2023 Jinko Solar

TIGER Neo

N-type TOPCon Introduction

Jinko Solar Co., Ltd.

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

14
Production Facilities

35
Sales Offices

160+
Covered Countries

3000+
Customers

Jinko Solar Global Production Facilities

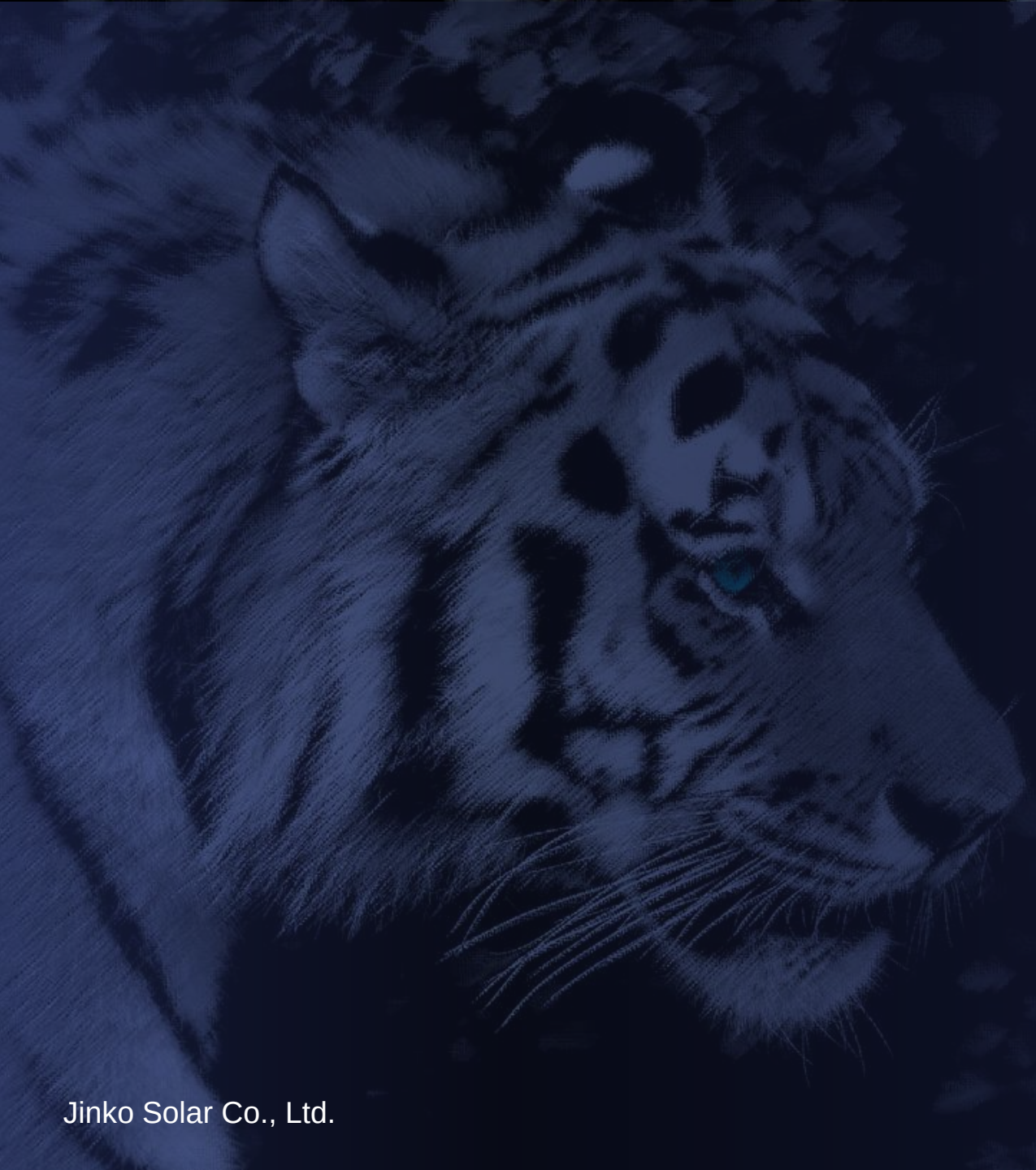
Total module capacity of 90GW in 2023

11 Factories in China

- **More than 80% integrated capacity matching**
- Achieving RE100 by 2025, with **three** "zero carbon factories" already built.

3 Overseas Factories

- Malaysia, USA and Vietnam
- Totally 8GW capacity.



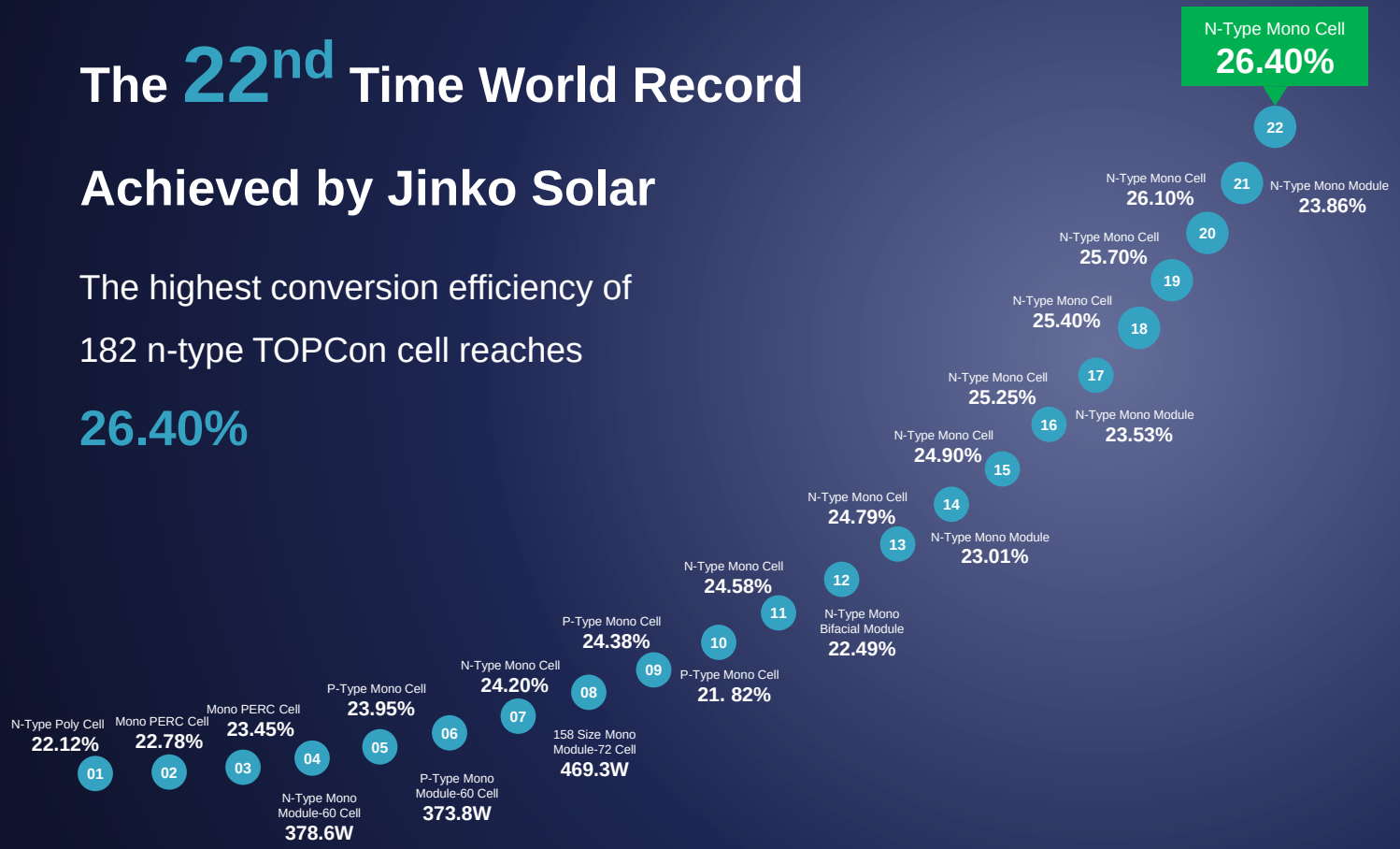
TIGER Neo Cell Efficiency - Continuous Breakthroughs

