



中科富能高强度轻质组件

有限质保书

Solar Pega 系列专用

轻, 只是起点; 强, 才是底色!

Powered by TSR-Armor™ Technology

目录

Table of Contents

1、	产品质量保证 Quality Warranty	3
2、	线性功率保证 Linear Performance Warranty	4
3、	有限质保生效的责任免除与限制 Preconditions	5
4、	质保转让 Warranty Transfer	8
5、	质保免责声明与生效日期 Warranty Disclaimer and Effective Date	8
6、	保修服务功能 Warranty Service Features	9
7、	适用法律和管辖权 Applicable Law and Jurisdiction	10
8、	适用组件型号 Apply to Module Type	11
9、	其他 Else	12
10、	联系方式 Contact Information	12

1、产品质量保证 QualityWarranty

1.1 山东中科富能光电科技有限公司将向买方提供经过相关机构 (如TUV、CQC、CE) 认证过的光伏组件产品(买方同意的有特殊要求的产品除外); 同时, 产品外观符合买方与山东中科富能光电科技有限公司约定的外观标准。

The ZKFN Solar agrees to provide the buyer with products that are certified by relevant institutions, such as TUV, CQC, CE (except for products specially requested by the buyer). Additionally, the appearance of the products must be consistent with the agreed-upon standards of appearance as between the buyer and ZKFN Solar.

1.2 中科富能保证其所生产的光伏组件 (包括直流连接头和电缆) 在正常使用、安装条件下, 不会出现材料和工艺原因导致的不符合 IEC61215、IEC61730、UL1703、KS C 8561 标准中定义的严重外观缺陷及功率异常的外观缺陷。从产品交付至直接购买客户之日起或者组件生产6个月期限届满之日 (以两者中较早的日期为准(以下简称“质保起始日”) 15年内(以下简称“产品有限质保期”)出现材料和工艺不符合 IEC61215、IEC61730、UL1703、KS C 8561标准中规定的严重外观缺陷及功率异常的外观缺陷, 中科富能将根据具体情形, 与客户协商决定选择修理、更换, 或按组件损坏程度赔偿客户。上述三种补偿均为唯一补偿办法, 不可与其他补偿方式同时享受, 且不能超过本质保书规定的15年的期间。以下组件安装场景下的产品质保期为3年: 组件在非静止安装场景下运用, 如长期振动、颠簸、折叠, 搭扣式固定、搬运等情况。组件须安装在完全无阴影遮挡的环境下, 如果因阴影遮挡造成产品异常, 卖方不提供质保。特殊定制组件质保年限依据双方约定为准。

The ZKFN Solar warrants that its photovoltaic solar modules, including factory-assembled DC connectors and cables, are free from serious visual defects in materials and workmanship which defined in IEC61215、IEC61730、UL1703、KS C 8561 or that cause abnormal power output under normal application and installation. If any of these visual defects occur within a period of 15 (fifteen) years (the "Limited Warranty Period"), commencing on the earlier of the delivery date to the direct Customer or six (6) calendar months after the Modules dispatch date from the ZKFN Solar factory as indicated by the Modules serial numbers (hereinafter referred to as the "Warranty Start Date"), the ZKFN Solar will consult with the customer to determine whether to repair or replace the product, or refund the purchase price paid by the customer. The repair or replacement or refund remedy, at the option of support, shall be the sole and exclusive remedy provided under the "Limited Product Warranty" and shall not extend beyond the 15 (fifteen) years' period set forth herein. For PV modules used in non-static installation

scenarios, such as long-term vibration, turbulence, folding, buckle type fixation, handling and other conditions, the warranty period is 3 (three) years. PV modules must be installed in an environment completely free from shadow obstruction. If any product malfunction occurs due to shadow obstruction, the seller will not provide warranty service. The warranty period for special customized components shall be subject to mutual agreement.

