

## Additional Warranty Conditions

of Solar Fabrik GmbH, Laufach  
for the following **glass-glass** solar power modules:

- + Mono S4 Innovation Powerline N
- + Mono S4 Halfcut Innovation Powerline
- + Mono S4 Trend Powerline N
- + Mono S4 Halfcut Trend Powerline
- + Mono S5 Installer Series
- + Mono S5 Halfcut Installer Series 315W
- + Mono S5 Triplecut Installer Series

Solar Fabrik GmbH, as manufacturer of solar power modules, hereby assumes a limited warranty in accordance with the below warranty conditions for all above mentioned **glass-glass** solar modules. Accordingly, these warranty conditions do not apply to glass-foil modules and project modules. Furthermore, these warranty conditions do not apply to modules of the "QK2" and "QK3" quality class.

### 1. Performance Warranty

Solar Fabrik GmbH provides the following warranties to the Claimant (as this term is defined in clause 4.1 below) in relation to the performance of the solar power modules manufactured by it:

#### 1.1

Solar Fabrik GmbH warrants that the solar power modules it has delivered will provide at least 90 % of their minimum performance (= nominal power according to the data sheet, minus the sorting limits of the performance according to the data sheet) for a period of twenty (20) years, starting on delivery of the solar power modules to the initial purchaser by Solar Fabrik GmbH:

during the	minimum performance
first (1st) year after delivery	97,0%
second (2nd) year after delivery	96,7%
third (3rd) year after delivery	96,3%
fourth (4th) year after delivery	96,0%
fifth (5th) year after delivery	95,6%
sixth (6th) year after delivery	95,3%
seventh (7th) year after delivery	94,9%
eighth (8th) year after delivery	94,6%
ninth (9th) year after delivery	94,2%
tenth (10th) year after delivery	93,9%
eleventh (11th) year after delivery	93,5%
twelfth (12th) year after delivery	93,2%

thirteenth (13th) year after delivery	92,8%
fourteenth (14th) year after delivery	92,5%
fifteenth (15th) year after delivery	92,1%
sixteenth (16th) year after delivery	91,8%
seventeenth (17th) year after delivery	91,4%
eighteenth (18th) year after delivery	91,1%
nineteenth (19th) year after delivery	90,7%
twentieth (20th) year after delivery	90,4%

## 1.2

Solar Fabrik GmbH furthermore warrants that the solar power modules it has delivered will provide at least 87 % of their minimum performance for a period of thirty (30) years, starting on delivery of the solar power modules to the initial purchaser by Solar Fabrik GmbH:

during the	minimum performance
twenty-first (21st) year after delivery	90,0%
twenty-second (22nd) year after delivery	89,7%
twenty-third (23rd) year after delivery	89,3%
twenty-fourth (24th) year after delivery	89,0%
twenty-fifth (25th) year after delivery	88,6%
twenty-sixth (26th) year after delivery	88,3%
twenty-seventh (27th) year after delivery	87,9%
twenty-eighth (28th) year after delivery	87,6%
twenty-ninth (29th) year after delivery	87,2%
thirtieth (30th) year after delivery	87,0%

## 1.3

The minimum performance of the solar power modules measured under standard testing conditions of 1000 Watt/m<sup>2</sup> and a spectrum of AM 1.5 (= Air Mass), and at a cell temperature of 25° C, taking into account a measuring accuracy of +/- 5 %, serves as the basis for this performance warranty.

## 2. Product Warranty

Solar Fabrik GmbH warrants to the Claimant (as this term is defined in clause 4.1 below) that the solar power modules it has manufactured will be free from material and processing defects that materially affect their functioning for a period of thirty (30) years, starting on delivery of the solar power modules by Solar Fabrik GmbH to the initial purchaser. A defect affecting the functioning does not, for example, exist in the following cases: ordinary wear and tear, any changes in appearance or any changes in the laminate or composite film, etc. as long as the solar power modules can be safely operated. This product warranty does not, however, guarantee any specific performance level; the performance of the modules is only,

separately, and conclusively, guaranteed in accordance with the provisions of the performance guarantee set out in clause 1 above.

### **3. Warranty Obligations of Solar Fabrik GmbH**

#### **3.1**

If the performance of the solar power modules delivered by Solar Fabrik GmbH falls below the respective guaranteed minimum performance thresholds specified in clause 1.1 and 1.2 above during the warranty periods specified therein, or if, during the warranty period specified in clause 2 above, a material and/or processing defect as set out in that clause 2 occurs, Solar Fabrik GmbH will, at its discretion:

