covered Countries

3000+

Customers



01

Jinko Solar Roadmap

02

Technical Advantages

03

Field Projects

04

System Compatibility

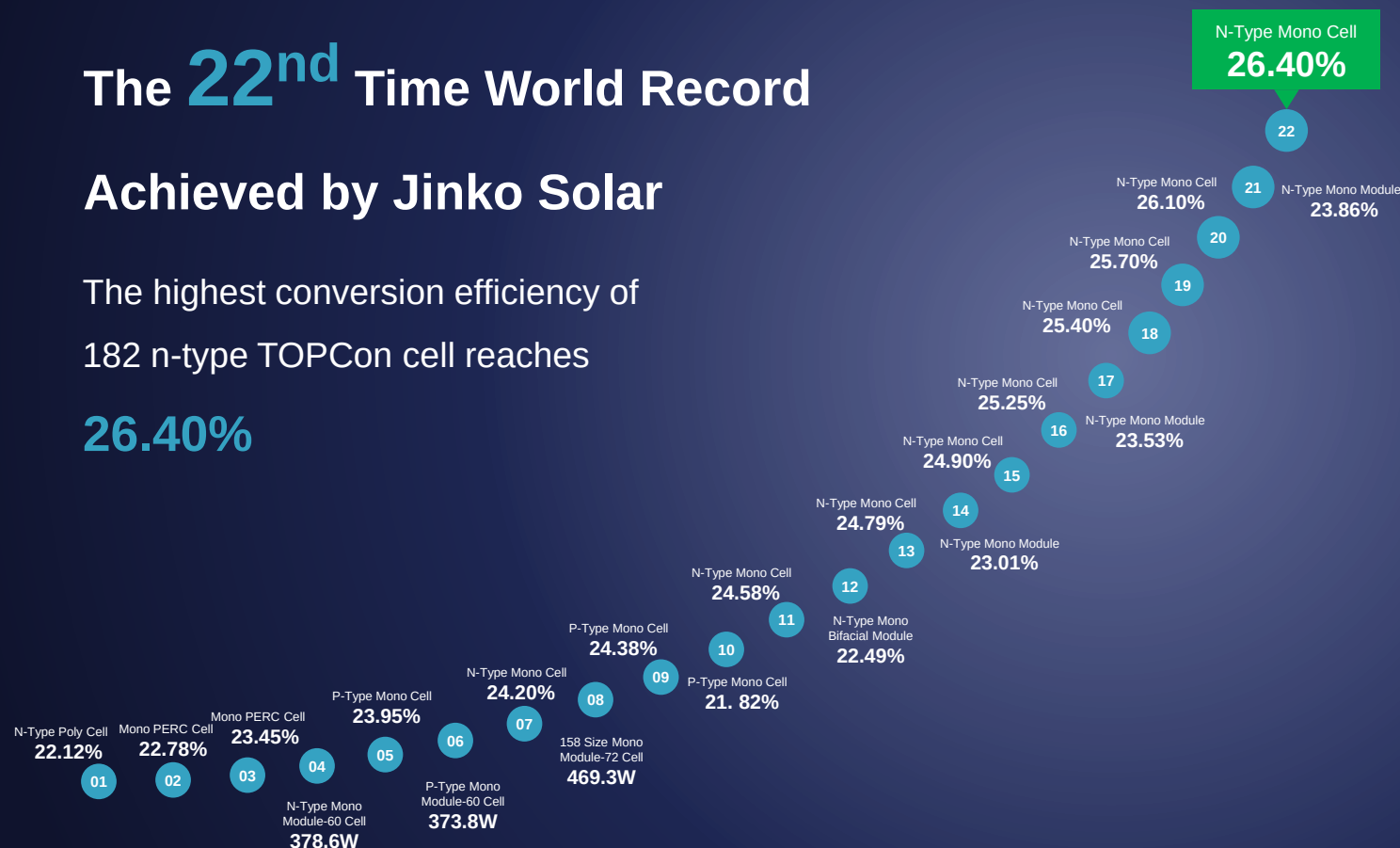
TIGER Neo Cell Efficiency - Continuous Breakthroughs