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%

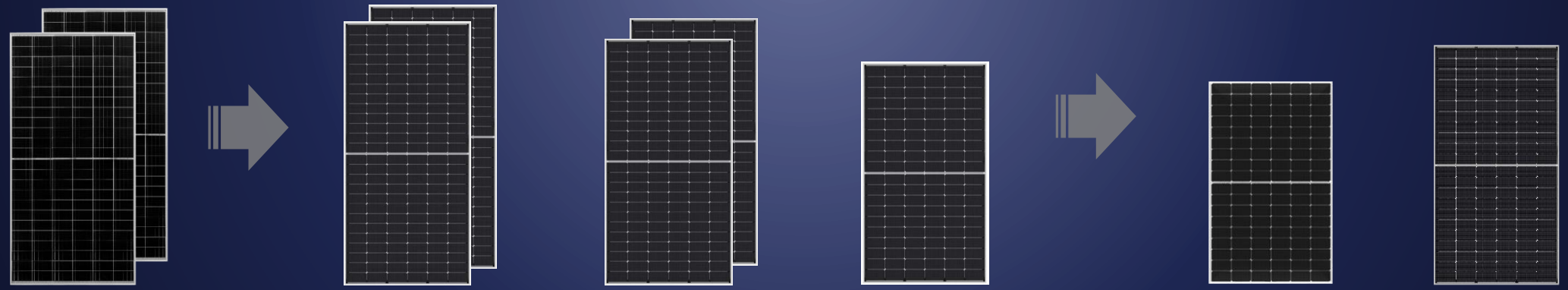
Higher efficiency limit

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

Jinko Solar Co., Ltd.

Module Technology Roadmap - Increase in Power

Tiger Pro	Tiger Neo				
182	182 Square			182 Rectangular	
~560W	~635W	~595W	~490W	~455W (182R)	~625W (182M)
(Module Eff. 21.68%)	(Module Eff. 22.72%)	(Module Eff. 23.03%)	(Module Eff. 22.71%)	(Module Eff. 22.77%)	(Module Eff. 23.14%)

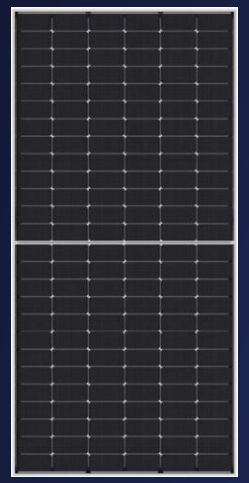
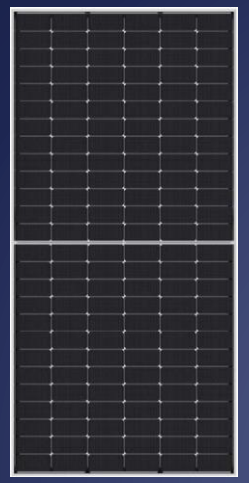
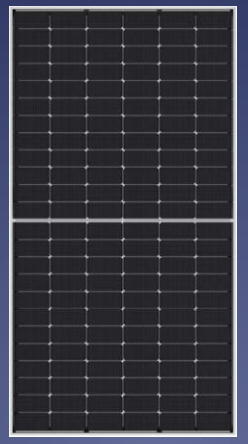
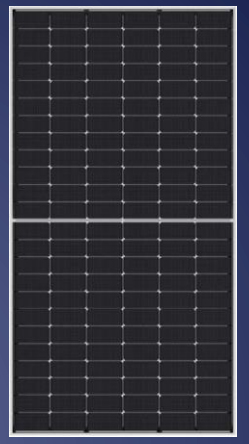
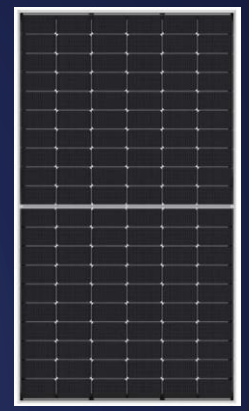


P-type PERC

N-type TOPCon

*Based on the maximum prediction power of corresponding mono-facial modules in 2024 Q2.

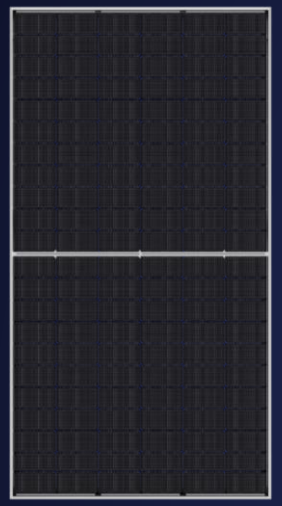
TIGER Neo 2022 Tiger-Neo Product Series

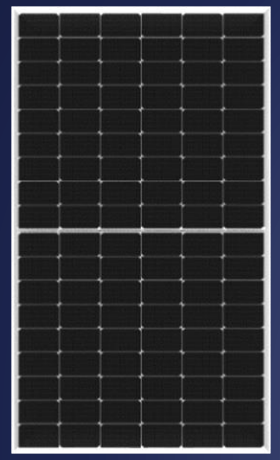






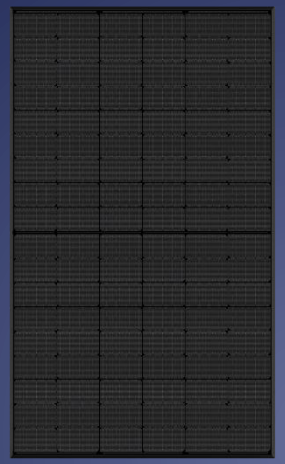
JKMxxxN-78HL4-(V)	JKMxxxN-78HL4-BDV*	JKMxxxN-72HL4-(V)	JKMxxxN-72HL4-BDV	JKMxxxN-60HL4-(V)
615-635 W	610-630 W	575-595 W	570-590 W	475-485W
22.00-22.72%	21.82-22.54%	22.26-23.03%	22.07-22.84%	22.01-22.47%
2465*1134 mm	2465*1134 mm	2278*1134 mm	2278*1134 mm	1903*1134mm
78P	78P	72P	72P	60P
Monofacial	Bifacial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

