

# Tiger Neo N-Typ 78HL4-BDV 610-630 Watt

BIFAZIALES MODUL MIT DOPPELGLAS

## N-Typ

Positive Leistungstoleranz von 0~+3 %

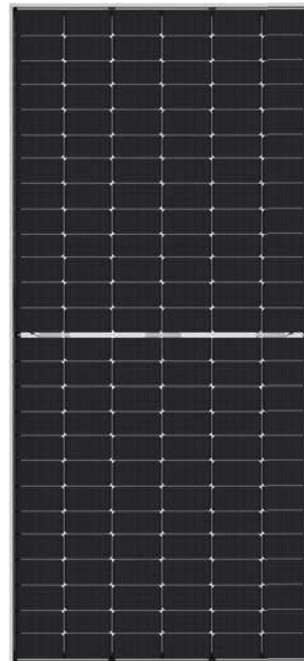
IEC 61215 (2016), IEC 61730 (2016)

ISO9001:2015: Qualitätsmanagementsystem

ISO14001:2015: Umweltmanagementsystem

ISO 45001:2018

Managementsysteme für Sicherheit und Gesundheit bei der Arbeit



## WICHTIGE MERKMALE



### SMBB-Technologie

Mehr Modulleistung und Zuverlässigkeit dank verbesserter Lichtabsorption und verbessertem Stromtransport



### PID-Widerstand

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



### Höhere Leistung

Die Modulleistung steigt generell um 5 bis 25 %, was zu deutlich geringeren Stromgestehungskosten (LCOE) und einem höheren internen Ertragsatz führt.



### Hot 2.0-Technologie

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

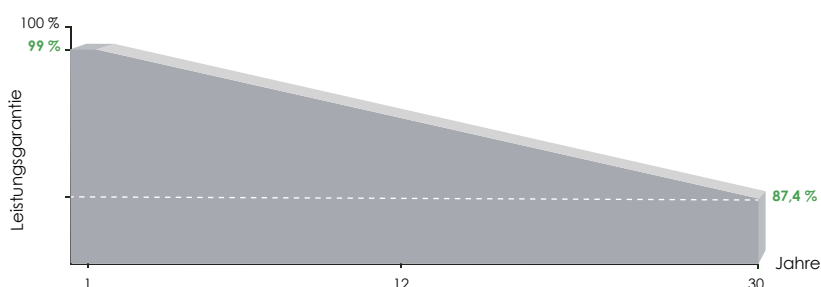


### Verbesserte mechanische Widerstandskraft

Zertifiziert für Windlasten bis 2400 Pa und Schneelasten bis 5400 Pa.



## LINEARE LEISTUNGSGARANTIE

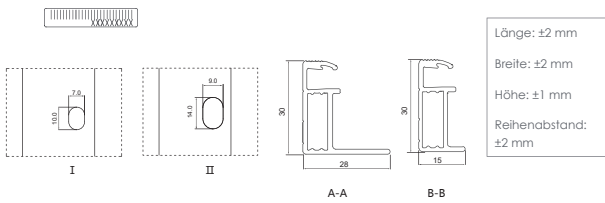
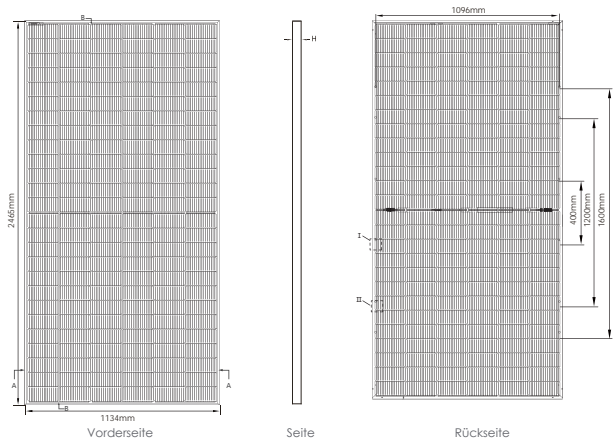