The 22nd Time World Record Achieved by Jinko Solar

The highest conversion efficiency of
182 n-type TOPCon cell reaches

26.40%



25.40%

Mass-production Efficiency

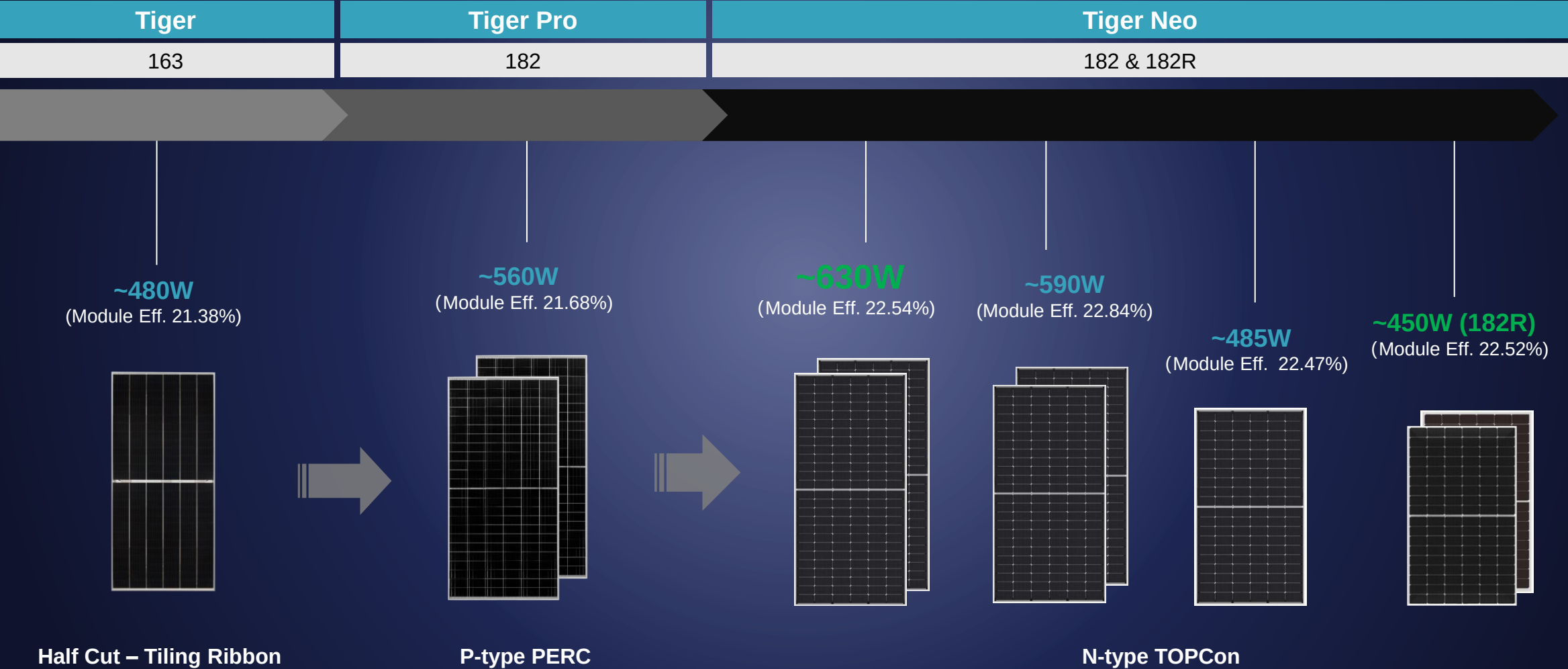
Jinko TOPCon technology has achieved
a new breakthrough in n-type cells, and
the mass-production cell efficiency can
reach 25.40%.

28.70%

Higher efficiency limit

TOPCon cells have a higher efficiency
limit (28.20%~28.70%), much higher
than PERC cells.

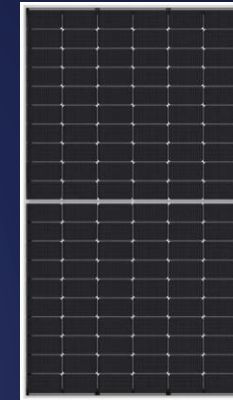
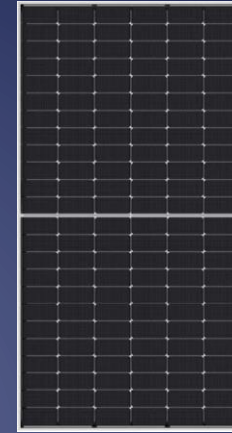
Module Technology Roadmap - Increase in Power



*Based on the maximum prediction power of corresponding mono-facial modules in 2023 Q4.

TIGER Neo

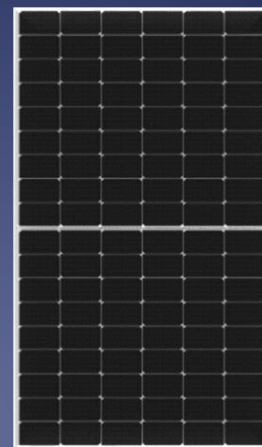
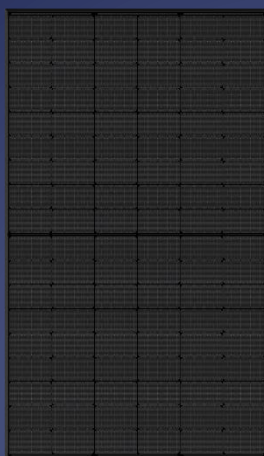
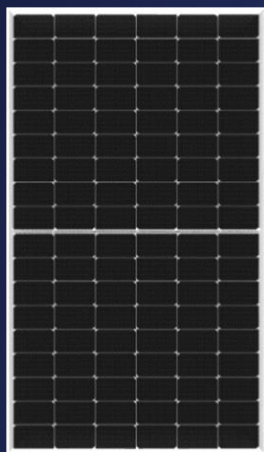
2022 Tiger-Neo Product Series



JKMxxxN-78HL4-(V)	JKMxxxN-78HL4-BDV*	JKMxxxN-72HL4-(V)	JKMxxxN-72HL4-BDV	JKMxxxN-60HL4-(V)
615-635 W	610-630 W	575-595 W	570-590 W	475-485W
22.00-22.72%	21.82-22.54%	22.26-23.03%	22.07-22.84%	22.01-22.47%
2465*1134 mm	2465*1134 mm	2278*1134 mm	2278*1134 mm	1903*1134mm
78P	78P	72P	72P	60P
Monofacial	Bifacial	Monofacial	Bifacial	Monofacial

