

# Eagle PERC 60M 300-320 Watt

MONO CRYSTALLINE MODULE

Positive power tolerance of 0~+3%

ISO9001:2008、ISO14001:2004、OHSAS18001 certified factory. IEC61215、IEC61730 certified products.









#### 5 Busbar Solar Cell:

5 busbar cell design improves module efficiency and offers better aesthetic appearance for rooftop in stallation.



#### High Efficiency:

Higher module conversion efficiency(up to 19.55%) benefit from Passivated Emmiter Rear Contact (PERC) technology.



#### PID RESISTANT:

Excellent Anti-PID perform ance guarantee limited power degradation for mass production.



#### Low-light Performance:

Advanced glass and cell surface textured design ensure excellent performance in low-light tenvironment.



#### Severe Weather Resilience:

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



#### Durability against extreme environmental conditions:

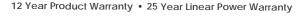
High salt mist and ammonia resistance certified by TUV NORD.

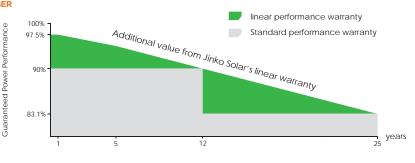
### LINEAR PERFORMANCE WARRANTY



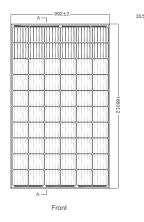


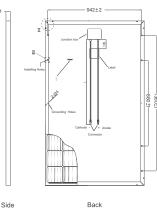


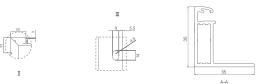




#### **Engineering Drawings**







#### **Packaging Configuration**

(Two pallets =One stack)

31pcs/pallet, 62pcs/stack, 868pcs/40'HQ Container

### **SPECIFICATIONS**

#### Module Type JKM300M-60 JKM305M-60 JKM310M-60 JKM315M-60 JKM320M-60 NOCT STC NOCT STC NOCT STC NOCT STC NOCT STC Maximum Power (Pmax) 300Wp 224Wp 305Wp 227Wp 310Wp 231Wp 315Wp 235Wp 320Wp 239Wp Maximum Power Voltage (Vmp) 32.6V 30.6V 32.8V 30.8V 33.0V 31.0V 33.2V 31.2V 33.4V 31.4V Maximum Power Current (Imp) 9.49A 9.59A 9.21A 7.32A 9.30A 7.40A 9.40A 7.49A 7.56A 7.62A Open-circuit Voltage (Voc) 40.1V 37.0V 40.3V 37.2V 40.5V 37.4V 40.7V 37.6V 40.9V 37.8V Short-circuit Current (Isc) 9.72A 8.01A 9.83A 8.12A 9.92A 8.20A 10.04A 8.33A 10.15A 8.44A Module Efficiency STC (%) 18.33% 18.63% 18.94% 19.24% 19.55% Operating Temperature(°C) -40°C~+85°C Maximum system voltage 1000VDC (IEC) Maximum series fuse rating 20A Power tolerance 0~+3% Temperature coefficients of Pmax -0.37%/°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/m<sup>2</sup>





NOCT: 🔆 Irradiance 800W/m² 🕼 Ambient Temperature 20°C

AM=1.5

Wind Speed 1m/s

\* Power measurement tolerance: ± 3%



Voltage (V)

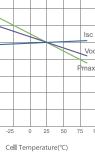
Current-Voltage & Power-Voltage

Curves (310W)

12

10

4



**Temperature Dependence** 

of Isc,Voc,Pmax

180 16

120

80

20

202 100

zed Isc/ 200 P

Jormaliz 60 40

Mechanical Characteristics	
Cell Type	Mono-crystalline PERC 156×156mm (6 inch)
No.of cells	60 (6×10)
Dimensions	1650×992×35mm (65.00×39.05×1.37 inch)
Weight	19.0 kg (41.9 lbs)
Front Glass	3.2mm, High Transmission, Low Iron, Tempered Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP67 Rated
Output Cables	TÜV 1×4.0mm <sup>2</sup> , Length: 900mm or Customized Length

