

# Tiger Neo N-Typ 54HL4R-BDV 420-440 Watt

BIFAZIALES MODUL  
MIT DOPPELGLAS

**N-Typ**

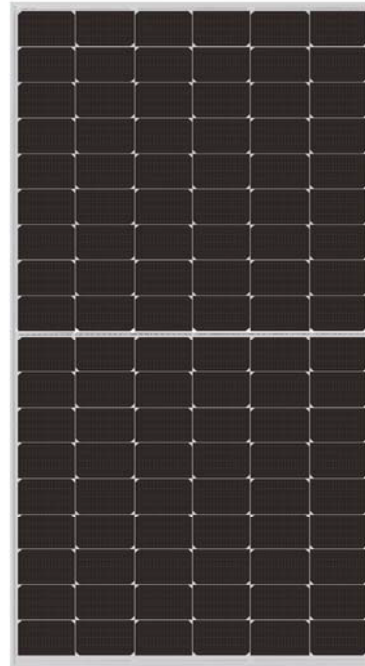
Positive Leistungstoleranz von 0~+3 %

IEC61215(2016), IEC61730(2016)

ISO9001:2015: Qualitätsmanagementsystem

ISO14001:2015: Umweltmanagementsystem

ISO45001:2018:  
Managementsysteme für Sicherheit und Gesundheit bei der Arbeit



## WICHTIGE MERKMALE



### SMBB-Technologie

Mehr Modulleistung und Zuverlässigkeit dank verbesserter Lichtabsorption und verbesserten Stromtransport.



### PID-Widerstand

Exzellente Anti-PID-Leistungsgarantie dank optimiertem Massenproduktionsprozess und Materialkontrolle.



### Maximale Lebensdauer auch unter extremen Umweltbedingungen

Hohe Salznebel- und Ammoniakbeständigkeit.



### Hot 2.0-Technologie

Das N-Typ-Modul mit Hot 2.0-Technologie ist zuverlässiger und reduziert LID/LeTID-Effekte.

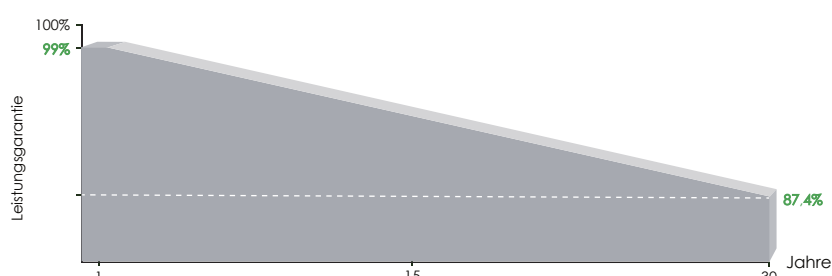


### Verbesserte mechanische Widerstandskraft

Zertifiziert für Windlasten bis 4000 Pa und Schneelasten bis 6000 Pa.



