



# Tiger Neo N-type 54HL4-(V) 410-430 Watt MONO-FACIAL MODULE

## N-Type

Positive power tolerance of 0~+3%

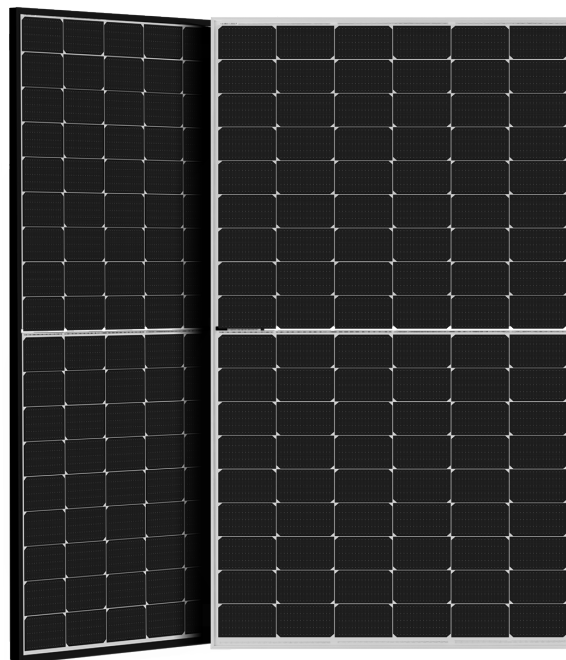
IEC61215(2016), IEC61730(2016)

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.



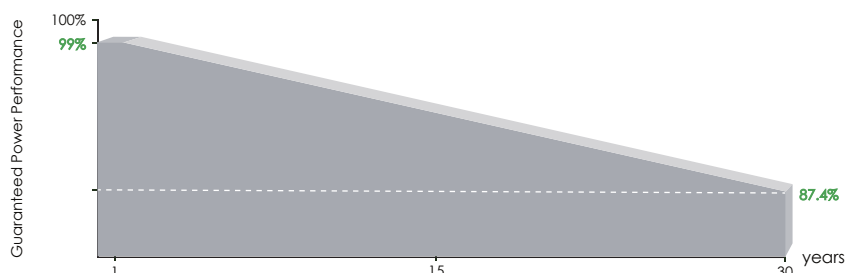
### Enhanced Mechanical Load

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



POSITIVE QUALITY™  
Continuous Quality Assurance

## LINEAR PERFORMANCE WARRANTY

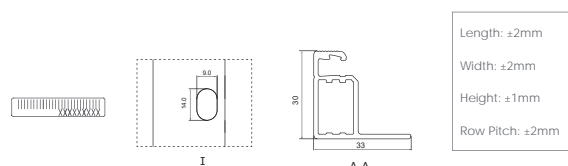
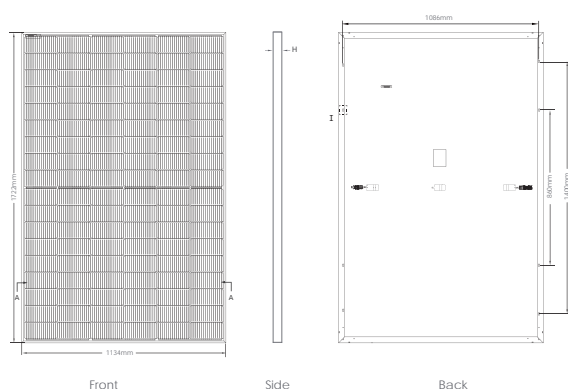


**15** Year Product Warranty

**30** Year Linear Power Warranty

**0.40%** Annual Degradation Over 30 years

## Engineering Drawings



Length:  $\pm 2\text{mm}$   
Width:  $\pm 2\text{mm}$   
Height:  $\pm 1\text{mm}$   
Row Pitch:  $\pm 2\text{mm}$

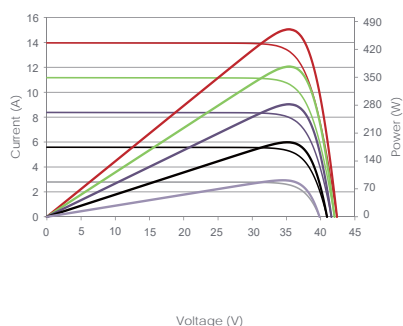
## Packaging Configuration

(Two pallets = One stack)