2、 线性功率保证 Linear Performance Warranty

2.1 交货组件功率的测量应在标准测试条件下进行，即光强 1000 W/m^2 ，温度 25°C ，大气质量AM1.5。

The power of a product shall be tested under standard test conditions which are: light intensity 1000 W/m^2 , temperature 25°C , and AM 1.5.

2.2 买方必须保证对产品合适的搬运、系统设计、安装、使用、环境及维护。

The buyer must ensure to properly handle, transport, design the system of, install, use, and keep appropriate environment and maintenance for the products.

2.3 组件功率 Power of Module:

单晶硅TOPCON型组件：自质保起始日第一年，输出功率不小于该产品说明书所述最低输出功率的99%；第二年，输出功率不小于该产品说明书所述最低输出功率的98.6%；以后平均每年输出功率衰减不大于上一年该产品输出功率的0.4%；30年后产品输出功率不小于其说明书所述最低输出功率的87.4%。非静止安装场景下运用，输出功率保证3年不小于90.2%，特殊定制组件功率质保年限依据双方约定为准。

Mono-crystalline silicon TOPCON module: The first year from the start date of the warranty, the output power shall not be less than 99% of the product's minimum output power as set forth in the specifications. Within the second year, the output power shall not be less than 98.6% of the product's minimum output power as set forth in the specifications. Afterwards, the loss of average annual output power shall not exceed 0.4% of the product's output power of the immediately preceding year. After 30 (thirty) years, the product's output power shall not be less than 87.4% of its minimum output power as set forth in the specifications. The output power guarantee for

non-static installation scenarios is 3 years output power shall not less than 90.2%, and the power guarantee period for special customized components is subject to mutual agreement.

2.4 如果在条款规定的时间内，组件的输出功率未达到以上约定的输出功率，山东中科富能光电科技有限公司将与买方一同分析原因。如山东中科富能光电科技有限公司确认属于己方责任，山东中科富能光电科技有限公司将提供在商业合理范围内最好的补偿方案，如提供额外的组件，修复或者更换组件，依据本质量保证书提供补偿金，延续原始提供的组件的质保期限等。如果当时提供的产品已经停止生产，山东中科富能光电科技有限公司将提供正在生产的标准产品作为补偿。

If the output power of the module does not meet the above levels within the time specified, the ZKFN Solar and the buyer will jointly analyze the causes. If ZKFN Solar determines that the liability is attributable to itself, then ZKFN Solar will provide the buyer with best remedial choices commercially reasonable, such as providing additional module, repairing or replacing the module, providing the buyer with compensation in accordance with this limited warranty, extending the warranty period for the original module, etc. If the ZKFN Solar has ceased to manufacture the module in problem, the ZKFN Solar will provide the standard products it is manufacturing as remedy.

3、有限质保生效的责任免除与限制 **Preconditions**

3.01 人为因素（错误使用、改装组件或错误处理）造成的非产品本身质量原因导致的损失不在质保范围内，光伏电站建设完成后建议购买光伏电站财产险。

Caused by the quality of non-product itself (incorrect use, modification of the modules or incorrect handling), are not within the scope of the warranty , After the construction of the photovoltaic power station is completed, it is recommended to purchase the property insurance of the photovoltaic power station.

3.02 设备因安装或使用过程未严格遵照《安装作业指导书》操作所引发的故障，不在保修范围内。

Failures caused by installation or operation not strictly performed in accordance with the Installation Work Instructions are not covered under warranty.

3.03 对系统错误的配置不在保修范围内，例如安装相互不兼容的组件，以及不适当的系统规划、设计，特别是不兼容的逆变器。

Faulty system configuration, e.g. the installation of mutually incompatible modules with each other and inappropriate systems planning, design, especially incompatible inverters.

3.04 对组件不正确或不充分的维护和保养不在保修范围内。

Incorrect or insufficient maintenance and servicing.