- a) Make available replacement solar power modules for the affected modules, such replacement solar power modules to be collected at Solar Fabrik GmbH, or repair the affected solar power modules, or reimburse the purchase price of the affected solar power modules, or
- b) Make available additional solar power modules to compensate the insufficient performance of the affected solar power modules in terms of the performance warranty pursuant to clause 1 above, such additional solar power modules to be collected at Solar Fabrik GmbH, or
- c) Grant a pro rata refund of the current market value of the solar power modules in the event of the performance warranty pursuant to clause 1 above (e. g. if the actual performance yield is 70 % of the minimum performance stated in the data sheet, then, pursuant to clause 1.1 above, 20 % of the current market value of the modules, which do not produce the guaranteed minimum performance, would be refunded; the current market value is calculated with reference to the lower of the purchase price or the market value at the time performance under the guarantee is granted, in each case less depreciations) or, in the event of the product warranty pursuant to clause 2 above, a full refund of the current market value of the solar power modules if their functioning is fully affected, or a pro rata refund of the current market value of the solar power modules if their functioning is in part materially impaired.

If the module type that was originally delivered is no longer manufactured as a standard module, replacement or additional modules, as the case may be, of the respective current standard types will be made available in the case of clauses 3.1 a) and b) above. Any and all further claims in terms of this warranty, including, in particular, claims for damages, are excluded.

#### **3.2**

In particular, the costs of dismantling solar power modules, the transport costs of returning solar power modules, the costs of delivering and installing repaired or replaced solar power modules, and damages claims due to loss of production and consequential damages are not covered by the warranty.

#### **3.3**

Replaced components or solar power modules become the property of Solar Fabrik GmbH.

### **3.4**

Neither the provision of replacement or additional modules, nor the repair, nor the compensation of the pro-rata current market value of affected modules result in the warranty periods stipulated in clauses 1.1, 1.2 and clause 2 above being extended, or commencing to run afresh.

## **4. Assertion of Claims**

### **4.1**

A claim against Solar Fabrik GmbH pursuant to the provisions of clause 3.1 above can be asserted by the initial purchaser in addition to any contractual claims it may have against Solar Fabrik GmbH for defective products. The aforesaid claims pursuant to the provisions of clause 3.1 shall also be capable of being asserted against Solar Fabrik GmbH by possible intermediaries or end-customers not being entitled to any contractual claims for defective products, instead of the initial purchaser. Any person asserting such a claim will hereinafter be referred to as "Claimant".

### **4.2**

Warranty claims can only be asserted by a Claimant if the original delivery note or the original invoice is provided (including information on the delivery date, module type, and serial number). Furthermore, a warranty claim can only be asserted if Solar Fabrik GmbH has been presented with a filled-out complaint form by the complainant. In addition, the Claimant must be designated as the addressee on the original delivery note or original invoice, which documents the delivery of the solar power modules (from Solar Fabrik GmbH or an intermediary) to the Claimant.

### **4.3**

Warranty events shall immediately be notified in writing, but in any event no later than two (2) months after occurrence of a warranty event specified in clause 1 or clause 2 above, and the documents listed in clause 4.2 shall be made available together with such notification. Hidden defects must also be immediately reported, but in any event no later than two (2) months following their discovery. On expiry of these periods, all claims arising from these warranty conditions prescribe.

### **4.4**

Faulty solar power modules delivered without written request by Solar Fabrik GmbH will not be accepted.

### **4.5**

If there exist reasonable doubts concerning the performance of the solar power modules in accordance with clause 1 above, the following course of action must be taken:

#### **4.5.1**

The Claimant must, at his own expense, arrange to have an initial measurement performed on the modules using a radiation sensor/measuring instrument. This radiation sensor or measuring instrument must achieve an accuracy rate of 5 % in the measuring range of 100 - 1000 W/m<sup>2</sup>. The measurement shall be conducted in strings, and there must be a radiation intensity of at least 800 watts per square meter. Furthermore, the cable cross section of the module connecting cable shall be determined and a photograph must be taken of the modules at the time of the measurement. A tolerance of up to 15 % shall be made allowance for in the measurement. The costs of the initial measurement shall not exceed an amount of € 250.00. We recommend that the Claimant should have the measurement conducted by a renowned, independent institute / expert.

#### **4.5.2**

If the initial measurement conducted by the Claimant demonstrates that the minimum performance of the modules does not meet the warranted performance, the Claimant can assert such of the rights stipulated in clauses 3.1 a) to c) against Solar Fabrik GmbH, as the latter may select, provided that the Claimant submits the measurement results, the cable cross section measurement, and the photograph. In the event of a warranty claim, the costs of the initial measurement shall, subject to the terms of clauses 4.5.3 and 4.5.4 below, be reimbursed to the Claimant by Solar Fabrik GmbH.

#### **4.5.3**

If Solar Fabrik GmbH has reasonable doubts concerning the accuracy of the initial measurement, it can, at its own expense, itself inspect the modules in question or have them inspected by an independent institute (second measurement). In order to conduct the second measurement, Solar Fabrik GmbH shall be expressly entitled to dismantle the modules and temporarily transport them to another location. If, during the inspection, Solar Fabrik GmbH determines that a module is defective or the warranted performance is not achieved, it must comply with the provisions of such of clause 3.1 a) to c) above, as it may choose. Furthermore, the costs of the initial measurement and of any possible dismantling and reconstruction of the modules, insofar as same are undertaken for purposes of conducting the second measurement, shall also be borne by Solar Fabrik GmbH.