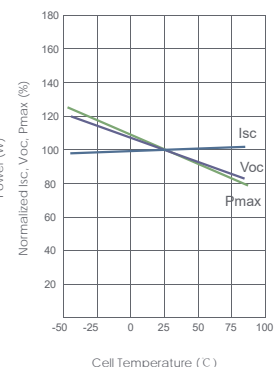
36pcs/pallets, 72pcs/stack, 936pcs/ 40'HQ Container

## Electrical Performance & Temperature Dependence

Current-Voltage & Power-Voltage Curves (430W)



Temperature Dependence of  $I_{sc}$ ,  $V_{oc}$ ,  $P_{max}$



## Mechanical Characteristics

Cell Type N type Mono-crystalline

No. of cells 108 (6×18)

Dimensions 1722×1134×30mm (67.79×44.65×1.18 inch)

Weight 22 kg (48.50 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<sup>2</sup>  
(+): 400mm, (-): 200mm or Customized Length

## SPECIFICATIONS

Module Type	JKM410N-54HL4 JKM410N-54HL4-V		JKM415N-54HL4 JKM415N-54HL4-V		JKM420N-54HL4 JKM420N-54HL4-V		JKM425N-54HL4 JKM425N-54HL4-V		JKM430N-54HL4 JKM430N-54HL4-V	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax)	410Wp	308Wp	415Wp	312Wp	420Wp	316Wp	425Wp	320Wp	430Wp	323Wp
Maximum Power Voltage (Vmp)	31.13V	29.06V	31.32V	29.21V	31.51V	29.34V	31.70V	29.50V	31.88V	29.63V
Maximum Power Current (Imp)	13.17A	10.61A	13.25A	10.68A	13.33A	10.76A	13.41A	10.83A	13.49A	10.91A
Open-circuit Voltage (Voc)	37.73V	35.84V	37.92V	36.02V	38.11V	36.20V	38.30V	36.38V	38.49V	36.56V
Short-circuit Current (Isc)	13.91A	11.23A	13.99A	11.29A	14.07A	11.36A	14.15A	11.42A	14.23A	11.49A
Module Efficiency STC (%)	21.00%		21.25%		21.51%		21.76%		22.02%	
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	-0.29%/°C									
Temperature coefficients of Voc	-0.25%/°C									
Temperature coefficients of Isc	0.045%/°C									
Nominal operating cell temperature (NOCT)	45±2°C									

\*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



## LIMITED WARRANTY

REV.SEU20220125-LINEAR FOR EUROPE

Jinko Solar Import and Export Co., Ltd. (“**Jinko**”) generally provides the Warranties set forth herein to the original purchaser and its permitted successors and assigns (“**Customer**”) with respect to any solar photovoltaic module set forth herein sold by Jinko under purchase agreements signed on or after January 25<sup>th</sup>, 2022, (“**Module**”), subject to the terms and conditions herein (“**Limited Warranty**”). Jinko and Customer may hereinafter be referred to each as a “**Party**” and collectively as the “**Parties**”.

1. **WARRANTY START DATE.** Jinko provides the Warranties set forth herein commencing upon the earlier of delivery of Modules to the original purchaser thereof or that date which is one hundred and eighty (180) days following the Module manufacture date, as indicated by the serial number [digit no. 7 – 12 (YYMMDD), starting from the left side of the serial number] for such Module (“**Warranty Start Date**”).

2. **LIMITED PRODUCT WARRANTY.** Beginning on the Warranty Start Date and terminating on that date which is one hundred and eighty (180) months thereafter for JKMxxxN-54HL4, JKMxxxN-54HL4-V and three hundred (300) months thereafter for JKMxxxN-54HL4-B, JKMxxxN-54HL4-B-V; Jinko warrants that the Module and its respective DC connector and cables, if any, shall be free from material defects in design, materials and workmanship that impair the performance of the Module (“**Limited Product Warranty**”). Material defects shall not include normal wear and tear, corrosion, musty and color difference.

3. **LIMITED POWER WARRANTY.** Jinko warrants that the Degradation Rate shall not exceed the amount for the applicable period following the Warranty Start Date as set forth below (“**Limited Power Warranty**”):

For **Modules**, only applicable to the following mono-crystalline Module types:

JKMxxxN-54HL4,  
JKMxxxN-54HL4-V,  
JKMxxxN-54HL4-B,  
JKMxxxN-54HL4-B-V

(i) 1% in the first year; (ii) 0.4% each year thereafter until that date which is thirty (30) years following the Warranty Start Date, at which time the Actual Power Output shall be not less than 87.4% of the Nominal Power Output.