## LINEARE LEISTUNGSGARANTIE

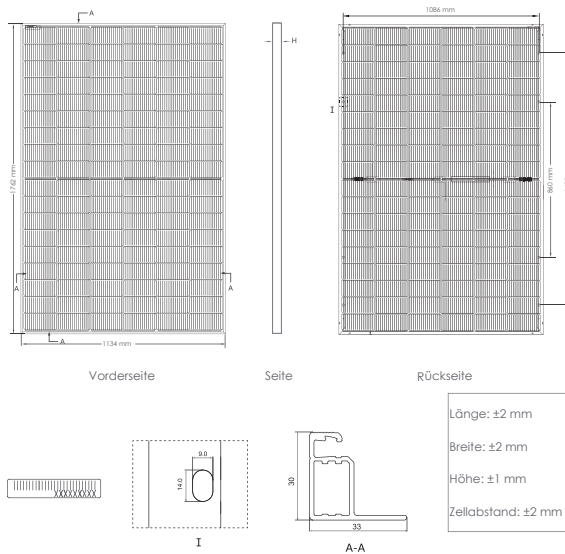


**15** Jahre Produktgarantie

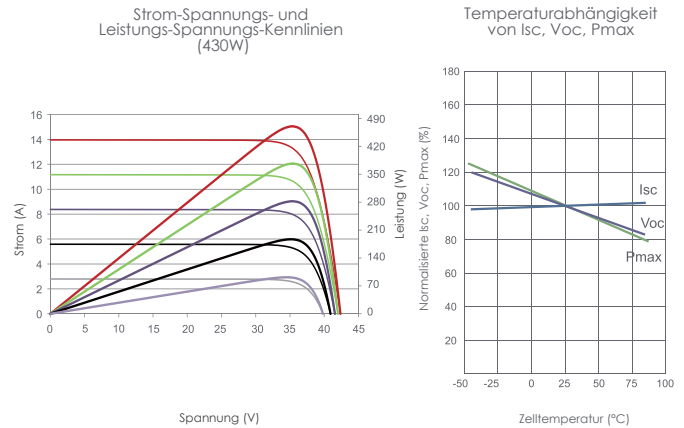
**30** Jahre lineare Leistungsgarantie

**0,40 %** jährliche Degradation über 30 Jahre

## Technische Zeichnungen



## Elektrische Leistung und Temperaturabhängigkeit



## Verpackungseinheiten

[ zwei Paletten = ein Stapel ]

36 Stück/Palette, 72 Stück/Stapel, 936 Stück/40-Fuss-Container

## Mechanische Eigenschaften

Zellentyp	Monokristallin N-Typ
Zellenanzahl	108 (2×54)
Maße	1762×1134×30 mm (69,37×44,65×1,18 Zoll)
Gewicht	22,0 kg (48,50 lbs)
Glas Vorderseite	1,6 mm Antireflexbeschichtung
Glas Rückseite	1,6 mm thermisch gehärtetes Glas
Rahmen	Eloxierte Aluminiumlegierung
Anschlusskasten	Schutzklasse IP68
Anschlusskabel	TÜV 1×4,0 mm <sup>2</sup> (+): 400 mm, (-): 200 mm oder maßgeschneiderte Länge

## Spezifikationen

Modultyp	JKM420N-54HL4R-BDV		JKM425N-54HL4R-BDV		JKM430N-54HL4R-BDV		JKM435N-54HL4R-BDV		JKM440N-54HL4R-BDV	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximale Leistung (Pmax)	420 Wp	316 Wp	425 Wp	320 Wp	430 Wp	323 Wp	435 Wp	327 Wp	440 Wp	331 Wp
Max. Spannung (Vmp)	31,68 V	29,57 V	31,86 V	29,73 V	32,04 V	29,94 V	32,23 V	30,12 V	32,40 V	30,27 V
Max. Strom (Imp)	13,26 A	10,68 A	13,34 A	10,75 A	13,42 A	10,80 A	13,50 A	10,86 A	13,58 A	10,93 A
Leerlaufspannung (Voc)	38,18 V	36,26 V	38,38 V	36,45 V	38,58 V	36,64 V	38,79 V	36,84 V	38,98 V	37,02 V
Kurzschlussstrom (Isc)	14,03 A	11,33 A	14,11 A	11,39 A	14,19 A	11,46 A	14,27 A	11,52 A	14,35 A	11,59 A
Modulwirkungsgrad STC (%)	21,02 %		21,27 %		21,52 %		21,77 %		22,02 %	
Betriebstemperatur(°C)	-40°C~+85°C									
Maximale Systemspannung	1500 VDC (IEC)									
Maximale Vorschaltungsleistung	30 A									
Leistungstoleranz	0~+3 %									
Temperaturkoeffizient Pmax	-0,29 %/°C									
Temperaturkoeffizient Voc	-0,25 %/°C									
Temperaturkoeffizient Isc	0,045 %/°C									
Nominale Betriebstemperatur der Zelle (NOCT)	45±2°C									
Bifazialer Faktor	80±5 %									

## BIFAZIALE LEISTUNG – LEISTUNGSZUWACHS RÜCKSEITE

		JKM420N-54HL4R-BDV		JKM425N-54HL4R-BDV		JKM430N-54HL4R-BDV		JKM435N-54HL4R-BDV		JKM440N-54HL4R-BDV	
		STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
5 %	Maximale Leistung (Pmax)	441 Wp	316 Wp	446 Wp	320 Wp	452 Wp	323 Wp	457 Wp	327 Wp	462 Wp	331 Wp
	Modulwirkungsgrad STC (%)	22,07 %	21,02 %	22,33 %	21,27 %	22,60 %	21,52 %	22,86 %	21,77 %	23,12 %	22,02 %
15 %	Maximale Leistung (Pmax)	483 Wp	316 Wp	489 Wp	320 Wp	495 Wp	323 Wp	500 Wp	327 Wp	506 Wp	331 Wp
	Modulwirkungsgrad STC (%)	24,17 %	21,02 %	24,46 %	21,27 %	24,75 %	21,52 %	25,04 %	21,77 %	25,32 %	22,02 %
25 %	Maximale Leistung (Pmax)	525 Wp	316 Wp	531 Wp	320 Wp	538 Wp	323 Wp	544 Wp	327 Wp	550 Wp	331 Wp
	Modulwirkungsgrad STC (%)	26,27 %	21,02 %	26,59 %	21,27 %	26,90 %	21,52 %	27,21 %	21,77 %	27,53 %	22,02 %