12 Jahre Produktgarantie

30 Jahre lineare Leistungsgarantie

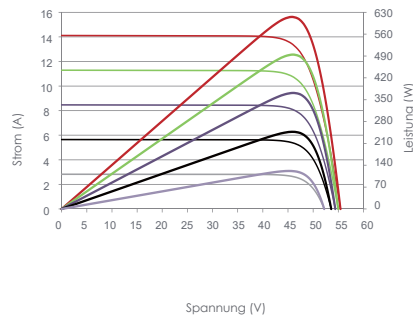
0,40 % jährliche Degradation über 30 Jahre

## Technische Zeichnungen

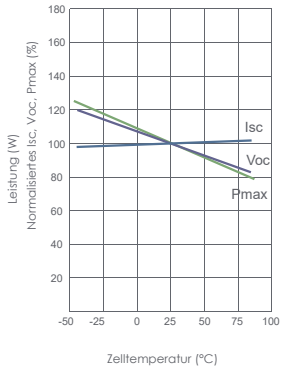


## Elektrische Leistung und Temperaturabhängigkeit

Strom-Spannungs- und Leistungs-Spannungs-Kennlinien (615 W)



Temperaturabhängigkeit von Isc, Voc, Pmax



## Mechanische Eigenschaften

Zellentyp	N-Typ monokristallin
Anz. der Zellen	156 (2×78)
Maße	2465×1134×30mm (97,05×44,65×1,38 inch)
Gewicht	34,6kg (76,28 lbs)
Glas	2,0 mm, Antireflexbeschichtung
Glas Rückseite	2,0 mm, teilvorgespanntes Glas
Rahmen	Eloxierte Aluminiumlegierung
Anschlusskasten	Schutzklasse IP68
Anschlusskabel	TÜV 1×4,0 mm <sup>2</sup> (+): 400 mm, (-): 200 mm oder maßgeschneiderte Länge

## Versandeinheiten

(Zwei Paletten = ein Stapel)

36 Stück/Palette, 72 Stück/Stapel, 576 Stück/40-Fuss-Container

## Spezifikationen

Modultyp	JKM610N-78HL4-BDV		JKM615N-78HL4-BDV		JKM620N-78HL4-BDV		JKM625N-78HL4-BDV		JKM630N-78HL4-BDV	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximale Leistung (Pmax)	610Wp	459Wp	615Wp	462Wp	620Wp	466Wp	625Wp	470Wp	630Wp	474Wp
Max. Spannung (Vmp)	45,60V	42,35V	45,77V	42,46V	45,93V	42,57V	46,10V	42,68V	46,26V	42,79V
Max. Strom (Imp)	13,38A	10,83A	13,44A	10,89A	13,50A	10,95A	13,56A	11,01A	13,62A	11,07A
Leerlaufspannung (Voc)	55,31V	52,54V	55,44V	52,66V	55,58V	52,79V	55,72V	52,93V	55,86V	53,06V
Kurzschlussstrom (Isc)	14,03A	11,33A	14,11A	11,39A	14,19A	11,46A	14,27A	11,52A	14,35A	11,59A
Modulwirkungsgrad STC (%)	21,82%		22,00%		22,18%		22,36%		22,54%	
Betriebstemperatur (°C)	-40°C ~ +85°C									
Maximale Systemspannung	1500VDC (IEC)									
Maximale Vorschaltleistungsleistung	30A									
Leistungstoleranz	0 ~ +3%									
Temperaturkoeffizient Pmax	-0,29%/°C									
Temperaturkoeffizient Voc	-0,25%/°C									
Temperaturkoeffizient Isc	0,045%/°C									
Nennbetriebstemperatur der Zelle (NOCT)	45±2°C									
Ref. bifazialer Faktor	80±5%									

