

Tiger Pro 60HC

440-460 Watt

MONOFAZIALES MODUL

P-Typ

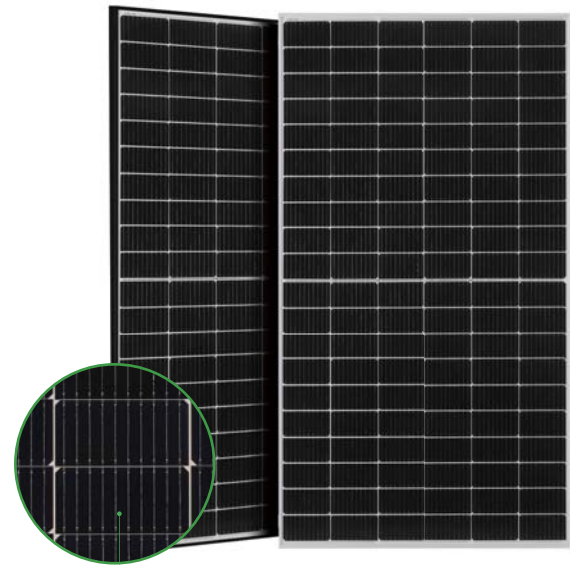
Positive Leistungstoleranz von 0~+3%

IEC61215(2016), IEC61730(2016)

ISO9001:2015: Qualitätsmanagementsystem

ISO14001:2015: Umweltmanagementsystem

ISO45001:2018
Managementsysteme für Sicherheit und Gesundheit bei der Arbeit



MBB HC Technologie

WICHTIGE MERKMALE



Multi-Busbar-Technologie

Mehr Modulleistung und Zuverlässigkeit dank verbesserter Lichtabsorption und verbesserten Stromtransport.



Maximale Lebensdauer auch unter extremen Umweltbedingungen

Hohe Salz- sowie Ammoniak- Beständigkeit.



Reduzierter Hot-Spot-Verlust

Optimiertes elektrisches Design und geringerer Betriebsstrom für reduzierten Hot-Spot-Verlust und einen besseren Temperaturkoeffizienten.



Verbesserte mechanische Widerstandskraft

Für den Einsatz bei Wind- und Schneelasten von bis zu 2400 Pa bzw. 5400 Pa zertifiziert.



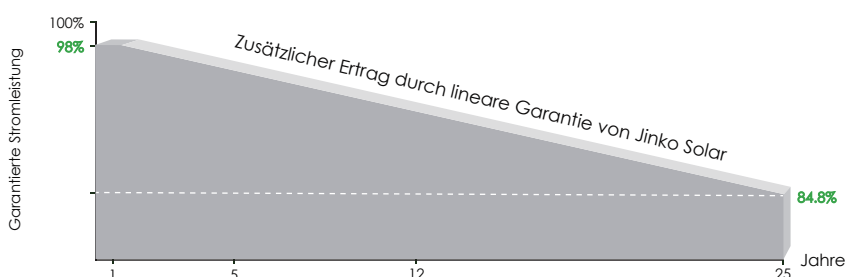
PID-Widerstand

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



POSITIVE QUALITY™
Continuous Quality Assurance

LINEARE LEISTUNGSGARANTIE

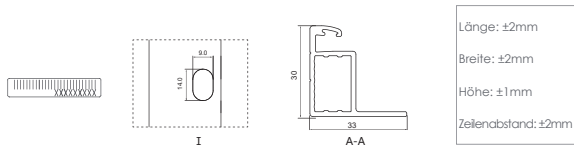
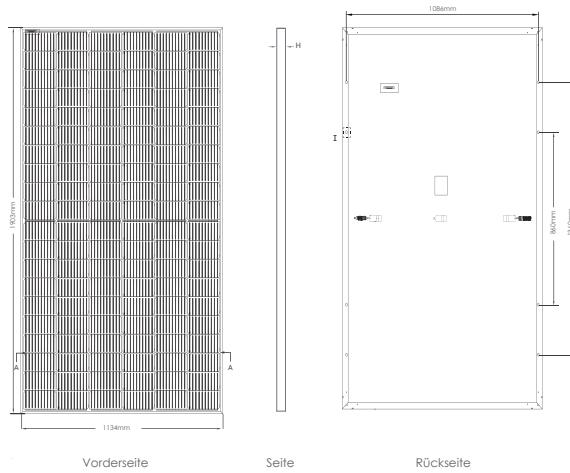