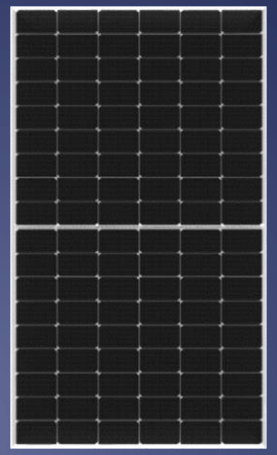
*Non-mainstream product

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
22.21-23.14%	21.77-22.52%	21.52-22.27%	21.27-22.02%
2382*1134 mm	1762*1134mm	1762*1134mm	1762*1134mm
66P	54P	54P	54P
Bifacial Dual-glass	Mono-facial	Mono-facial All Black	Bifacial Dual-glass

*Non-mainstream product

TOPCon technology

- Higher power
- Higher efficiency
- Lower degradation
- Higher bifaciality

TIGER Neo Jinko 66pcs Rectangular Products

Jinko Solar

10GW+

Module capacity

2023 Q4

Available for orders

600-625W

JKMxxxN-66HL4M-BDV

Module Eff: 22.21-23.14%

Size: 2382*1134mm

Weight: 33.4kg

Cells No.: 66pcs

Features: Bifacial Dual-glass

JinKO Rec. Product@66pcs vs. Square ones——Parameter Comparison

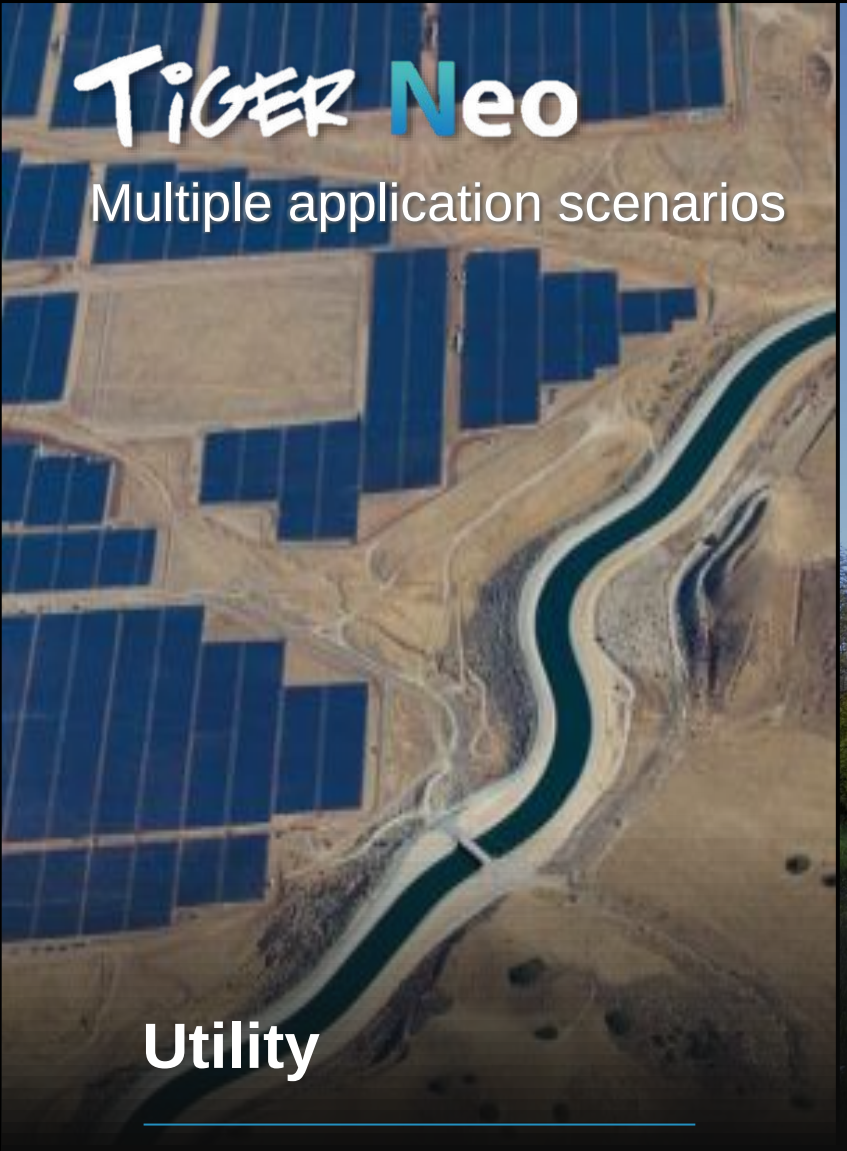
Product	JKMxxxN-72HL4-BDV	JKMxxxN-66HL4M-BDV	Diff.
Module Type	182*182	182*210	
	72	66	
Cell Tech	TOPCon		
Module Tech	1/2 SMBB		
Power* (W)	590	615	**+25W**
Eff. (%)	22.84%	22.77%	
Appearance	2mm Dual Glass	2mm Dual Glass	
Size (mm)	2278x1134x30	2382x1134x30	**+104 mm**
Weight (kg)	32	33.4	**+1.4kg**
Isc (A)	14.49	16.02	↑
Voc (V)	51.86	48.88	↓
Temp. Coeff. (%/℃)	-0.29	-0.29	
Warranty	12 / 30	12 / 30	
	1%, 0.40%	1%, 0.40%	
Packing/HQ	720	720	
/KW	424.8	442.8	**+18.0 KW**

- Rectangular Product is **25-30W** higher than Square Product;
- Rectangular Product Size is **104mm** higher than Square Product;
- Rectangular Product has a **18 KW** packing load more than Square product;