4. **POWER DEFINITIONS.** “**Nominal Power Output (PO<sub>0</sub>)**” means the original manufactured nameplate specification of the Module, expressed in Watts, as certified by Jinko and indicated on the Module, excluding any specified positive tolerance. “**Actual Power Output (PO<sub>t</sub>)**” means the power output of the Module, expressed in Watts, at Watt peak that a Module generates or, for a Bifacial Module, that the front-side of a Bifacial Module generates, at a given point in time in a year after the Warranty Start Date (**t**) in its ‘Maximum Power Point’ under Standard Test Conditions, corrected for any measurement error (“**STC**”). STC are as follows, measured in accordance with IEC 61215: (a) light spectrum of AM 1.5; (b) an irradiation of 1000W per m<sup>2</sup>; and (c) a cell temperature of 25 degrees centigrade at right angle irradiation. The “**Degradation Rate (DR)**” shall be any positive amount calculated in accordance with the following formula, expressed as a percent:

$$DR = 1.00 - [(PO_t) / (PO_0)]$$



## LIMITED WARRANTY

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5. CLAIMS. Customer shall bear the burden of establishing a breach of the Warranties hereunder. If Customer believes there has been a breach of the Limited Product Warranty or Limited Power Warranty (collectively, “**Warranties**”), then Customer shall promptly, and not later than thirty (30) days after knowledge thereof, provide notice to Jinko setting forth the following information related to the claim: (a) party making claim; (b) detailed description; (c) evidence, including photographs and data; (d) relevant serial numbers; (e) Warranty Start Date; (f) Module type; (g) physical address; (h) any additional evidence reasonably requested by Jinko; and (i) upon request from Jinko, the actual Module(s) allegedly causing the breach. Notwithstanding anything to the contrary herein, Jinko shall be entitled, in Jinko’s sole discretion upon written notice to Customer, to require that any breach of the Warranties alleged by Customer be reviewed by TÜV Rheinland, TÜV SÜD or other neutral third party testing laboratory selected by Jinko and approved by Customer, such approval not to be unreasonably withheld or delayed (“**Independent Testing Lab**”). The power measurement tolerance of any testing equipment utilized by any Independent Testing Lab in performing tests required by this Section 5 shall be disclosed in writing to both Parties prior to performance of any such tests and shall be reflected in any final test results provided by the Independent Testing Lab. The determination by an Independent Testing Lab as to whether a breach has occurred shall be final and conclusive with respect to the matters covered by such determination. Jinko shall be responsible for all costs incurred by it in connection with the shipment by Customer of a Module pursuant to Section 5(i) hereto and any Independent Testing Lab’s services provided pursuant to this Section 5, including shipping, testing services, storage,

insurance and any Module destruction incidental thereto; provided, however, Customer shall promptly upon receipt of notice indemnify Jinko for all such costs on a dollar-for-dollar basis in the event the Independent Testing Lab is unable to confirm a breach of the Warranties or, if no Independent Testing Lab was utilized, Customer is otherwise unable to establish a breach of the Warranties.

6. REMEDIES. In Jinko’s sole discretion, Jinko shall repair, replace or provide additional modules compensating for the related power loss for any Module which causes a breach of the Warranties. Additional, repaired or replacement Modules shall be delivered to the same destination and on the same INCOTERMS 2020 delivery basis that the original Module causing breach of the Warranties was delivered under the purchase agreement to which this Limited Warranty applies. Replaced Modules received by Jinko pursuant to Section 5 shall be the sole property of Jinko. Jinko shall be solely responsible for all shipping costs incurred performing its additional supply, repair or replacement obligations under this Section 6. Additional or replacement Modules shall be of the same type and physical form as the original Module, electrically compatible with the original Module, and have an electrical output of not less than the warranted power output of the original Module at the time of supply or replacement, based on the warranted degradation rates set forth at Section 3 hereto. Notwithstanding the foregoing, if Jinko no longer supplies Modules meeting the foregoing criteria, then additional or replacement modules provided under this Section 6 shall be those modules then supplied by Jinko most substantially meeting the foregoing criteria. Jinko’s performance of any repair, replacement or additional supply pursuant to this Section 6 shall not extend the term of any Warranties.