3.05 用于不符合产品信息(如每个适用组件数据表中所述)的目的, 并且不符合安装和操作说明不在保修范围内。

Use for purposes not in accordance with the product information (as stated in each applicable module data sheet) and failure to comply with the installation and operating instructions.

3.06 因环境原因造成的组件损坏不在保修范围内, 如任何类型的污染、火灾、爆炸、烟雾或炭化。

Damage due to environmental reasons such as pollution of any kind, fire, explosion, smoke or charring.

3.07 自然力造成的组件损坏不在保修范围内, 特别是闪电、冰雹、霜冻、雪、风暴等。或故意损坏、故意破坏、暴力行为等造成的损害。

Damage caused by natural forces, especially lightning, hail, frost, snow, storms etc. or damage caused by deliberate sabotage, vandalism, acts of violence, etc. .

3.08 电压波动、峰值功率、过载、电源故障等因素对安装组件光伏系统造成的损坏不在保修范围。

Damage to the photovoltaic system on which the modules are installed or caused by factors such as voltage fluctuations, peak power, overloads, power failure, etc.

3.09 组件交付后出现的划痕、污渍、机械磨损、生锈、发霉、退化、变色和其他变化, 但并未导致产品机械稳定性受损或性能下降超出性能保证范围的情况, 此类情况不在保修范围内。

Scratches, stains, mechanical wear, rust, moldy, degradation, discoloration and other changes occurring after delivery of the modules but not resulting in any impairment of the mechanical stability of the product or any reduction in performance beyond that specified in the performance warranty, this type of situation is not covered under warranty.

3.10 未经中科富能书面同意，修改其组件或将其用于涉及其他产品的应用则组件不在保修范围内。

Where ZKFN Solar modules are modified or used in applications involving other products without written consent from ZKFN Solar.

3.11 序列号或产品标识已被移除、更改、擦除或变得无法辨认，或因超出中科富能控制范围的任何其他原因而无法清晰识别，因此无法清晰识别组件不在保修范围内。

Where the serial number or product identification has been removed, altered, erased or rendered unrecognizable or is no longer clearly identifiable for any other reason beyond ZKFN Solar's control and it is therefore not possible to clearly identify the modules.

3.12 本保修不适用于移动载体(如机动车辆或船舶)上使用的组件。这同样适用于在使用条件超过相关产品信息中所述规格的组件。

This warranty does not apply to modules used on mobile carriers such as motor vehicles or ships. The same applies to the use of the modules in large quantities of snow where the conditions of use exceed the stated specifications in the relevant product information.

3.13 本质保书仅包含退赔故障组件的出厂成本费用，不包含相关组件的运输费、装卸费或由此产生的其他费用。

This warranty only covers the factory cost of replacing or refunding faulty components and does not include transportation fees, handling charges, or any other related expenses incurred.

3.14 无权要求赔偿拆卸、安装或更换、收入损失或间接损坏的费用。

There is no entitlement to compensation for reimbursement of the costs of dismantling installation or replacement, loss of earnings or indirect damage.

4、质保转让 Warranty Transfer

4.1 未经中科富能书面许可，组件从中国或原目的地州(即欧洲、亚洲、澳大利亚、北美、非洲或南美)转出，本“光伏组件标准质保”即宣告无效。谨此告知所有直接或间接客户此种可能导致质保不予适用的情况。

This "Limited Warranty for PV Modules" will become null and void if the module is transferred from China or the original continent of destination (e.g., Europe, Asia, Australia, North America, Africa or South America), without written permission from ZKFN Solar. All customers, direct and indirect, are hereby notified of such potential nullification.

4.2 本质保书对于已安装使用的组件，可以从最终客户转移给另外的用户，客户必须保留原始的安装信息，同时要求组件为首次安装使用。

This warranty is transferrable by an END-CUSTOMER to the purchaser of an already installed PV-Module insofar as the PV-Module remains at its original place of installation.