*Power is based on the power predicted in 2024 Q2 from Power Roadmap

TIGER Neo

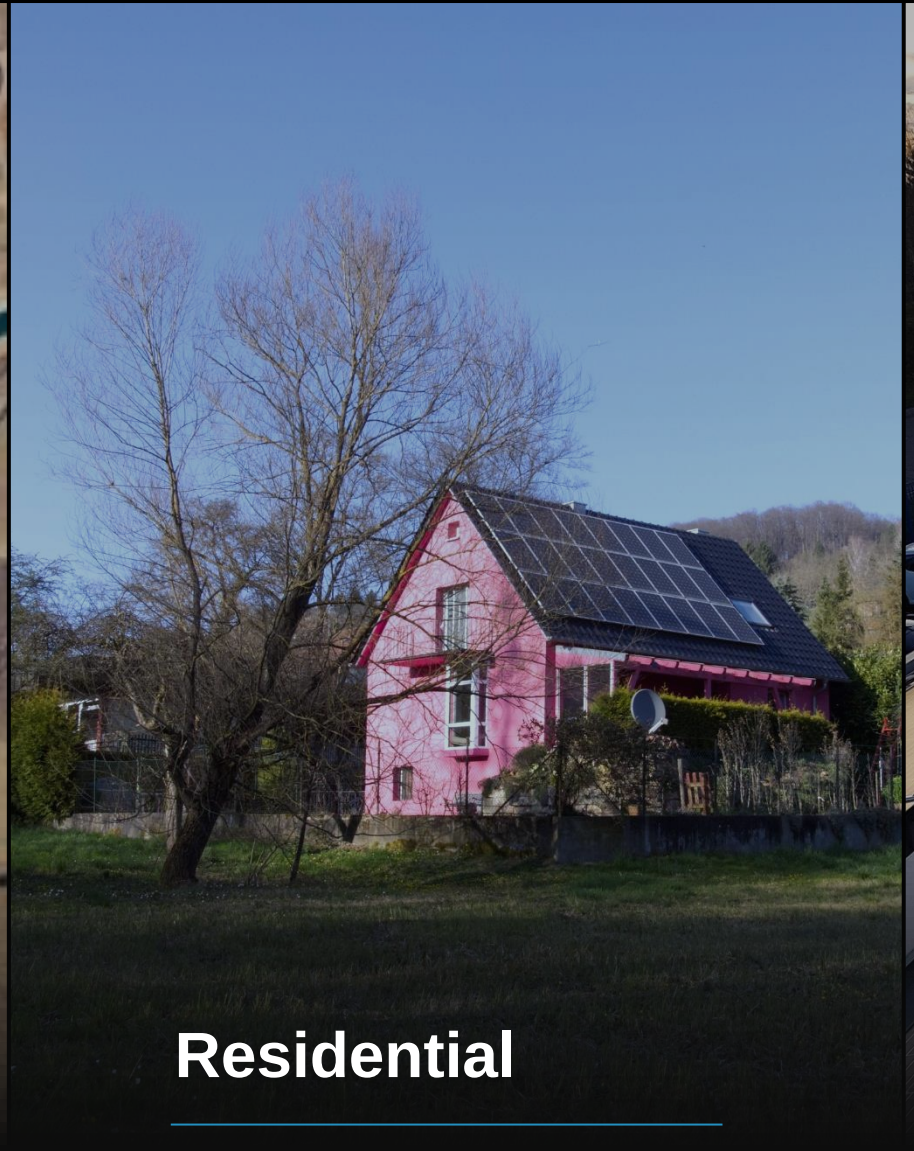
Multiple application scenarios



Utility

Tiger Neo 72P/ 66P 78P

- Highest Power 595/ 625/635W
- Lowest LCOE



Residential

Tiger Neo 54P

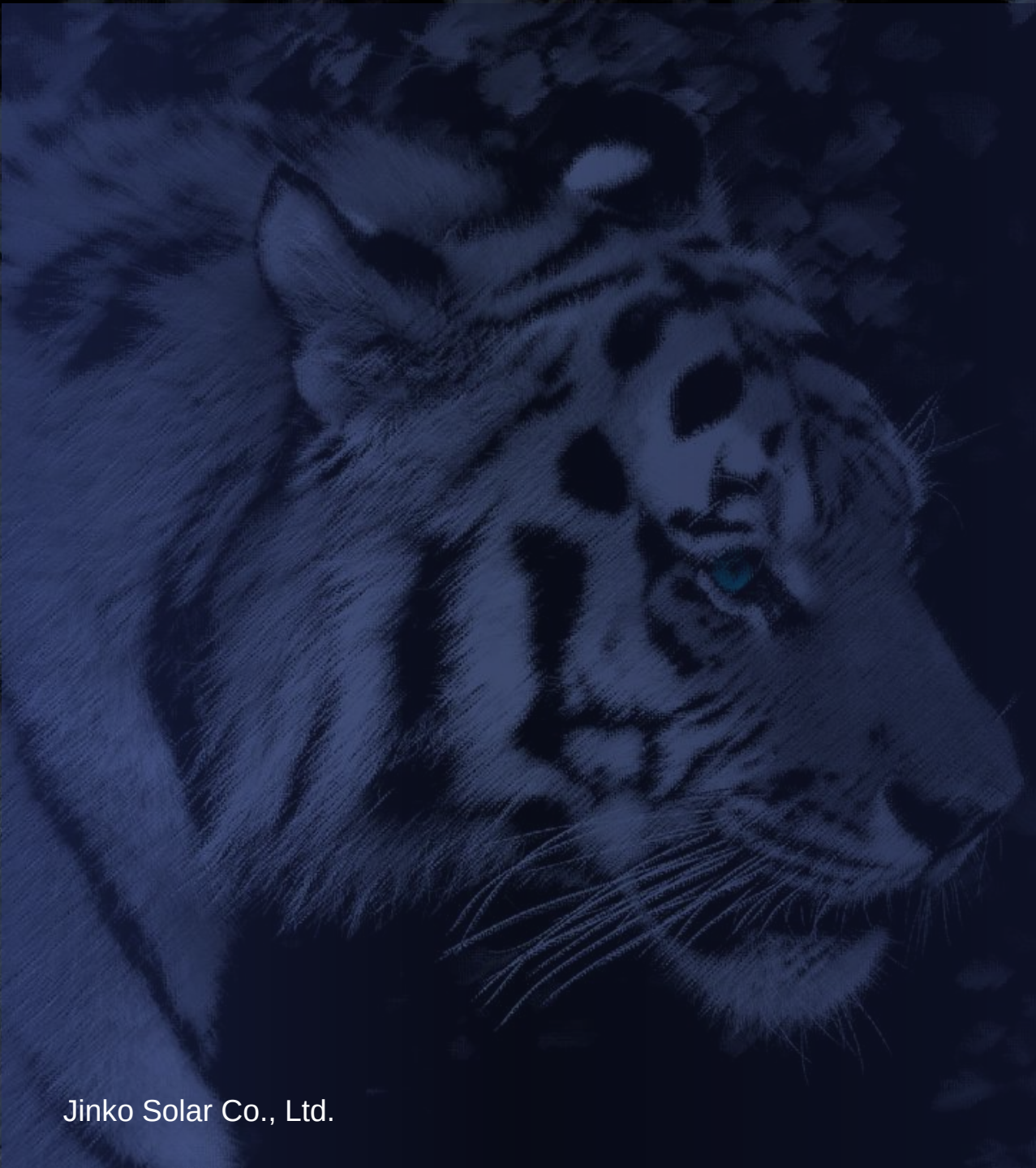
- Highest Power 450W
- Smart size design & outstanding aesthetics

C&I

Tiger Neo 60P

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

Jinko Solar Co., Ltd.