## LIMITED WARRANTY

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7. EXCLUSIONS. This Limited Warranty is subject to the exclusions set forth in this Section 7. The Warranties shall not apply to any Module which has been: (a) altered, repaired or modified without the prior written consent of Jinko or otherwise inconsistent with Jinko's written instructions; (b) removed and re-installed at any location other than the physical location in which it was originally installed following purchase by Customer or receipt from Jinko as a replacement Module; (c) subject to misuse, abuse, neglect, or accident except as may be caused by Jinko in the course of storage, transportation, handling, installation, application, use or service; (d) subject to force majeure, electrical surges, lightning, flood, fire, vandalism, tampering, accidental breakage, or other events beyond Jinko's control, resulting in material damage to the Module; (e) installed on mobile platforms (other than single or dual-axis trackers) or in a marine environment; (f) subject to direct contact with corrosive agents or salt water, pest damage, or malfunctioning PV system components; or (g) used in a manner inconsistent with the version of Jinko Installation Manual available at [www.jinkosolar.com](http://www.jinkosolar.com) on the date the Module is manufactured. The Warranties shall not apply to any Module for which the labels thereon indicating type or serial number have been altered, removed or made illegible. The Warranties shall not apply to any Module for which full and final payment has not been received by Jinko.

8. NOTICE. Any notice required or permitted under this Limited Warranty shall be in writing and deemed to be properly given by the sender and received by the addressee. Mailed notices and facsimile notices shall be addressed to the Jinko office located closest to the place of original installation, as identified at

<https://www.jinkosolar.com/en/site/global>.

Notices by e-mail should be sent to [cs@jinkosolar.com](mailto:cs@jinkosolar.com). Customer shall promptly provide contact information upon request. For the avoidance of doubt, e-mail alone shall not constitute valid notice pursuant to this Section 8.

9. LIMITS OF LIABILITY. **NOTWITHSTANDING ANYTHING TO THE CONTRARY IN THIS LIMITED WARRANTY, EXCEPT AS EXPRESSLY PROVIDED HEREIN, JINKO MAKES NO WARRANTIES, GUARANTEES OR CONDITIONS, EXPRESS OR IMPLIED, ARISING FROM OR RELATING TO THE MODULES AND JINKO DISCLAIMS ANY WARRANTY OR GUARANTEE IMPLIED BY LAW, INCLUDING IMPLIED WARRANTIES OF PERFORMANCE, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND IMPLIED WARRANTIES OF CUSTOM OR USAGE, ARISING FROM OR RELATING TO THE MODULES. THE REMEDIES FOR BREACH OF THIS WARRANTY ARE CUSTOMER'S SOLE AND EXCLUSIVE REMEDIES ARISING FROM OR RELATING TO ANY BREACH OF THE WARRANTIES. IN NO EVENT SHALL JINKO BE RESPONSIBLE PURSUANT TO THIS WARRANTY FOR ANY PERFORMANCE ANALYSIS, INSPECTION, DIAGNOSIS, REMOVAL, CUSTOMS, IMPORT DUTIES, EXPORT DUTIES, TAXES, REINSTALLATION COSTS, SPECIAL, INDIRECT, INCIDENTAL, PUNITIVE, EXEMPLARY OR CONSEQUENTIAL DAMAGES OF ANY NATURE WHATSOEVER, INCLUDING LOSSES OR DAMAGES CAUSED BY REASON OF LOSS OF USE, LOSS OF PROFITS OR REVENUE, INTEREST CHARGES (EXCEPT AS EXPRESSLY PROVIDED HEREIN), LOSS OF BONDING CAPACITY, COST OF CAPITAL OR CLAIMS OF CUSTOMER DAMAGES, WHETHER LIABILITY ARISES AS A RESULT OF BREACH OF CONTRACT, TORT LIABILITY (INCLUDING NEGLIGENCE), STRICT LIABILITY, BY OPERATION OF LAW OR IN ANY OTHER MANNER. EXCEPT AS SET OUT IN THIS LIMITED WARRANTY,**



## LIMITED WARRANTY

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**JINKO SHALL HAVE NO RESPONSIBILITY OR LIABILITY WHATSOEVER FOR DAMAGE OR INJURY TO PERSONS OR PROPERTY, OR FOR OTHER LOSS OR INJURY RESULTING FROM ANY CAUSE WHATSOEVER ARISING OUT OF OR RELATED TO THIS LIMITED WARRANTY.**

10. ASSIGNMENT. Notwithstanding anything to the contrary herein, this Limited Warranty is for the sole and exclusive benefit of Customer and there are no third party beneficiaries hereof; provided, however, subject to written notice to Jinko and Jinko's receipt of full and final payment for the Modules, this entire Limited Warranty may be assigned in whole but not in part to any person or entity. Any permitted assignee of this Limited Warranty shall execute such agreements as may reasonably be requested by Jinko to confirm the applicability of any term hereof as a condition to assignment.