12 Jahre Produktgarantie

25 Jahre lineare Leistungsgarantie

0.55% jährliche Degradation über 25 Jahre

Technische Zeichnungen

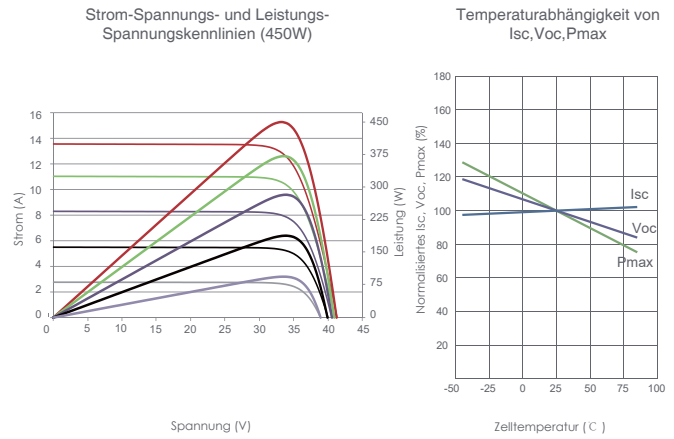


Versandeinheiten

(Zwei Boxen = Eine Palette)

36 Stück/Box, 72 Stück/Palette, 864 Stück/40'HQ Container

Elektrische Leistung & Temperaturabhängigkeit



Mechanische Eigenschaften

Zelltyp	P-Typ Monokristallin
Anzahl der Zellen	120 (6×20)
Maße	1903×1134×30mm (74.92×44.65×1.18 inch)
Gewicht	24.2 kg (53.35 lbs)
Frontglas	3.2mm, getempertes Glas mit hoher Lichtdurchlässigkeit und niedrigem Eisengehalt, Antireflex-Beschichtung
Rahmen	Eloxierte Aluminiumlegierung
Anschlussdose	Schutzklasse IP68
Ausgangskabel	TUV 1×4.0mm ² (+): 400mm, (-): 200mm oder maßgeschneiderte Länge

Spezifikationen

Modell	JKM440M-60HL4		JKM445M-60HL4		JKM450M-60HL4		JKM455M-60HL4		JKM460M-60HL4	
	JKM440M-60HL4-V	JKM445M-60HL4-V	JKM445M-60HL4-V	JKM450M-60HL4-V	JKM450M-60HL4-V	JKM455M-60HL4-V	JKM455M-60HL4-V	JKM460M-60HL4-V	JKM460M-60HL4-V	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximale Leistung (Pmax)	440Wp	327Wp	445Wp	331Wp	450Wp	335Wp	455Wp	339Wp	460Wp	342Wp
Maximale Leistung, Spannung (Vmp)	33.72V	31.39V	33.82V	31.56V	33.91V	31.73V	34.06V	31.91V	34.20V	32.07V
Maximale Leistung, Strom (Imp)	13.05A	10.43A	13.16A	10.49A	13.27A	10.55A	13.36A	10.61A	13.45A	10.67A
Leerlaufspannung (Voc)	41.02V	38.72V	41.10V	38.79V	41.18V	38.87V	41.33V	39.01V	41.48V	39.15V
Kurzschlussstrom (Isc)	13.73A	11.09A	13.79A	11.14A	13.85A	11.19A	13.93A	11.25A	14.01A	11.32A
Modulwirkungsgrad STC (%)	20.39%		20.62%		20.85%		21.08%		21.32%	
Betriebstemperatur (°C)	-40°C~+85°C									
Maximale Systemspannung	1000/1500VDC (IEC)									
Maximale Vorschaltleistung	25A									
Leistungstoleranz	0~+3%									
Temperaturkoeffizienten von Pmax	-0.35%/°C									
Temperaturkoeffizienten von Voc	-0.28%/°C									
Temperaturkoeffizienten von Isc	0.048%/°C									
Nennbetriebszellentemperatur (NOCT)	45±2°C									