TIGER Neo Economic advantages –Technology Driven

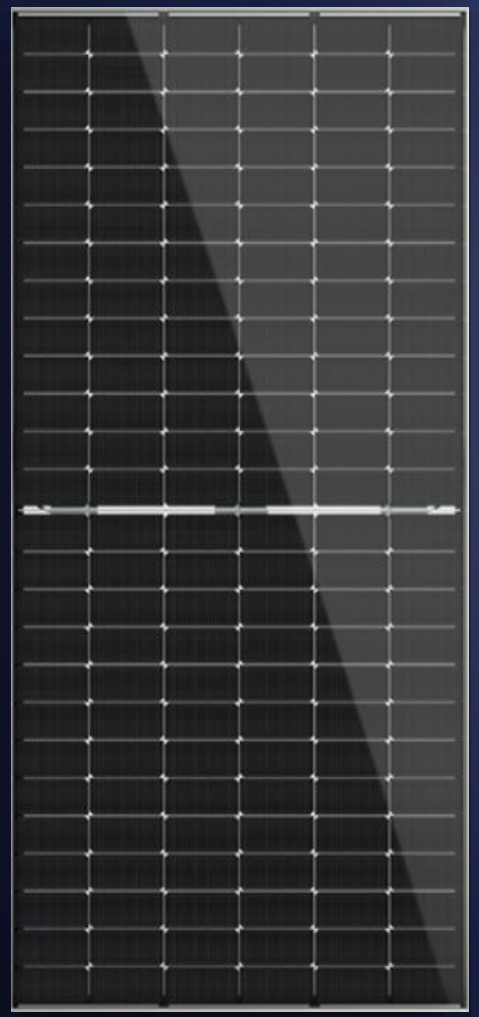
1. Higher Energy Generation: N-type compared to p-type > **3%**

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



1. Low Degradation, Leading Warranty
2. Higher Bifaciality
3. Lower Power Temperature Coefficient
4. Better Low Light Response
5. Enhanced Reliability

TIGER Neo Technology Advantages

Jinko Solar

Advantage I

Low Degradation, Leading Warranty

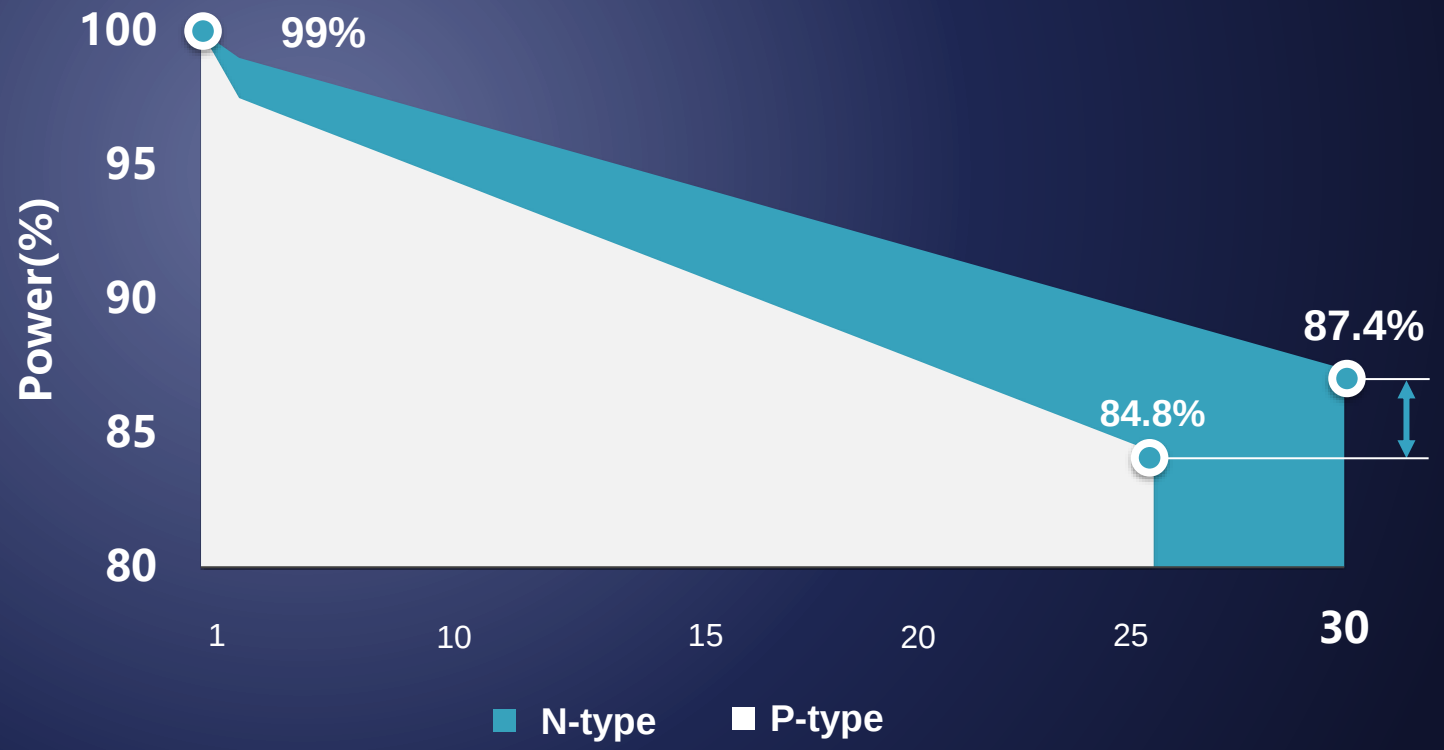
30 year power warranty

≤1%
First year degradation

-0.4%
Linear degradation

Reliable Power for Decades: Minimum **87.40%**

Guaranteed after **30 years**



TIGER Neo Technology Advantages

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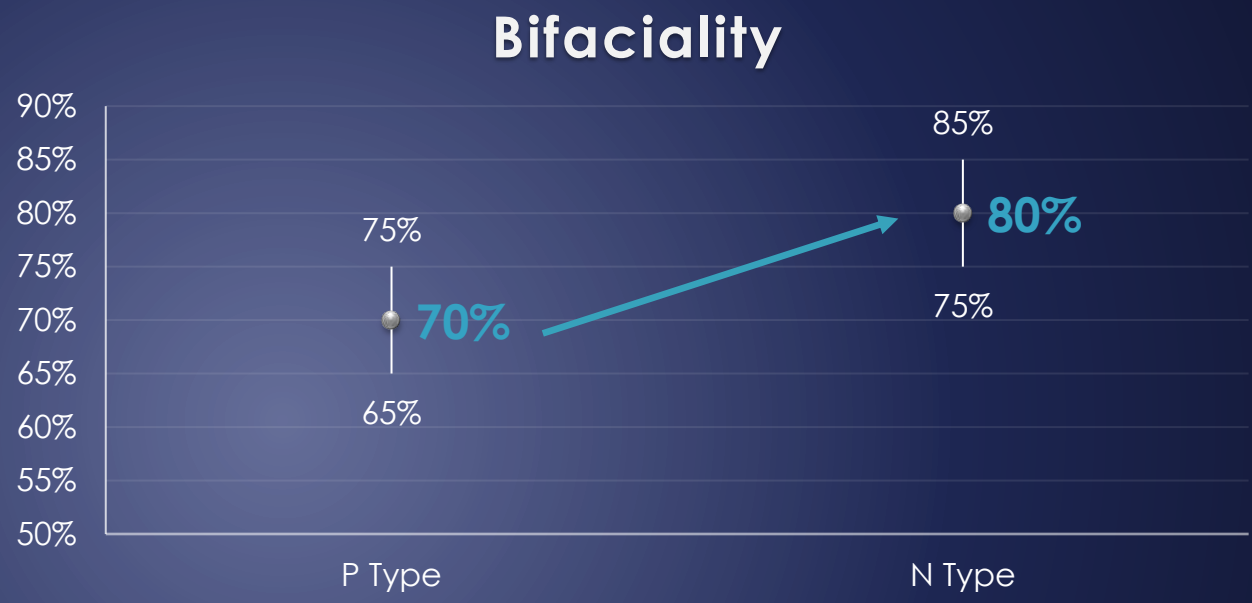
Advantage Ⅱ