5、质保免责声明与生效日期 Warranty Disclaimer and Effective Date

5.1 除上述明确列出的内容外，山东中科富能光电科技有限公司和买方对产品或其他事项均未做出任何口头或书面、明示或暗示的陈述、保证或担保。该等被排除的暗示性的保证包括但不限于：（1）适合于某一特别目的的保证；（2）不侵权的保证。

Except as expressly set forth above, the parties make no representations, warranties, or guarantees, either express or implied, oral or written, with respect to the product or otherwise, including without limitation any implied warranty (1) of fitness for particular purpose, (2) non-infringement.

5.2 本《有限质保书》自2026年【5】月【11】日起生效(“生效日期”)，适用于生效日期以后首次售出的组件产品(销售日期以中科富能及其售出组件产品的关联公司签署的，相关组件产品的供货合同显示的签约日期为准)。生效日期以前售出的组件产品仍然适用其售出时适用的《有限质保书》。本《有限质保书》在所适用的组件产品相应的产品有限质保期和峰值功率质保期内保持有效。

This Limited Warranty takes effect on [11th] [May,] 2026 (hereinafter referred to as "Effective Date") and applies to Modules first sold after the Effective Date (the date of sale shall be the date indicated in the contracts for the supply of

the relevant Modules signed by ZKFN Solar and its affiliates that sold the Modules). Modules sold before the Effective Date is still subject to the Limited Warranty applicable at the time of sale. This version of the Limited Warranty shall remain in effect for the duration of the Limited Product Warranty Period and Limited Peak Power Warranty Period for the applicable Modules covered.

6、保修服务功能 **Warranty Service Features**

6.1 在所有情况下，中科富能将决定如何解决保修索赔。中科富能可为此指定第三方服务合作伙伴。

In all cases, ZKFN Solar will decide how warranty claims will be settled. ZKFN Solar may assign a third-party service partner to this purpose.

6.2 中科富能将承担保修索赔中的技术检查和运输费用。如果发现不存在保修索赔，这些费用将由索赔人承担。

ZKFN Solar will cover the costs of a technical inspection and transport in a warranty claim. If no warranty claim is found to exist, these costs will be charged to the claimant.

6.3 中科富能保留决定是否将缺陷产品退还给中科富能的权利，并就此向客户提供适当的指示。

ZKFN Solar reserves the right to decide whether defective product shall be returned to ZKFN Solar and provide the Customer with appropriate instructions in this regard.

6.4 在检查完成之前，在返回过程中发送给中科富能的组件仍然是客户的财产。如果在保修期内进行更换，这些组件的所有权将转让给中科富能。

Modules sent to ZKFN Solar during the return process remain the property of the customer until the inspection has been completed, if a replacement takes place during the warranty period, title of ownership of these modules will be transferred to ZKFN Solar.

6.5 中科富能特此保证用于故障排除的任何更换部件都具有相同或更高的品质，并且在保修期的剩余时间内，这些更换部件也将包含在产品保修范围内。

ZKFN Solar hereby guarantees identical or better quality of any replacement part for troubleshooting purposes and that these will also be covered by the product warranty for the remainder of the warranty period.

6.6 如果中科富能根据本保修政策提供更换组件或附加组件，则更换组件或附加组件将是索赔时可用的相同或类似类型的产品系列，只要它们适合预期用途且原始组件类型不再可用。

If ZKFN Solar supplies a replacement or additional module based on this warranty policy, then the replacement or additional module will be of the same or similar type of product range available at the time of the claim, as long as they are suitable for the intended use and the original module type is no longer available.

7、适用法律和管辖权 **Applicable Law and Jurisdiction**

7.1 这些保修条件仅受中国法律管辖。《联合国国际产品销售合同公约》不适用。管辖地为中科富能在中国的住所地主管法院。

These warranty conditions are governed exclusively by Sino law. The UN Convention on Contracts for the International Sale of Products does not apply. The governing jurisdiction shall be the competent court at the domicile of ZKFN Solar within the territory of China.