*Non-mainstream product

TIGER Neo 2023 Tiger-Neo New Products



JKMxxxN-66HL4M-BDV	JKMxxxN-54HL4R-(V)	JKMxxxN-54HL4R-B	JKMxxxN-54HL4R-BDV*
600-620W	435-450W	430-445W	425-440W
22.21-22.95%	21.77-22.52%	21.52-22.27%	21.27-22.02%
2382*1134mm	1762*1134mm	1762*1134mm	1762*1134mm
66P	54P	54P	54P
Bifacial	Mono-facial	Mono-facial All Black	Bifacial Dual-glass

TOPCon technology

Higher power

Higher efficiency

Lower degradation

Higher bifaciality

*Non-mainstream product



TIGER Neo

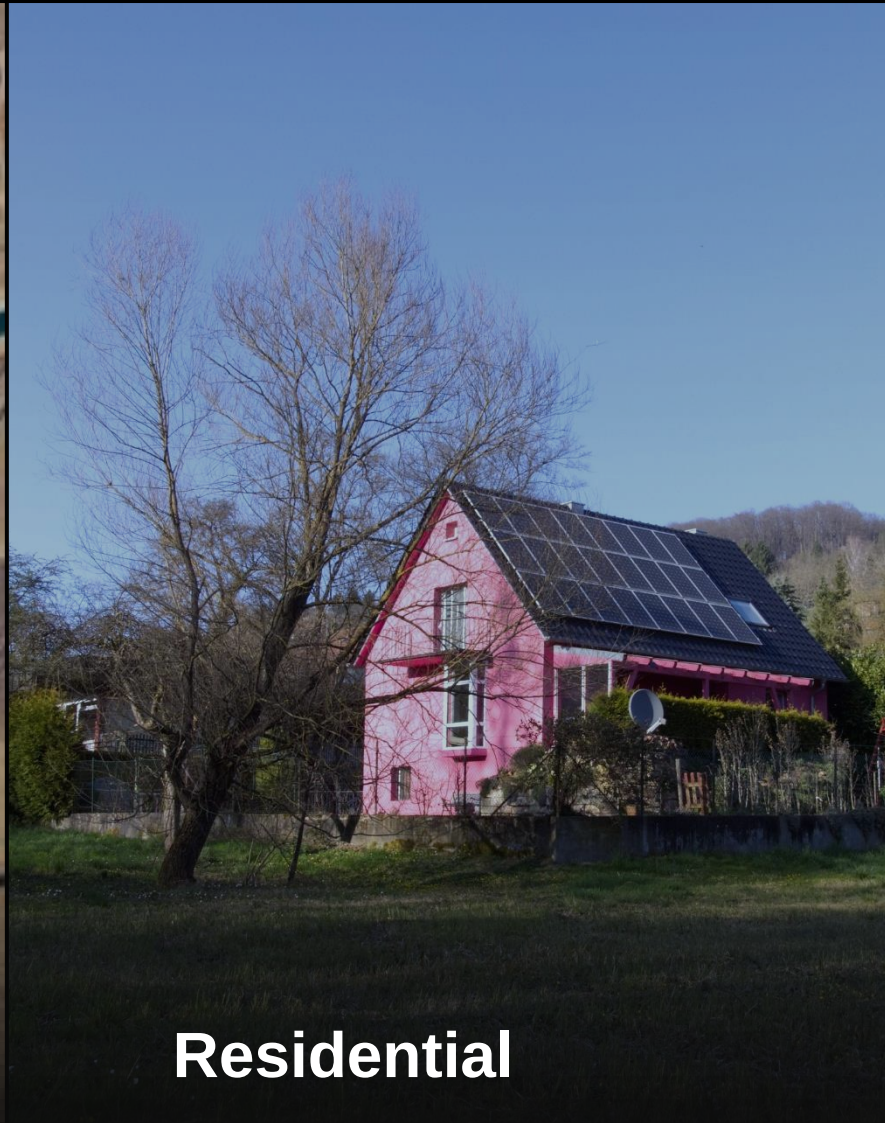
Multiple application scenarios

Utility

Tiger Neo 72P/78P

- Highest Power 595/635W
- Lowest LCOE

Jinko Solar Co., Ltd.



Residential

Tiger Neo 54P

- Highest Power 450W
- Smart size design & outstanding aesthetics



Solar
Jinko

C&I

Tiger Neo 60P

- Pmax 485W
- Low voltage, flexible string setting
- Flexible & Versatile Installation