Higher Bifaciality

Up to 85%

N-type's higher bifaciality will contribute to obtain

Higher Bifacial gain



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

TIGER Neo Technology Advantages

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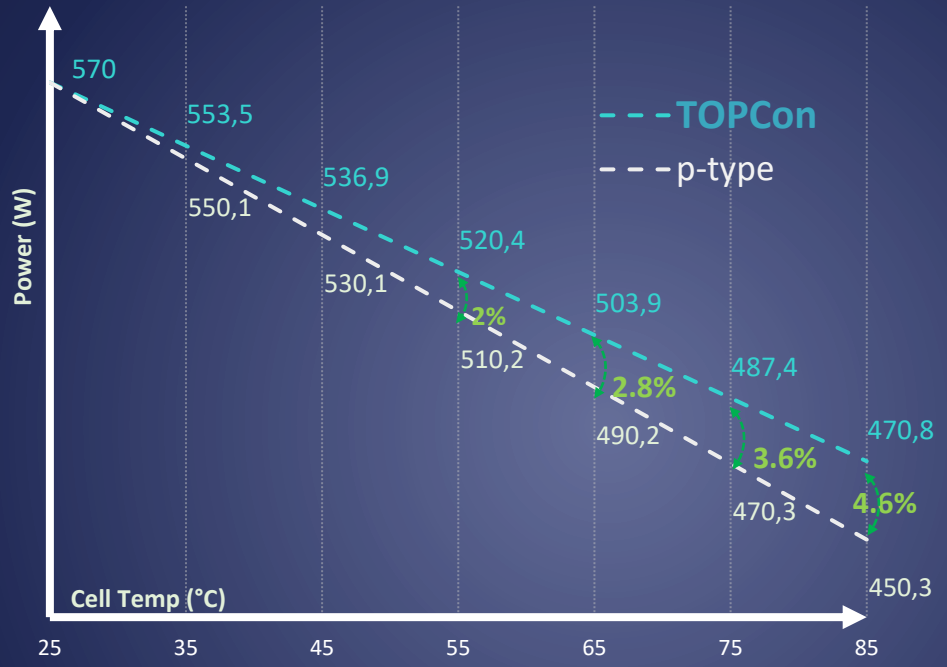
Advantage Ⅲ

Lower Power Temperature Coefficient

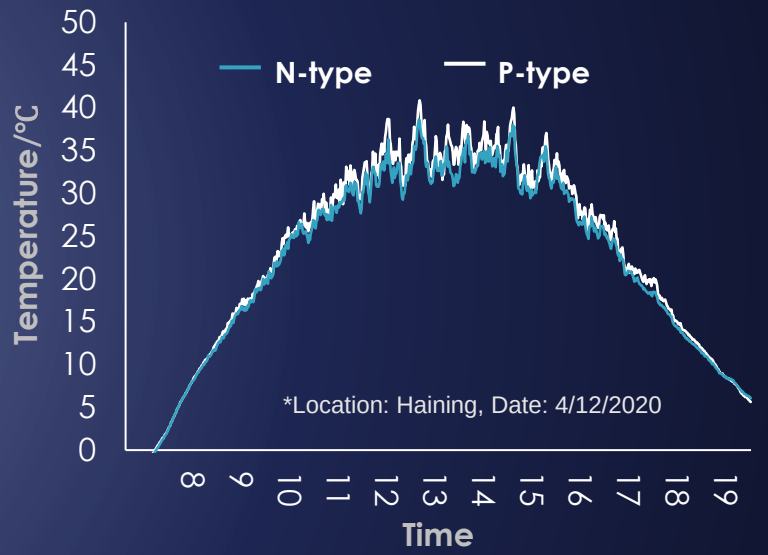


P-type -0.34%

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 ℃**); resulting in lower heat losses.

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

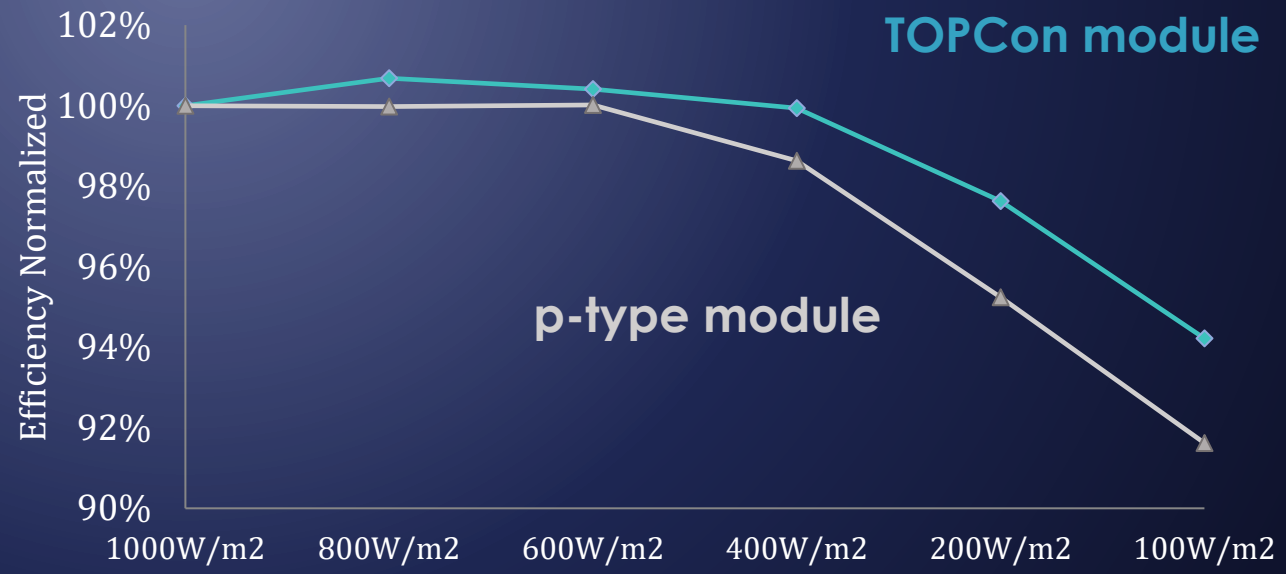
TIGER Neo Technology Advantages

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.