## BIFAZIALE LEISTUNG – LEISTUNGSZUWACHS RÜCKSEITE

		JKM610N-78HL4-BDV	JKM615N-78HL4-BDV	JKM620N-78HL4-BDV	JKM625N-78HL4-BDV	JKM630N-78HL4-BDV
5 %	Maximale Leistung (Pmax)	641Wp	646Wp	651Wp	656Wp	662Wp
	Modulwirkungsgrad STC (%)	22,91%	23,10%	23,29%	23,48%	23,66%
15 %	Maximale Leistung (Pmax)	702Wp	707Wp	713Wp	719Wp	725Wp
	Modulwirkungsgrad STC (%)	25,10%	25,30%	25,51%	25,71%	25,92%
25 %	Maximale Leistung (Pmax)	763Wp	769Wp	775Wp	781Wp	788Wp
	Modulwirkungsgrad STC (%)	27,28%	27,50%	27,73%	27,95%	28,17%

\*STC: Einstrahlung 1000W/m<sup>2</sup> Zelltemperatur 25 °C AM = 1,5

NOCT: Einstrahlung 800W/m<sup>2</sup> Umgebungstemperatur 20 °C AM = 1,5 Windgeschwindigkeit 1 m/s

# Tiger Neo N-type 78HL4-BDV 610-630 Watt

BIFACIAL MODULE WITH  
DUAL GLASS

## N-Type

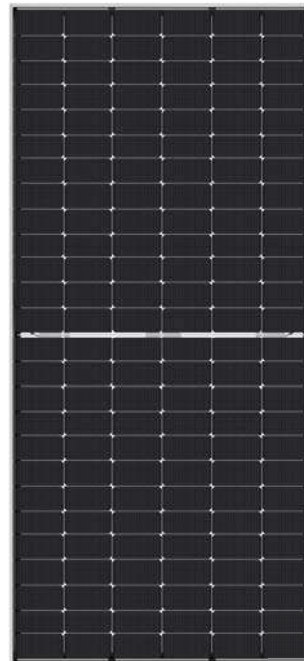
Positive power tolerance of 0~+3%

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.



### Higher Power Output

Module power increases 5-25% generally, bringing significantly lower LCOE and higher IRR.



### Hot 2.0 Technology

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

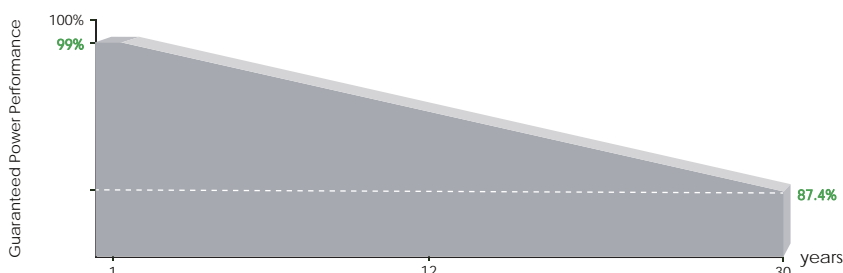


### Enhanced Mechanical Load

Certified to withstand: wind load (2400 Pascal) and snow load (5400 Pascal).