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Jinko Solar Roadmap

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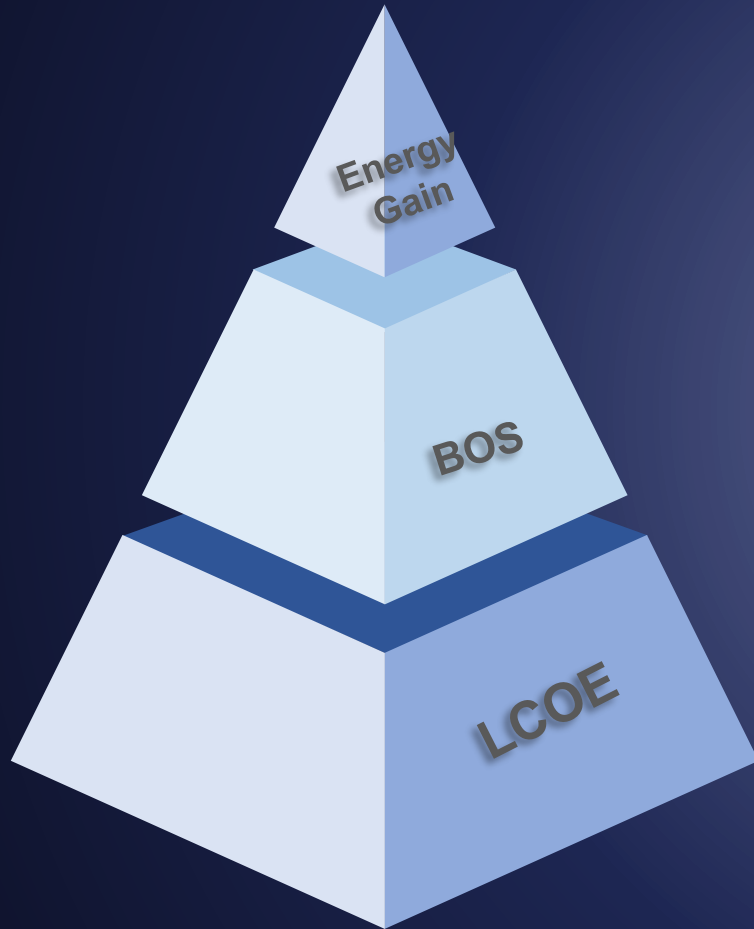
Technical Advantages

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Field Projects

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System Compatibility



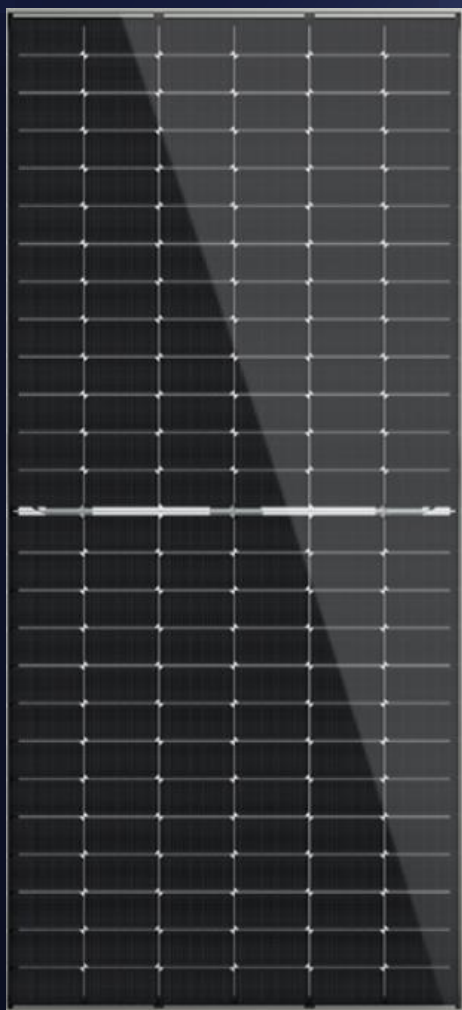
1. Higher Energy Generation: N-type compared to p-type > **3%**

2. Lower BOS cost: N-type compared to p-type < **1%**

3. Lower LCOE: N-type compared to p-type < **4.06%**

- Example: Qinghai Gonghe 120MW plant 100°37'59"E; 36°5'48"N. Verified by TUV Nord.