\*STC: Einstrahlung 1000 W/m<sup>2</sup> Zelltemperatur 25°C

AM=1,5

NOCT: Einstrahlung 800 W/m<sup>2</sup> Umgebungstemperatur 20°C

AM=1,5

Windgeschwindigkeit 1 m/s

# Tiger Neo N-type 54HL4R-BDV 420-440 Watt BIFACIAL MODULE WITH DUAL GLASS

## N-Type

Positive power tolerance of 0~+3%

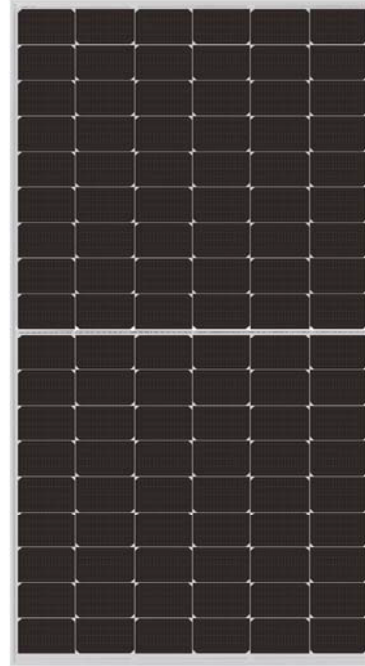
IEC61215(2016), IEC61730(2016)

ISO9001:2015: Quality Management System

ISO14001:2015: Environment Management System

ISO45001:2018

Occupational health and safety management systems



## Key Features



### SMBB Technology

Better light trapping and current collection to improve module power output and reliability.



### PID Resistance

Excellent Anti-PID performance guarantee via optimized mass-production process and materials control.



### Durability Against Extreme Environmental Conditions

High salt mist and ammonia resistance.



### Hot 2.0 Technology

The N-type module with Hot 2.0 technology has better reliability and lower LID/LeTID.

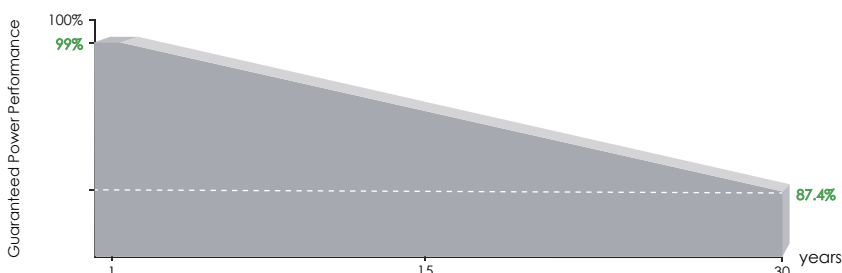


### Enhanced Mechanical Load

Certified to withstand: wind load (4000 Pascal) and snow load (6000 Pascal).