TIGER Neo Technology Advantages

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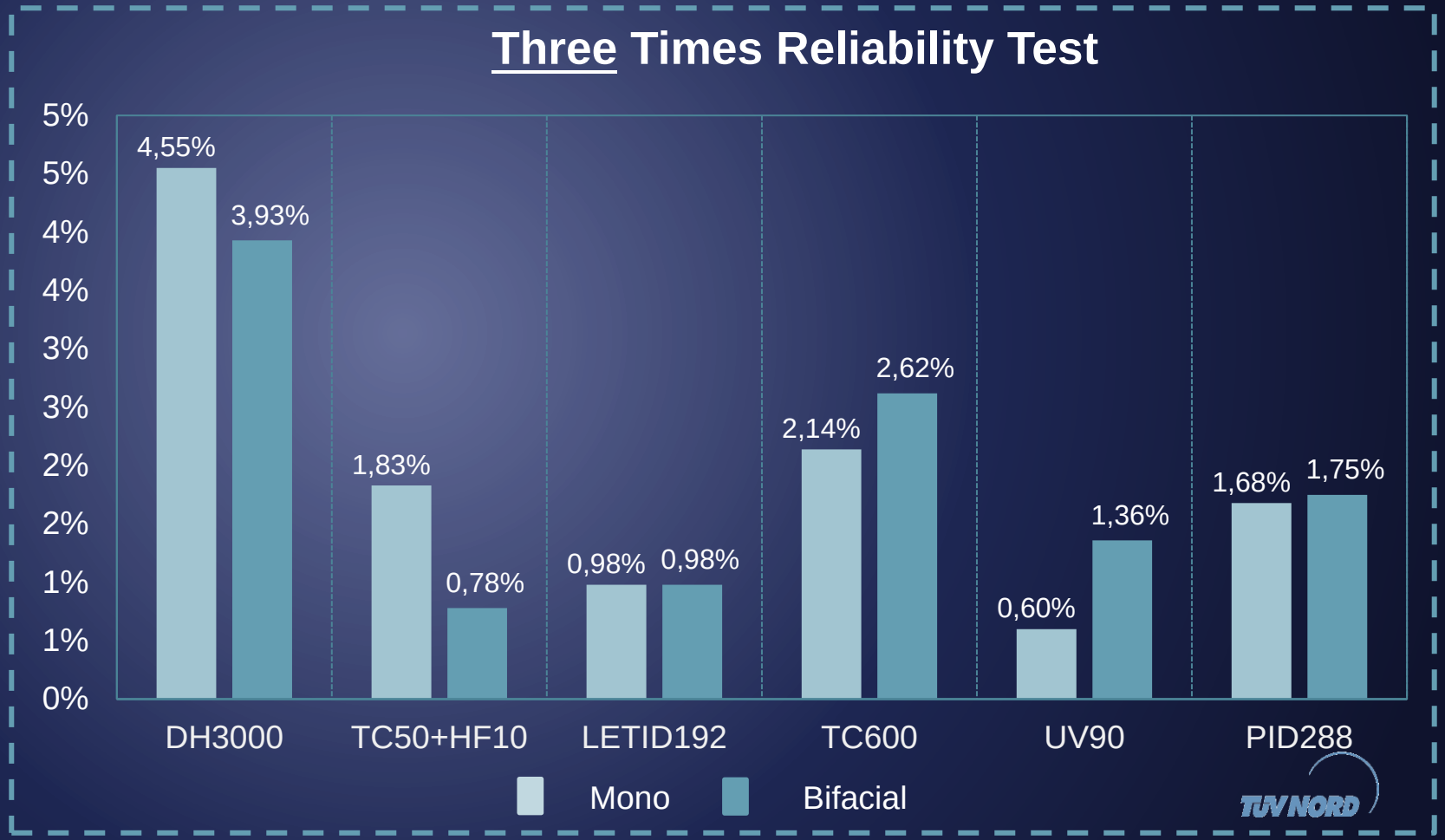
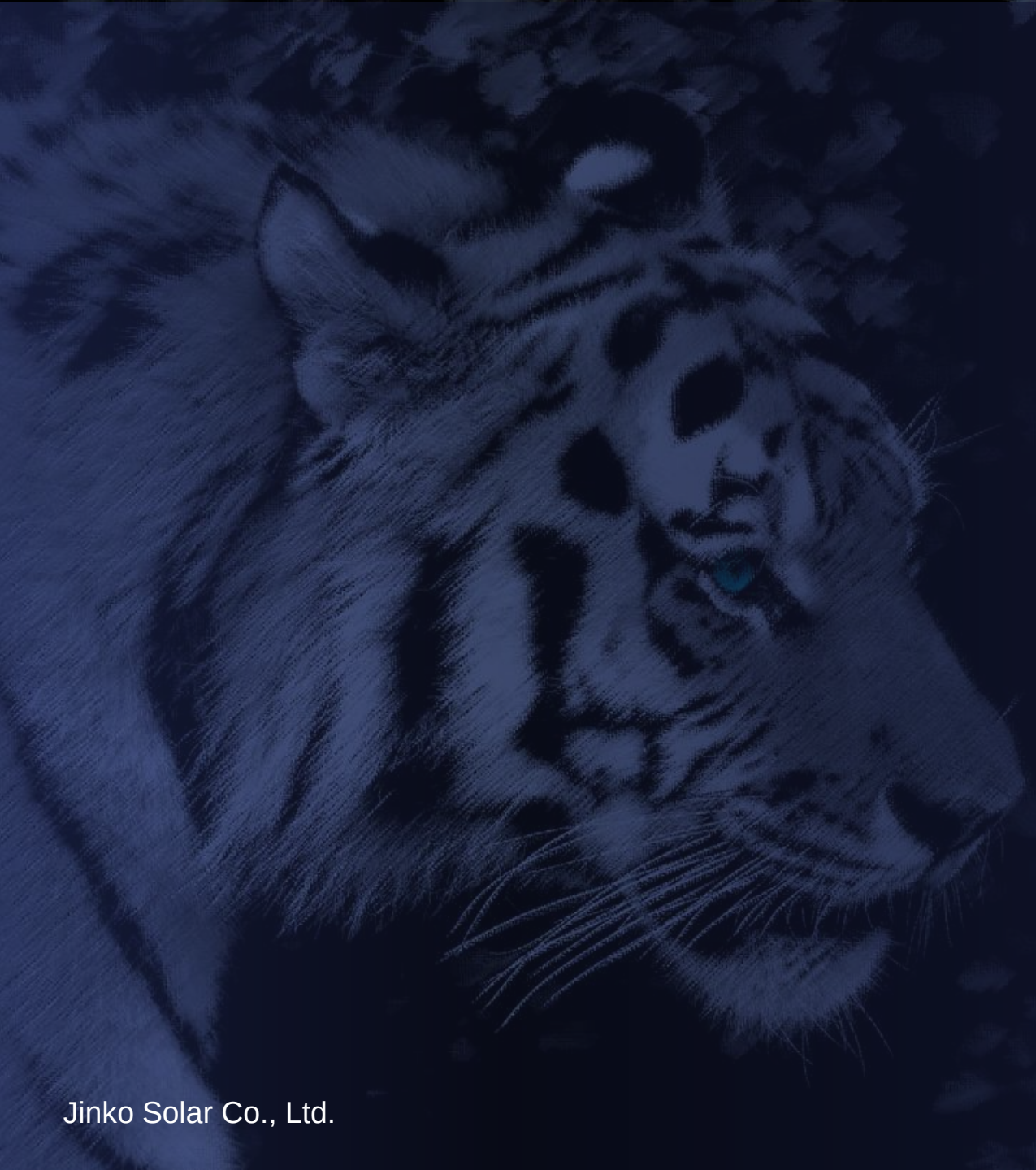
Advantage V