#### **Electrical Performance & Temperature Dependence**

350 (% 14

300

250

150 ver 150 (V)

50



#### **REV. 070119-LINEAR FOR AUSTRALIA**

JINKO SOLAR AUSTRALIA HOLDINGS CO. PTY LTD. ("Jinko") generally provides the Warranties set forth herein to the original purchaser and its permitted successors and assigns ("Customer") with respect to all solar photovoltaic modules sold by Jinko under purchase agreements signed on or after July 1, 2019 ("Modules"), 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 forty-four (144) months thereafter, Jinko warrants that the Modules and their respective DC connectors 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.

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"):

#### (A) Poly-crystalline Modules:

only applicable to the following Module types: JKMxxxPP-72, JKMxxxPP-72-J, JKMSxxxPP-72, JKMSxxxPP-72-J, JKMxxxPP-72H, JKMxxxPP-72B, JKMSxxxPP-72B, JKMxxxPP-72HB, JKMSxxxPP-72-MX. JKMSxxxPP-72B-MX, JKMxxxPP-60, JKMxxxPP-60-J, JKMSxxxPP-60, JKMSxxxPP-60-J, JKMxxxPP-60H, JKMxxxPP-60H-J, JKMxxxPP-60B, JKMSxxxPP-60B, JKMxxxPP-60HB, JKMSxxxPP-60-JKMSxxxPP-60B-MX, JKMxxxPP-72-V, MX, JKMxxxPP-72-V-J, JKMSxxxPP-72-V, JKMSxxxPP-JKMxxxPP-72H-V, JKMxxxPP-72HB-V, 72-V-J, JKMSxxxPP-72-MX-V, JKMSxxxPP-72B-MX-V, JKMxxxPP-60-V, JKMxxxPP-60-V-J, JKMSxxxPP-60-JKMSxxxPP-60-V-J, JKMxxxPP-60H-V, V, JKMxxxPP-60HB-V, JKMSxxxPP-60-MX-V, JKMSxxxPP-60B-MX-V

(i) 2.5% in the first year; (ii) 0.7% each year thereafter until that date which is twenty-five (25) years following the Warranty Start Date, at which time the Actual Power Output shall be not less than 80.7% of the Nominal Power Output;

**(B) Mono-crystalline** Modules, only applicable to the following Module types:

JKMxxxM-72, JKMxxxM-72-J, JKMxxxM-72L, JKMSxxxM-72, JKMSxxxM-72-J, JKMxxxM-72H, JKMxxxM-72HL, JKMxxxM-72B, JKMSxxxM-72B, JKMxxxM-72HB, JKMxxxM-72BL, JKMxxxM-72HBL, JKMSxxxM-72-MX, JKMSxxxM-72L-MX, JKMSxxxM-72B-MX. JKMSxxxM-72BL-MX, JKMxxxM-60, JKMxxxM-60-J, JKMxxxM-60L, JKMSxxxM-60, JKMSxxxM-60-J, JKMxxxM-60H, JKMxxxM-60HL, JKMxxxM-60B, JKMxxxM-60BL, JKMSxxxM-60B, JKMxxxM-60HB, JKMxxxM-60BL, JKMxxxM-60HBL, JKMSxxxM-60-MX, JKMSxxxM-60L-MX, JKMSxxxM-60B-MX, JKMSxxxM-60BL-MX, JKMxxxM-72-V, JKMxxxM-72-V-J, JKMSxxxM-72-V, JKMSxxxM-72-V-J, JKMxxxM-72L-V, JKMxxxM-72H-V, JKMxxxM-72HL-V, JKMxxxM-72HB-V, JKMxxxM-72BL-V, JKMxxxM-72HBL-V, JKMSxxxM-72-MX-V, JKMSxxxM-72B-MX-V, JKMxxxM-60-V, JKMxxxM-60-V-J, JKMSxxxM-60-V, JKMSxxxM-60-V-J, JKMxxxM-60L-V, JKMxxxM-60H-V, JKMxxxM-60HL-V, JKMxxxM-60HB-V, JKMxxxM-60BL-V, JKMxxxM-60HBL-V, JKMSxxxM-60-MX-V, JKMSxxxM-60B-MX-V