11. LAW AND FORUM. Any dispute related to or arising out of this Limited Warranty, including without limitation any question regarding its existence, validity, breach, or termination, shall be referred to and finally resolved pursuant to the governing law clauses and dispute resolution procedures under the purchase agreement between the original purchaser and Jinko. As a condition to any obligation of Jinko hereunder, Jinko may require any Customer seeking to enforce this Limited Warranty to execute such additional agreements as may reasonably be required to enforce the terms of this Section 11.

12. MERGER CLAUSE. This Limited Warranty sets forth the entire agreement and understanding of the Parties relating to the subject matter herein and supersedes all prior or contemporaneous discussions, understandings and agreements, whether oral or written, between them relating to the subject matter hereof.

13. SEVERABILITY. If one or more provisions of this Limited Warranty are held to be unenforceable under applicable law, the Parties agree to renegotiate such provision in good faith. In the event that the parties cannot reach a mutually agreeable and enforceable replacement for such provision, then (a) such provision shall be excluded from this Limited Warranty, (b) the balance of this Limited Warranty shall be interpreted as if such provision were so excluded and (c) the balance of this Limited Warranty shall be enforceable in accordance with its terms.

14. MISCELLANEOUS. The terms of this Limited Warranty are conditioned upon their incorporation in a contractual agreement between Jinko and Customer, and when incorporated to such contractual agreement, this Limited Warranty shall be subject to the terms thereof and subject to modification when incorporated therein. Jinko reserves the right to modify or update this Limited Warranty at any time, with or without notice.

**[END OF LIMITED WARRANTY]**



## CE DECLARATION OF CONFORMITY



Business name of the manufacturer:  
Full address of the manufacture:

**Jinko Solar Co. Ltd.**

No.1 Jinko Road, Shangrao Economic Development Zone,  
Jiangxi Province, China

### To whom it may concern

WE, Jinko Solar Co. Ltd., hereby declare under our sole responsibility that the product(s):

**DESCRIPTION:** Photovoltaic solar module

**BRAND:** JinkoSolar

**MODULE TYPE (S):**

JKMxxxN-78HL4; JKMxxxN-78HL4-V  
(xxx=570-625, in steps of 5, 156 cells)

JKMxxxN-72HL4; JKMxxxN-72HL4-V  
(xxx=560-575, in steps of 5, 144 cells)

JKMxxxN-60HL4; JKMxxxN-60HL4-V  
(xxx=465-480, in steps of 5, 120 cells)

JKMxxxN-54HL4 JKMxxxN-54HL4 -V  
(xxx=420-430, in steps of 5, 108 cells)

JKMxxxN-54HL4-B  
(xxx=405-420, in steps of 5, 108 cells)



晶科能源  
www.jinkosolar.com

中国上海浦东新区杨高南路  
428号2号楼16层  
200127

16F, Building No. 2,  
428# South Yang Gao Road,  
Shanghai 200127, China

电话: (86) 21-6061 1799  
传真: (86) 21-6876 1115

Tel: (86) 21-6061 1799  
Fax: (86) 21-6876 1115

JKMxxxN-78HL4-BDV  
(xxx=570-625, in steps of 5, 156 cells)

JKMxxxN-72HL4-BDV,  
(xxx=555-575, in steps of 5, 144 cells)

**MANUFACTURER:** Jinko Solar Co. Ltd.

Are in conformity with the following standards:

**THE LOW VOLTAGE EUROPEAN DIRECTIVE 2014/35/EU.**

**THE ELECTROMANGNETIC COMPATIBILITY EUROPEAN DIRECTIVE 2014/30/EU.**

IEC 61215-1:2016

IEC 61215-1-1:2016

IEC 61215-2:2016

IEC 61730-1:2016

IEC 61730-2:2016

EN 61215-1:2016

EN 61215-2:2017

EN 61215-1-1:2016

EN IEC 61730-1:2018

EN IEC 61730-2:2018

**CE MARK OF DATE: 2022**

The institute TÜV Rheinland LGA Products GmbH, Tillystraße 2, 90341 Nürnberg has certified the product(s). The technical documentation and full compliance with the standards listed above proves the conformity of the product with the requirements of the above-mentioned EC Council directive.