TIGER Neo Technology Advantages



01

Low Degradation, Leading Warranty

02

Higher Bifaciality

03

Lower Power Temperature Coefficient

04

Better Low Light Response

05

Enhanced Reliability

TIGER Neo Technology Advantages



Advantage I
Low Degradation,
Leading
Warranty



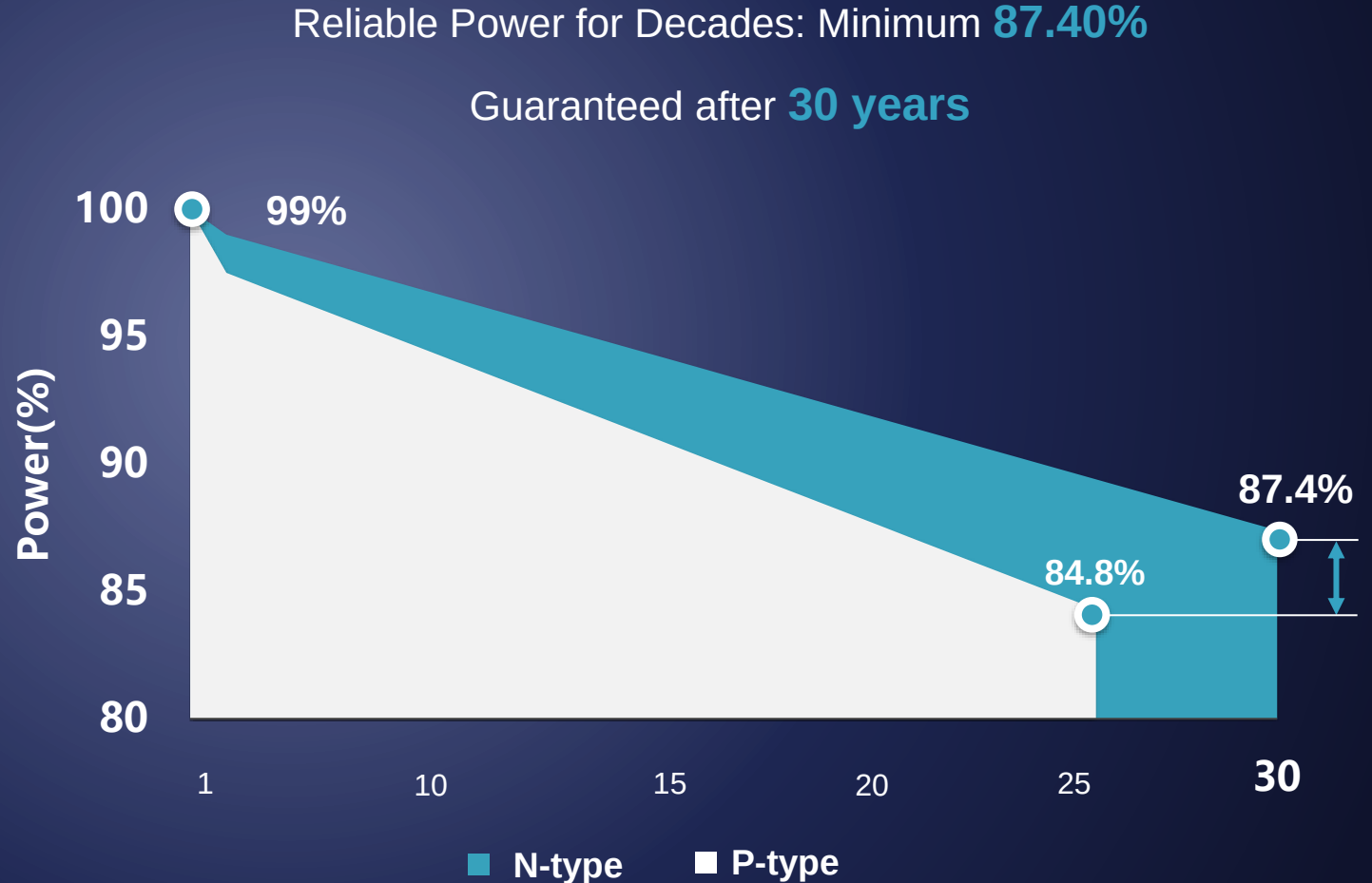
30 year power warranty

$\leq 1\%$

First year
degradation

-0.4%

Linear
degradation



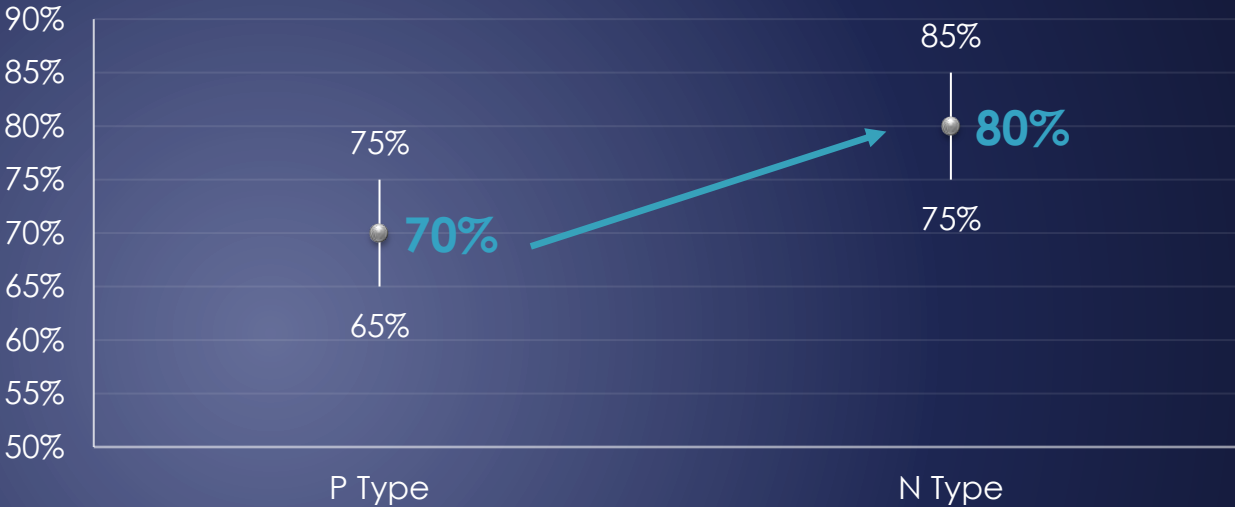
Advantage II
Higher
Bifaciality
Up to 85%



N-type’s higher bifaciality will contribute to obtain

Higher Bifacial gain

Bifaciality



$P \text{ power} = P \text{ front} * (1 + BSI * Bifi)$ *Bifi: bifaciality *BSI: Bifacial stress irradiance coefficient 0.135 (Depending on actual irradiance and ground reflectivity)	Power gain contract	
	PERC	$BSI * Bifi(70\%) \approx 9.45\%$
	TOPCon	$BSI * Bifi(80\%) \approx 10.80\%$ $BSI * Bifi(85\%) \approx 11.48\%$