## LINEAR PERFORMANCE WARRANTY

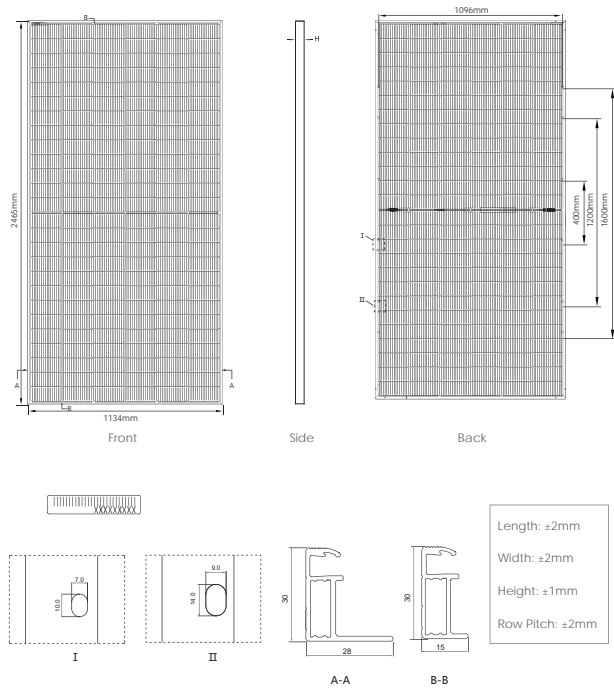


12 Year Product Warranty

30 Year Linear Power Warranty

0.40% Annual Degradation Over 30 years

## Engineering Drawings

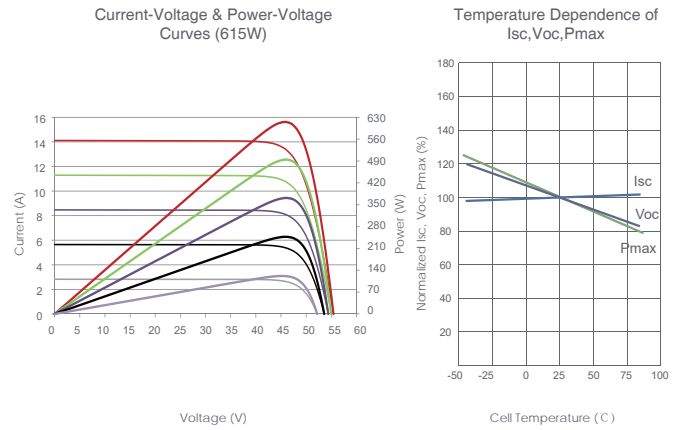


## Packaging Configuration

(Two pallets = One stack)

36pcs/pallets, 72pcs/stack, 576pcs/ 40'HQ Container

## Electrical Performance & Temperature Dependence



## Mechanical Characteristics

Cell Type	N type Mono-crystalline
No. of cells	156 (2×78)
Dimensions	2465×1134×30mm (97.05×44.65×1.18 inch)
Weight	34.6kg (76.38 lbs)
Front Glass	2.0mm, Anti-Reflection Coating
Back Glass	2.0mm, 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

## SPECIFICATIONS

Module Type	JKM610N-78HL4-BDV		JKM615N-78HL4-BDV		JKM620N-78HL4-BDV		JKM625N-78HL4-BDV		JKM630N-78HL4-BDV	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax)	610Wp	459Wp	615Wp	462Wp	620Wp	466Wp	625Wp	470Wp	630Wp	474Wp
Maximum Power Voltage (Vmp)	45.60V	42.35V	45.77V	42.46V	45.93V	42.57V	46.10V	42.68V	46.26V	42.79V
Maximum Power Current (Imp)	13.38A	10.83A	13.44A	10.89A	13.50A	10.95A	13.56A	11.01A	13.62A	11.07A
Open-circuit Voltage (Voc)	55.31V	52.54V	55.44V	52.66V	55.58V	52.79V	55.72V	52.93V	55.86V	53.06V
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 (%)	21.82%		22.00%		22.18%		22.36%		22.54%	
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°C									
Refer. Bifacial Factor	80±5%									

## BIFACIAL OUTPUT-REAR SIDE POWER GAIN

		JKM610N-78HL4-BDV		JKM615N-78HL4-BDV		JKM620N-78HL4-BDV		JKM625N-78HL4-BDV		JKM630N-78HL4-BDV	
		Maximum Power (Pmax)	Module Efficiency STC (%)	Maximum Power (Pmax)	Module Efficiency STC (%)	Maximum Power (Pmax)	Module Efficiency STC (%)	Maximum Power (Pmax)	Module Efficiency STC (%)	Maximum Power (Pmax)	Module Efficiency STC (%)
5%	Maximum Power (Pmax)	641Wp	22.91%	646Wp	23.10%	651Wp	23.29%	656Wp	23.48%	662Wp	23.66%
	Module Efficiency STC (%)										
15%	Maximum Power (Pmax)	702Wp	25.10%	707Wp	25.30%	713Wp	25.51%	719Wp	25.71%	725Wp	25.92%
	Module Efficiency STC (%)										
25%	Maximum Power (Pmax)	763Wp	27.28%	769Wp	27.50%	775Wp	27.73%	781Wp	27.95%	788Wp	28.17%
	Module Efficiency STC (%)										

\*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