## LINEAR PERFORMANCE WARRANTY

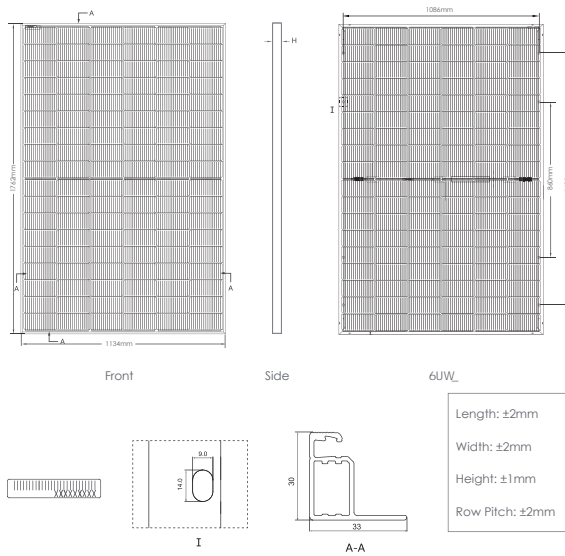


**15** Year Product Warranty

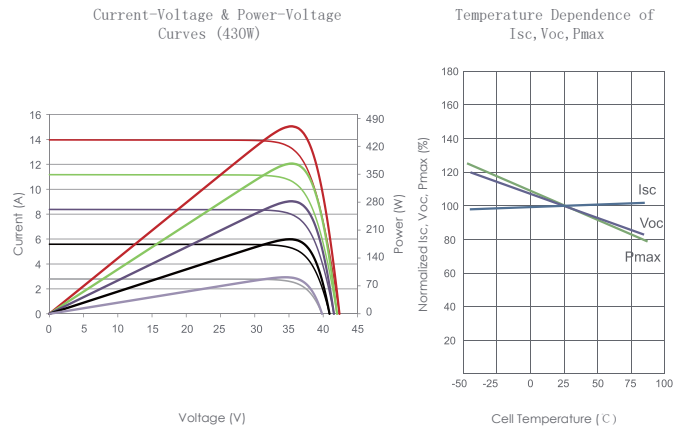
**30** Year Linear Power Warranty

**0.40%** Annual Degradation Over 30 years

## Engineering Drawings



## Electrical Performance & Temperature Dependence



## Mechanical Characteristics

Cell Type	N type Mono-crystalline
No. of cells	108 (2×54)
Dimensions	1762×1134×30mm (69.37×44.65×1.18 inch)
Weight	22.0 kg (48.50 lbs)
Front Glass	1.6mm, Anti-Reflection Coating
Back Glass	1.6mm, Heat Strengthened Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68 Rated
Output Cables	TUV 1×4.0mm <sup>2</sup> (+): 400mm, (-): 200mm or Customized Length

## Packaging Configuration

[ Two pallets = One stack ]

36pcs/pallets, 72pcs/stack, 936pcs/ 40'HQ Container

## SPECIFICATIONS

Module Type	JKM420N-54HL4R-BDV		JKM425N-54HL4R-BDV		JKM430N-54HL4R-BDV		JKM435N-54HL4R-BDV		JKM440N-54HL4R-BDV	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax)	420Wp	316Wp	425Wp	320Wp	430Wp	323Wp	435Wp	327Wp	440Wp	331Wp
Maximum Power Voltage (Vmp)	31.68V	29.57V	31.86V	29.73V	32.04V	29.94V	32.23V	30.12V	32.40V	30.27V
Maximum Power Current (Imp)	13.26A	10.68A	13.34A	10.75A	13.42A	10.80A	13.50A	10.86A	13.58A	10.93A
Open-circuit Voltage (Voc)	38.18V	36.26V	38.38V	36.45V	38.58V	36.64V	38.79V	36.84V	38.98V	37.02V
Short-circuit Current (Isc)	14.03A	11.33A	14.11A	11.39A	14.19A	11.46A	14.27A	11.52A	14.35A	11.59A
Module Efficiency STC (%)	21.02%		21.27%		21.52%		21.77%		22.02%	
Operating Temperature(°C)	-40°C~+85°C									
Maximum system voltage	1500VDC (IEC)									
Maximum series fuse rating	30A									
Power tolerance	0~+3%									
Temperature coefficient of Pmax	-0.29%/°C									
Temperature coefficient of Voc	-0.25%/°C									
Temperature coefficient of Isc	0.045%/°C									
Nominal operating cell temperature (NOCT)	45±2									
Bifacial Factor	80±5%									

## BIFACIAL OUTPUT-REAR SIDE POWER GAIN

Gain (%)	Parameter	JKM420N-54HL4R-BDV	JKM425N-54HL4R-BDV	JKM430N-54HL4R-BDV	JKM435N-54HL4R-BDV	JKM440N-54HL4R-BDV
		Value	Value	Value	Value	Value
5%	Maximum Power (Pmax)	441Wp	446Wp	452Wp	457Wp	462Wp
	Module Efficiency STC (%)	22.07%	22.33%	22.60%	22.86%	23.12%
15%	Maximum Power (Pmax)	483Wp	489Wp	495Wp	500Wp	506Wp
	Module Efficiency STC (%)	24.17%	24.46%	24.75%	25.04%	25.32%
25%	Maximum Power (Pmax)	525Wp	531Wp	538Wp	544Wp	550Wp
	Module Efficiency STC (%)	26.27%	26.59%	26.90%	27.21%	27.53%

\*STC: Irradiance 1000W/m<sup>2</sup>

Cell Temperature 25°C

AM=1.5

NOCT: Irradiance 800W/m<sup>2</sup>

Ambient Temperature 20°C

AM=1.5

Wind Speed 1m/s