TIGER Neo Technology Advantages

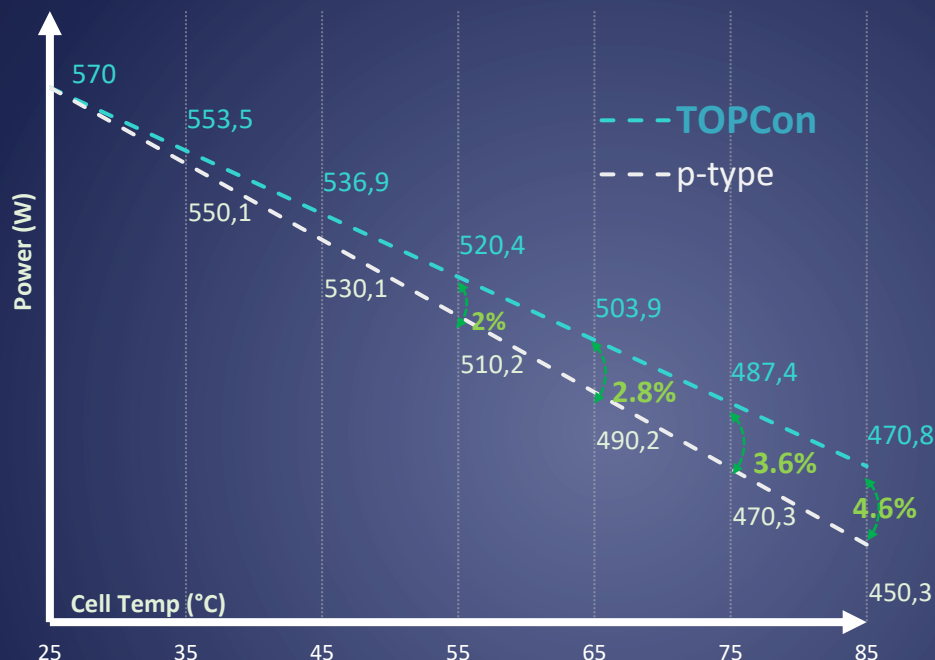


Advantage III Lower Power Temperature Coefficient



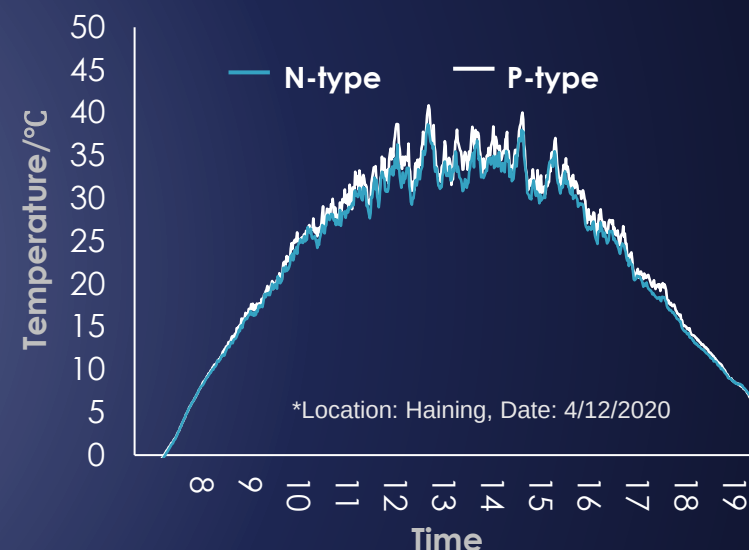
P-type -0.34%

N-type -0.29%



Higher temperatures lead to lower output power. Jinko's TOPCon improved Power Temperature Coefficient results in **higher power and yield** compared to **PERC**

N/P module working temperature



Under identical environment, the average daily operating temperature of n-type TOPCon is lower than p-type (**< 1 °C**); resulting in lower heat losses.

N-type generates more power in hot areas (**~2% higher**).

TIGER Neo Technology Advantages

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Jinko

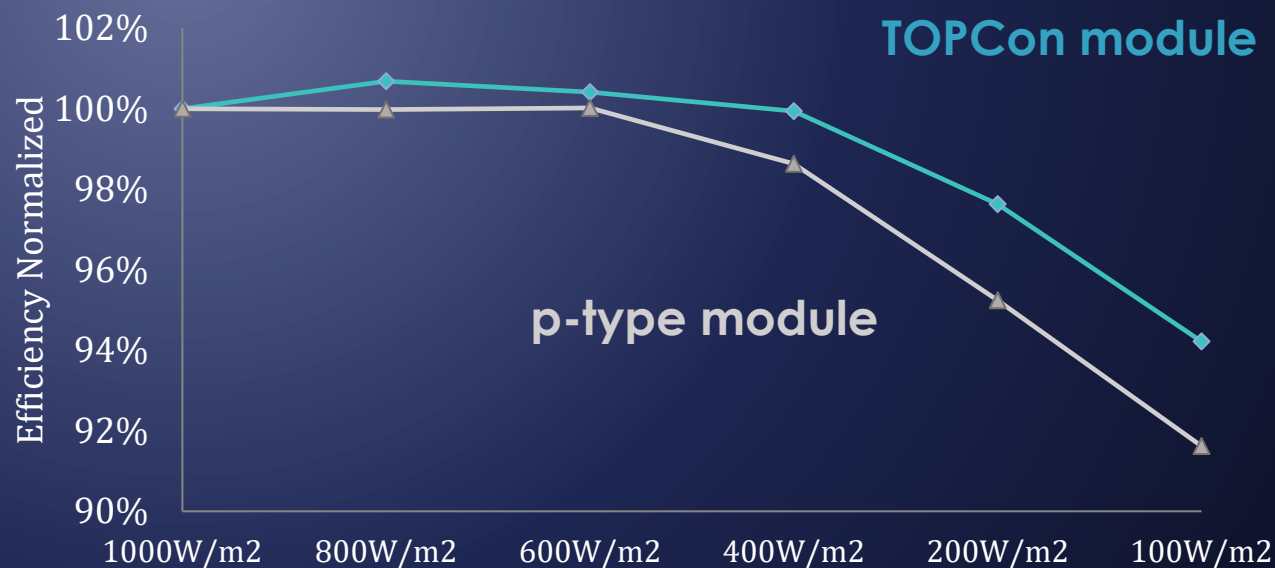
Advantage IV Better Low Light Performance



Jinko's TOPCon cells
restrain minority carriers
recombination and have a
natural better low light
response



- Compared with traditional PERC modules, n-type TOPCon modules have a **better response at low light (below 600W/m²)**
- This reflects on **extended energy generation** period by about 1h in the morning and evening.