*STC: ☀️ Einstrahlung 1000W/m²

📏 Zelltemperatur 25°C

☁️ AM=1.5

NOCT: ☀️ Einstrahlung 800W/m²

📏 Umgebungstemperatur 20°C

☁️ AM=1.5

🌀 Windgeschwindigkeit 1m/s

Tiger Pro 60HC

440-460 Watt

MONO-FACIAL MODULE

P-Type

Positive power tolerance of 0~+3%

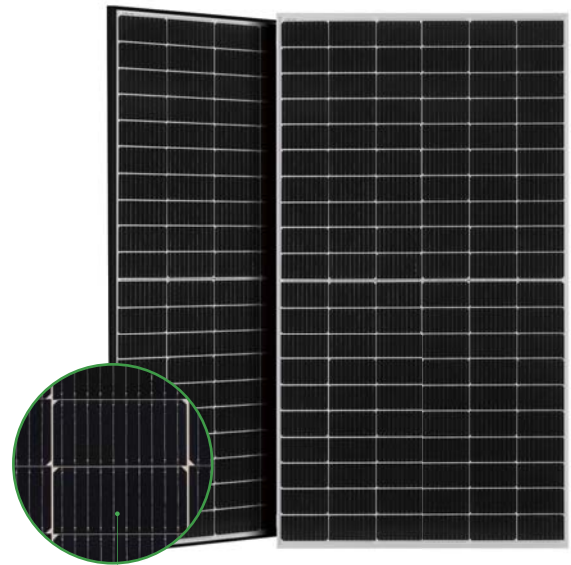
IEC61215(2016), IEC61730(2016)

ISO9001:2015: Quality Management System

ISO14001:2015: Environment Management System

ISO45001:2018

Occupational health and safety management systems



MBB HC Technology

Key Features



Multi Busbar Technology

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



Durability Against Extreme Environmental Conditions

High salt mist and ammonia resistance.



Reduced Hot Spot Loss

Optimized electrical design and lower operating current for reduced hot spot loss and better temperature coefficient.



Enhanced Mechanical Load

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



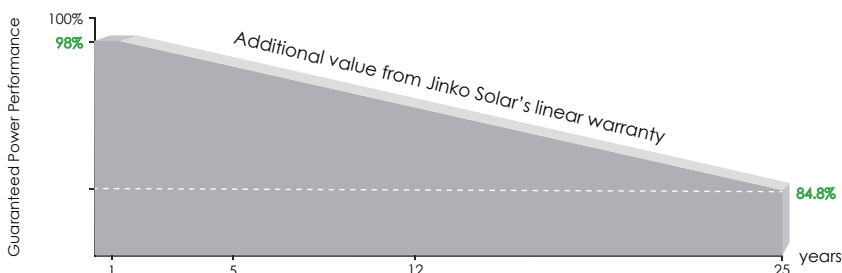
PID Resistance

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



POSITIVE QUALITY™
Continuous Quality Assurance

LINEAR PERFORMANCE WARRANTY

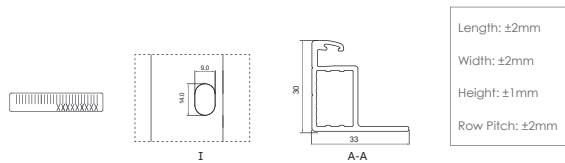
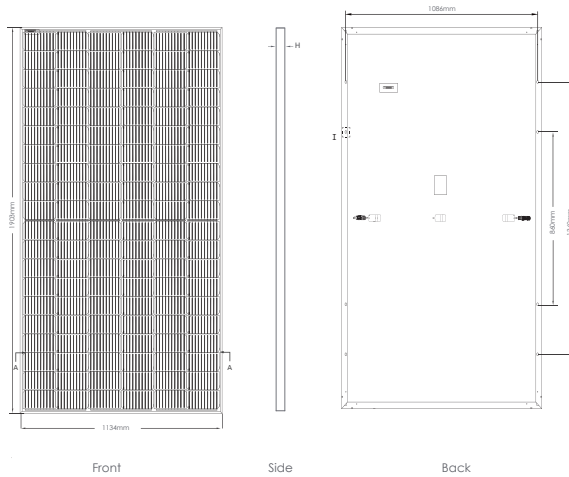