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(i) 2.5% in the first year; (ii) 0.6% each year thereafter until that date which is twenty-five (25) years following the Warranty Start Date, at which time the Actual Power Output shall be not less than 83.1% of the Nominal Power Output;

**(C) DUAL Glass SERIES**: only applicable to the following Modules types:

### (1) Dual Glass Poly SERIES:

JKMxxxPP-72-DV, JKMSxxxPP-72-DV, JKMxxxPP-72-DV-J, JKMSxxxPP-72-DV-J, JKMxxxPP-72H-DV, JKMxxxPP-60-DV, JKMSxxxPP-60-DV, JKMxxxPP-60-DV-J, JKMSxxxPP-60-DV-J, JKMxxxPP-60H-DV (i) 2.5 % in the first year; (ii) 0.5 % 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 83.0 % of the Nominal Power Output;

### (2) Dual Glass Mono SERIES:

JKMxxxM-72-DV, JKMSxxxM-72-DV, JKMxxxM-72-DV-J, JKMSxxxM-72-DV-J, JKMxxxM-72H-DV, JKMxxxM-60-DV, JKMSxxxM-60-DV, JKMxxxM-60-DV-J, JKMSxxxM-60-DV-J, JKMxxxM-60H-DV (i) 2.5% in the first year; (ii) 0.5% 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 83 % of the Nominal Power Output;

(D) BIFACIAL SERIES: for P-Type Bifacial Modules:

(1) DUAL GLASS BIFACIAL SERIES, only applicable to the following Modules types:

JKMxxxM-60-BDVP, JKMxxxM-60H-BDVP, JKMxxxM-72-BDVP, JKMxxxM-72H-BDVP JKMxxxM-60HL-BDVP, JKMxxxM-72HL-BDVP

(i) 2.5% in the first year; (ii) 0.5% 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 83% of the Nominal Power Output.

#### (2) TRANSPARENT BACKSHEET BIFACIAL SERIES:

only applicable to the following Modules types: JKMxxxM-60H-TV, JKMxxxM-72H-TV, JKMxxxM-60HL-TV, JKMxxxM-72HL-TV

(i) 2.5% in the first year; (ii) 0.55% 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 81.55% of the Nominal Power Output.

Notwithstanding anything to the contrary herein, the Limited Power Warranty for BIFACIAL SERIES Modules shall apply only to the front-side power output of such Modules.

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>1</sub>)" means the power output of the Module, expressed in Watts, at Watt peak that a Module generates (or, for BIFACIAL SERIES, that the front-side of a 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:

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

5. CLAIMS. Customer shall bear the burden of establishing a breach of the Warranties hereunder. If Customer believes there has been



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a breach of the Limited Product Warranty or Limited Power Warrantv (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 SUD 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 2010 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.

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



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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 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 Warranty shall not apply to Modules 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 shall be addressed to the following address: JINKO SOLAR AUSTRALIA HOLDINGS CO. PTY LTD. ATTN: Customer Care Department Level 2, 152 Marsden Street, Parramatta NSW 2150.

Notices by e-mail should be sent to <u>cs@jinkosolar.com</u>. 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 то ANY BREACH OF THE WARRANTIES. IN NO EVENT SHALL JINKO BE **RESPONSIBLE PURSUANT TO THIS WARRANTY** FOR PERFORMANCE ANY 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, JINKO SHALL HAVE NO **RESPONSIBILITY OR LIABILITY WHATSOEVER** FOR DAMAGE OR INJURY TO PERSONS OR PROPERTY, OR FOR OTHER LOSS OR INJURY



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**RESULTING FROM ANY CAUSE WHATSOEVER ARISING OUT OF OR RELATED TO THIS LIMITED WARRANTY.** Notwithstanding the above, the following statement applies to Customers, who matches the definition of "Consumers" under the **Australian Consumer Law**: "Our goods come with guaranties that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure."

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]