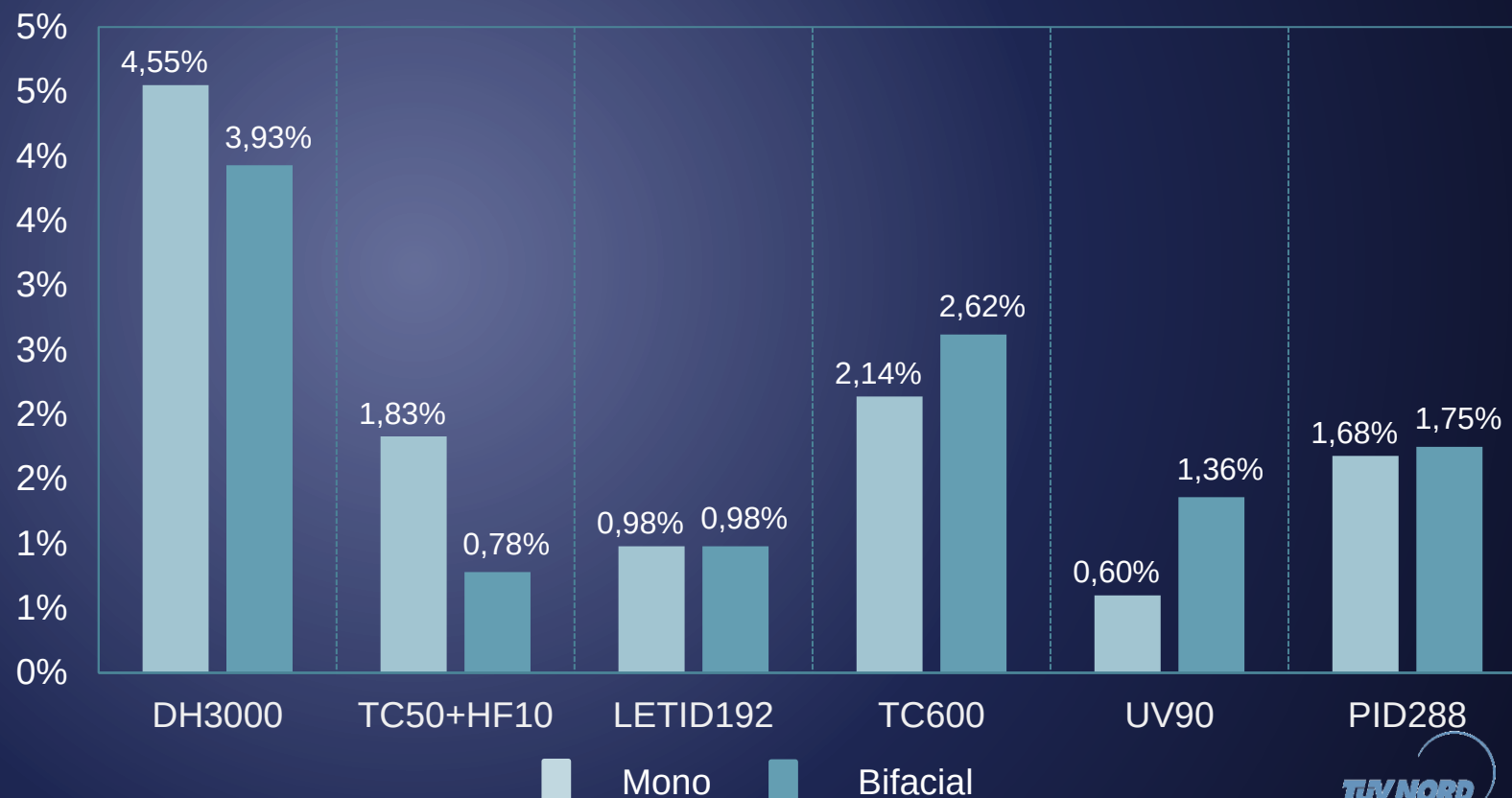
Advantage V

Enhanced Reliability



Jinko's N-type TOPCon modules have better indicators than the required by the IEC standards and performs excellent during test process.

Three Times Reliability Test



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TIGER Neo Global Field Projects

Jinko^{Solar} KO



10+

Climate types

8+

Test items

5

Module types

5.57%

Solar
JinKO

Module Power Gain

Monitoring period:
2022.6~2022.12

Modules compared:
Tiger Neo 72 Dual Glass
XXX 210 66 Dual Glass

Mounting: Fixed structure

Ground type: Soil (15%~)

Climate type: Tropical desert climate

Climate features: High temperature,
high irradiation



Saudi Arabia

Authoritative third party institution: TUV Rheinland

5.54%

Module Power Gain

Monitoring period:
2023.2~2023.3

Modules compared:
Tiger Neo 72 Dual Glass
Tiger Pro 72 Dual Glass

Mounting: Fixed structure

Ground type: Cement(20%~)