12 Year Product Warranty

25 Year Linear Power Warranty

0.55% Annual Degradation Over 25 years

Engineering Drawings

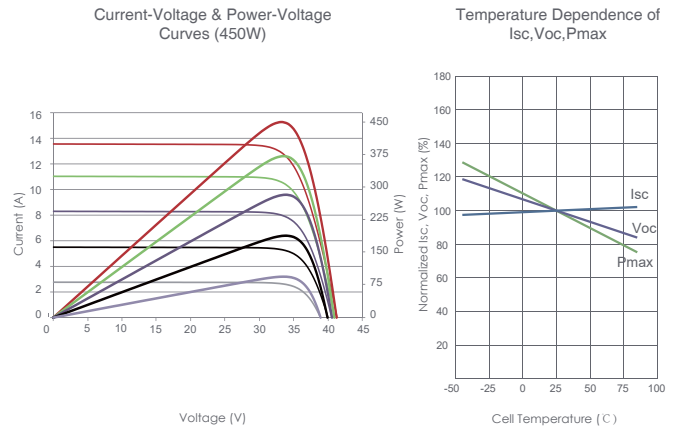


Packaging Configuration

(Two pallets = One stack)

36pcs/pallets, 72pcs/stack, 864pcs/ 40'HQ Container

Electrical Performance & Temperature Dependence



Mechanical Characteristics

Cell Type	P type Mono-crystalline
No. of cells	120 (6×20)
Dimensions	1903×1134×30mm (74.92×44.65×1.18 inch)
Weight	24.2 kg (53.35 lbs)
Front Glass	3.2mm, Anti-Reflection Coating, High Transmission, Low Iron, Tempered Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68 Rated
Output Cables	TUV 1×4.0mm ² (+): 400mm, (-): 200mm or Customized Length

SPECIFICATIONS

Module Type	JKM440M-60HL4		JKM445M-60HL4		JKM450M-60HL4		JKM455M-60HL4		JKM460M-60HL4	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax)	440Wp	327Wp	445Wp	331Wp	450Wp	335Wp	455Wp	339Wp	460Wp	342Wp
Maximum Power Voltage (Vmp)	33.72V	31.39V	33.82V	31.56V	33.91V	31.73V	34.06V	31.91V	34.20V	32.07V
Maximum Power Current (Imp)	13.05A	10.43A	13.16A	10.49A	13.27A	10.55A	13.36A	10.61A	13.45A	10.67A
Open-circuit Voltage (Voc)	41.02V	38.72V	41.10V	38.79V	41.18V	38.87V	41.33V	39.01V	41.48V	39.15V
Short-circuit Current (Isc)	13.73A	11.09A	13.79A	11.14A	13.85A	11.19A	13.93A	11.25A	14.01A	11.32A
Module Efficiency STC (%)	20.39%		20.62%		20.85%		21.08%		21.32%	
Operating Temperature (°C)	-40°C~+85°C									
Maximum system voltage	1000/1500VDC (IEC)									
Maximum series fuse rating	25A									
Power tolerance	0~+3%									
Temperature coefficients of Pmax	-0.35%/°C									
Temperature coefficients of Voc	-0.28%/°C									
Temperature coefficients of Isc	0.048%/°C									
Nominal operating cell temperature (NOCT)	45±2°C									

*STC: Irradiance 1000W/m² Cell Temperature 25°C AM=1.5
 NOCT: Irradiance 800W/m² Ambient Temperature 20°C AM=1.5 Wind Speed 1m/s