Enhanced Reliability

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





TIGER Neo Global Field Projects

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10+

Climate types

8+

Test items

5

Module types

5.57%

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

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

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

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

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

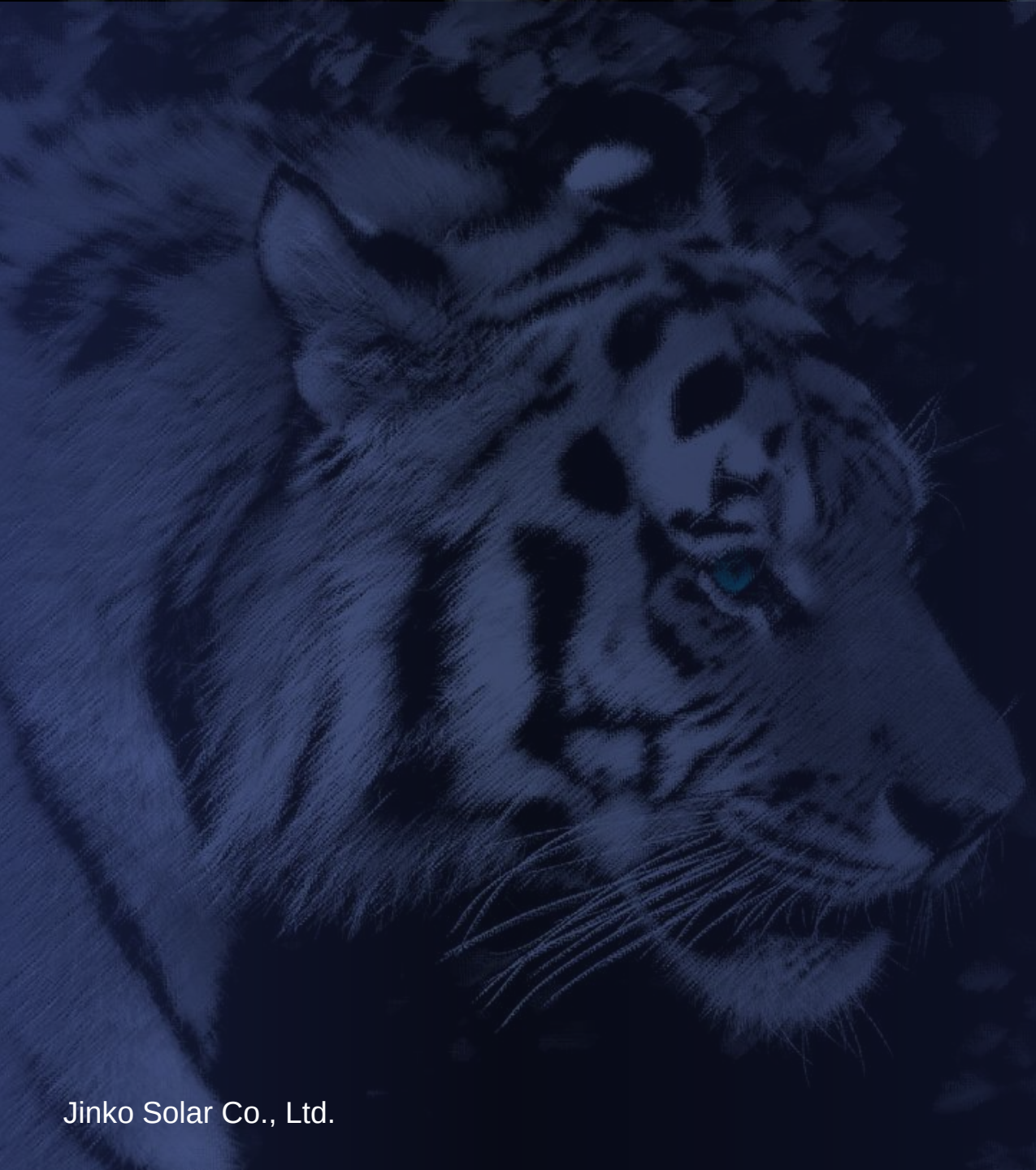
Mounting: 1P tracker

Ground type: Grass(10%~)

Climate type: Mid-temperate continental monsoon climate

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

Authoritative third party institution: CGC



01 Jinko Solar Roadmap

02 Technical Advantage

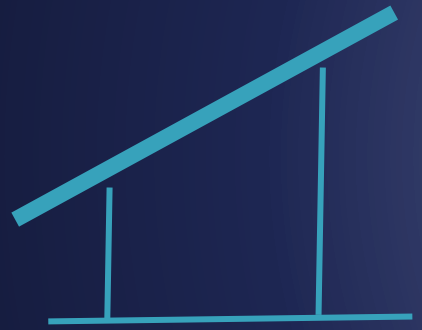
03 Field Projects

04 System Compatibility

Tiger Neo Mounting Methods Compatibility

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

✓ Fixed structure:



✓ Tracker:

1P

2P

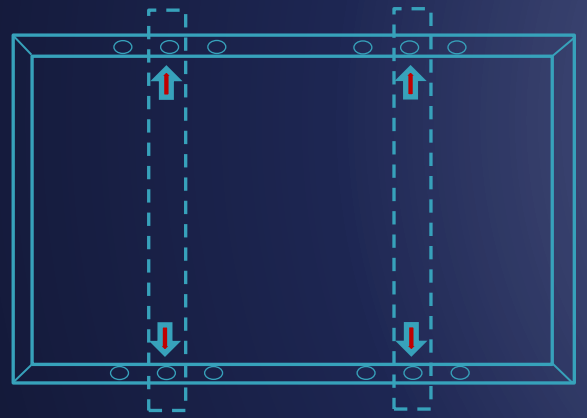
For specific loads and approved systems, please refer to our *Installation Manual*

nextracker PVH Soltec ARRAY TECHNOLOGIES ARCTECH 中信博

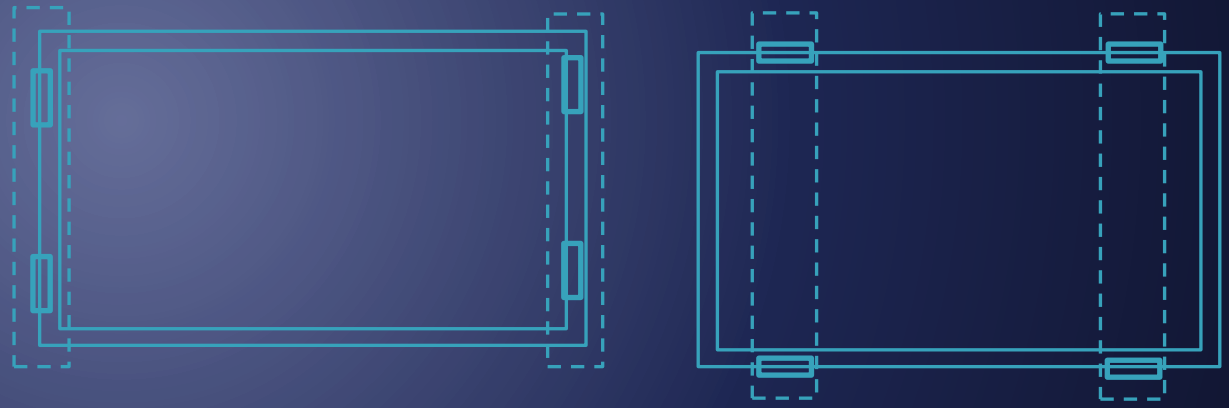
TIGER Neo Mounting Methods Compatibility

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