Climate type: Tropical rainforest
climate and tropical monsoon climate

Climate features: High temperature
and rainy throughout the year

Solar
JinKO

Malaysia

Authoritative third party institution: TUV Nord

4.55%

Module Power Gain

Monitoring period:
2022.6~2023.3

Modules compared:
Tiger Neo 72 Dual Glass
Tiger Pro 72 Dual Glass

Mounting: 1P tracker

Ground type: White paint (40%~)

Climate type: Subtropical monsoon
climate

Climate features: Mild and humid,
with sufficient sunlight, four distinct
seasons

Solar
JinKO

Ningbo
China

Authoritative third party institution: CAS

4.04%

Module Power Gain

Monitoring period:
2022.8~2023.2

Modules compared:
Tiger Neo 72 Dual Glass
Tiger Pro 72 Dual Glass

Mounting: Fixed structure

Ground type: Cement (20%~)

Climate type: Tropical monsoon
climate

Climate features: Year-round high
temperature, high radiation, abundant
precipitation, changeable weather

Solar
JinkO

Hainan
China

Authoritative third party institution: CGC

5.46%

Module Power Gain

Monitoring period:
2022.9~2023.3

Modules compared:
Tiger Neo 72 Dual Glass
Tiger Pro 72 Dual Glass

Mounting: 2P tracker

Ground type: Grass(10%~)

Climate type: Mid-temperate
continental climate

Climate features: Dry, high irradiation,
large day & night temperature
difference

Solar
JinkO

Ningxia
China

Authoritative third party institution: CPVT

4.03%

Module Power Gain

Monitoring period:
2022.7~2023.2

Modules compared:
Tiger Neo 72 Dual Glass
Tiger Pro 72 Dual Glass

Mounting: 1P tracker

Ground type: Grass(10%~)

Climate type: Mid-temperate
continental monsoon climate

Climate features: Cold winter, cool
summer, high irradiation, large day &
night temperature difference

Solar
JinkO

Zhangbei
China

Authoritative third party institution: CGC

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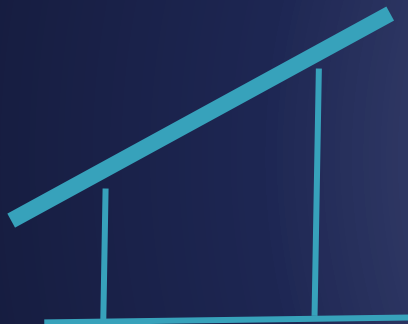
System Compatibility

TIGER Neo Mounting Methods Compatibility



Applicable to the world's mainstream **supporting structure** installation methods.

✓ Fixed structure:



✓ Tracker:



1P



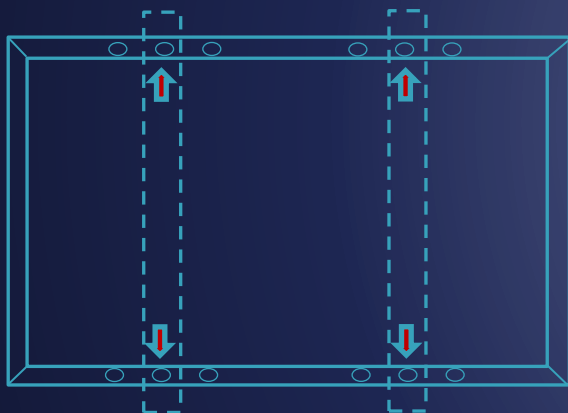
2P

For specific loads and approved systems, please refer to our [Installation Manual](#)

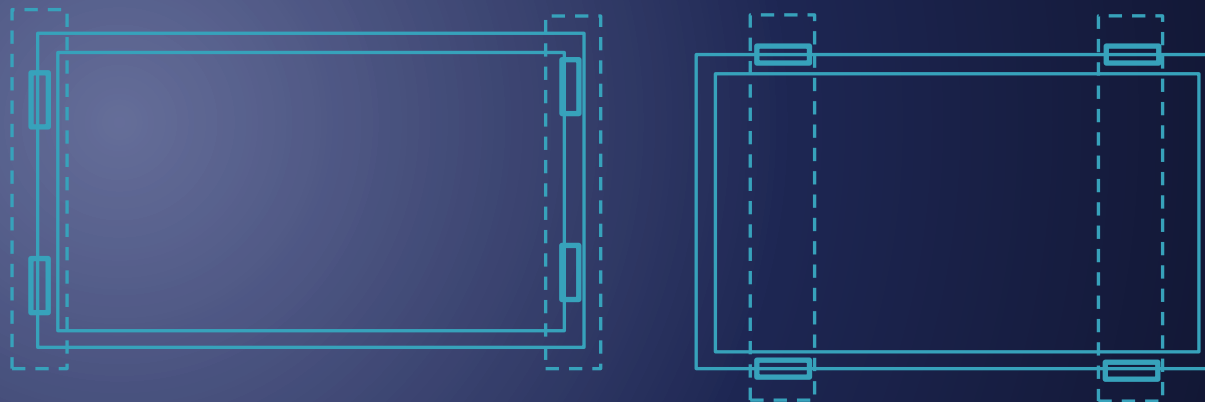


Applicable to the world's mainstream **supporting structure** installation methods.

✓ Screw installation



✓ Clamp installation



6000Pa snow load and **4000Pa** wind load (for N54R)

Refer to [Installation Manual](#) for details and more installation methods

Thank You

Jinko Solar Technical Product Management EU