7.2 本有限质保书不限制法定保修索赔权利。当组件存在重大瑕疵或缺陷的，您可自主选择主张法定保修索赔权利或本有限质保书下的索赔权。

This Limited Warranty shall not restrict statutory warranty claims. Where the modules have material defects or deficiencies, you may freely elect to claim either statutory warranty rights or rights under this Limited Warranty.

8、适用组件型号 Apply to Module Type

ZKFN-G0-322B XXX (XXX=620-640,in steps of 5) ZKFN-G1-322B XXX (XXX=550-580,in steps of 5)

ZKFN-G2-322B XXX (XXX=505-525,in steps of 5) ZKFN-G3-322B XXX (XXX=445-465,in steps of 5)

ZKFN-B3-322F XXX (XXX=460-480,in steps of 5) ZKFN-B4-322D XXX (XXX=560-580,in steps of 5)

ZKFN-G0-222B XXX (XXX=620-640,in steps of 5) ZKFN-G1-222B XXX (XXX=550-580,in steps of 5)

ZKFN-G2-222B XXX (XXX=505-525,in steps of 5) ZKFN-G3-222B XXX (XXX=445-465,in steps of 5)

ZKFN-B3-222F XXX (XXX=460-480,in steps of 5) ZKFN-B4-222D XXX (XXX=560-580,in steps of 5)

ZKFN-G0-122B XXX (XXX=605-625,in steps of 5) ZKFN-G1-122B XXX (XXX=550-570,in steps of 5)

ZKFN-G2-122B XXX (XXX=490-510,in steps of 5) ZKFN-G3-122B XXX (XXX=435-455,in steps of 5)

ZKFN-B3-122F XXX (XXX=455-475,in steps of 5) ZKFN-B4-122D XXX (XXX=550-570,in steps of 5)

ZKFN-G0-320B XXX (XXX=620-640,in steps of 5) ZKFN-G1-320B XXX (XXX=550-580,in steps of 5)

ZKFN-G2-320B XXX (XXX=505-525,in steps of 5) ZKFN-G3-320B XXX (XXX=445-465,in steps of 5)

ZKFN-B3-320F XXX (XXX=460-480,in steps of 5) ZKFN-B4-320D XXX (XXX=560-580,in steps of 5)

ZKFN-G0-220B XXX (XXX=620-640,in steps of 5) ZKFN-G1-220B XXX (XXX=550-580,in steps of 5)

ZKFN-G2-220B XXX (XXX=505-525,in steps of 5) ZKFN-G3-220B XXX (XXX=445-465,in steps of 5)

ZKFN-B3-220F XXX (XXX=460-480,in steps of 5) ZKFN-B4-220D XXX (XXX=560-580,in steps of 5)

ZKFN-G0-120B XXX (XXX=605-625,in steps of 5) ZKFN-G1-120B XXX (XXX=550-570,in steps of 5)

ZKFN-G2-120B XXX (XXX=490-510,in steps of 5) ZKFN-G3-120B XXX (XXX=435-455,in steps of 5)

ZKFN-B3-120F XXX (XXX=455-475,in steps of 5) ZKFN-B4-120D XXX (XXX=550-570,in steps of 5)

9、 其他 [Else](#)

以上内容均以中文翻译为准。

For the contents above, Chinese version shall prevail.

10、 联系方式 [Contact Information](#)

山东中科富能光电科技有限公司

Shandong ZKFN Solar Technology Co., Ltd.

地址：山东省济宁市济宁经济技术开发区绿海汇智能制造产业园新盛霖 1 号厂房

Address: Factory 1 of XinShenglin, LvHaiHui Intelligent Manufacturing Industrial Park,

Jining Economic Development Zone, Jining, Shandong, China

座机 Tel:0537-5129690

客服 CS:400-6768-100

邮箱 Email:services@zkfnsolar.com

邮编 Postal Code:272415

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