This document has been issued in English. In case of translation discrepancy of this document, the English version shall prevail.


Date of issue:

June 13<sup>th</sup>, 2022

Place of issue

China

Title - Name -Signature

  
YF Wang Zhihua





晶科能源

[www.jinkosolar.com](http://www.jinkosolar.com)

中国上海浦东新区杨高南路  
428号2号楼16层  
200127

16F, Building No. 2,  
428# South Yang Gao Road,  
Shanghai 200127, China

电话: (86) 21-6061 1799  
传真: (86) 21-6876 1115

Tel: (86) 21-6061 1799  
Fax: (86) 21-6876 1115

# Zertifikat

# Certificate



Zertifikat Nr. *Certificate No.*  
PV 50416412

Blatt *Sheet*  
0058

Ihr Zeichen *Client Reference*  
L.L.F

Unser Zeichen *Our Reference*  
01-VZJ-50173415 049

Ausstellungsdatum *Date of Issue*  
11.11.2021 (day/mo/yr)

Genehmigungsinhaber *License Holder*  
Jinko Solar Co., Ltd.  
No. 1 Jinko Road  
Shangrao Economic Development Zone  
334100 Jiangxi  
P.R. China

Fertigungsstätte *Manufacturing Plant*  
Refer to latest revision  
of the annex list of factories

## Prüfzeichen *Test Mark*



Geprüft nach *Tested acc. to*  
IEC 61215-1:2016  
IEC 61215-1-1:2016  
IEC 61215-2:2016  
IEC 61730-1:2016  
IEC 61730-2:2016  
EN 61215-1:2016  
EN 61215-2:2017  
EN 61215-1-1:2016  
EN IEC 61730-1:2018  
EN IEC 61730-2:2018

Zertifiziertes Produkt (Geräteidentifikation)  
*Certified Product (Product Identification)*

Lizenzentgelte - Einheit  
*License Fee - Unit*

## PV Module

same as page 1 - 57

In addition:

Type Designations:

Max. system voltage (Up to 1500VDC)

With 1/2 cut of mono c-Si cells:

JKMxxxN-78HL4-V (xxx=570-620, in steps of 5, 156 cells)

JKMxxxN-72HL4-V (xxx=560-570, in steps of 5, 144 cells)

JKMxxxN-66HL4-V (xxx=510-520, in steps of 5, 132 cells)

JKMxxxN-60HL4-V (xxx=465-475, in steps of 5, 120 cells)

JKMxxxN-54HL4-V (xxx=420-425, in steps of 5, 108 cells)

## Remarks:

Fire Rating: Class C according to UL 790

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde.  
Das Produkt entspricht den o.g. Anforderungen, die Herstellung wird überwacht.  
This certificate is based on our Testing and Certification Regulation. The product  
fulfills above mentioned requirements, the production is subject to surveillance.

TÜV Rheinland LGA Products GmbH, Tillystraße 2, 90431 Nürnberg

<http://www.tuv.com/safety> E-mail: [markcheck@tuv.com](mailto:markcheck@tuv.com)

Fax: +49 221 806-3935

Zertifizierungsstelle



Dipl.-Ing. (FH) Tim Kirschner

Jinko Solar Co., Ltd.  
Liu Lifang

Date : 11.11.2021  
Our ref. : VZJ 01  
Your ref.: L.L.F

No. 1 Jinko Road  
Shangrao Economic Development Zone  
334100 Jiangxi  
P.R. China

**Ref : PV Photovoltaic Modules**

Type of Equipment : PV Module  
Model Designation : See Certificate  
Certificate No. : PV 50416412 0058  
Report No. : 50173415 049

Dear Liu Lifang,

Thank you very much for your interest in our services.


Please find enclosed your certification documents.

We appreciate your support and would like to offer our assistance in the approval of your future products through our extensive range of technical services.

Please feel free to contact us whatever your requirements may be.

With kind regards,

Certification Body

  
Dipl.-Ing. (FH) Tim Kirschner

cc: Jinko Solar Co., Ltd.

Enclosure

证书的详细资料请登陆[www.certipedia.com](http://www.certipedia.com)查阅,或拨打我司客服热线800 999 3668 / 400 883 1300咨询