#### **4.5.4**

If the second measurement conducted by Solar Fabrik GmbH or by an institute it commissioned demonstrates that there is no considerable reduction in performance according to clauses 1.1 and 1.2 above, the Claimant shall be informed accordingly in writing, with the results to be included in such notification. If, however, the Claimant still believes that a reduced performance exists, Solar Fabrik GmbH and the Claimant shall agree on another independent institute or independent expert assessor to carry out another inspection (third measurement); if the parties fail to reach agreement within four weeks, an expert assessor shall be appointed by the IHK Unterfranken (Würzburg) (i. e. the Chamber of Industry and Commerce Unterfranken (Würzburg)) on a binding basis. The measurement must be conducted under standard testing conditions (25° C cell temperature, radiation of 1000 watt per m<sup>2</sup>, and a spectrum of AM 1.5). The result of the third measurement shall be binding on both Solar Fabrik GmbH as well as on the Claimant.

If the institute/expert assessor reaches the conclusion on account of the third measurement that there is no substantial reduction in performance according to clauses 1.1 and 1.2 above, the Claimant must assume the costs of all measurements conducted. If the institute/expert assessor reaches the conclusion that there is a substantial reduction in performance according to clauses 1.1 and 1.2 above, Solar Fabrik GmbH must comply with the provisions of clause 3.1 a) to c) above and shall assume the costs of the institute/expert assessor along with the costs of the initial measurement.

### **4.5.5**

If there exist reasonable doubts that solar power modules are not free of material and processing defects in accordance with clause 2 above, the course of action described in clauses 4.5.1 to 4.5.4 above must be followed *mutatis mutandis*, and a corresponding assessment of the solar power modules must be carried out.

### **4.6**

Claims to which the Claimant may be entitled for other legal reasons shall remain unaffected.

## **5. Warranty Exclusion**

### **5.1**

The aforementioned warranties are not given in relation to solar modules of the quality class "QK2" and "QK3", special modules, customized products, and solar modules that were purchased in used condition. Furthermore, these warranty conditions do not apply to glass-foil modules and project modules.

### **5.2**

Claims for performance in terms of clause 3.1 a) to c) above can only be made if the solar power modules manufactured by Solar Fabrik GmbH were used and operated according to the respective applicable installation and assembly instructions. Such claims can furthermore only be made in relation to solar power modules that are still located at the place at which they were originally installed and taken into operation, and provided that the solar power modules have always and without any interruption been located at such place. Claims can, lastly, only be made, if performance falls below the limits specified in clauses 1.1 and 1.2 above, or material and processing defects according to clause 2 above are exclusively attributable to the solar power modules manufactured by Solar Fabrik GmbH.

### **5.3**

The warranties (i. e. the performance warranty according to clause 1, and the product warranty according to clause 2 above) shall not be given in the following cases:

#### **5.3.1**

In the case that the solar power modules were not properly stored, transported, installed, wired or serviced as well as in the case of improper or abnormal operation or handling of the solar power modules.



### **5.3.2**

In the case that the power solar modules are damaged by/through misuse, incorrect modifications, procedures or repairs performed on the solar power modules.

### **5.3.3**

In the case that damage to a solar power module was caused by system components, such as inverters, the substructure, connecting cables, etc.

### **5.3.4**

In the case that damage was caused by external (e. g. mechanical) influences. Since, as a rule, the glass used will only break as a result of mechanical influences, it will be assumed that any possible damage thereto was caused by external influences. Accordingly, no claim arises from this warranty, unless the Claimant can prove that, exceptionally, no external influence was responsible for the glass breakage.

### **5.3.5**

In the case that the module damage or reduction in performance is caused by environmental influences or other external influences, particularly through soot, salty substances (e. g. salt water), ammoniac, acid rain, rust, vermin, surges, magnetic fields, lightning strike, flood, fire, wiring defects, hurricanes, volcanic eruptions, earthquakes, hail or snowfall, mould, scratches, stains, discolorations or mechanical wear etc.

### **5.3.6**

In the case of damage caused by terrorism, uprisings, or other catastrophes caused by mankind.

### **5.3.7**

In the case of damage caused by noise or vibration.

### **5.3.8**

If serial numbers and/or type plates of the solar power modules are missing, were manipulated, or the solar power modules cannot be definitively identified for other reasons.

### **5.3.9**

If and to the extent that the reduction in performance of, the adverse effect on, or the damage to a solar power module is caused by product components, which are attached directly or indirectly from the outside to the laminate and/or the frame of the solar power module, such as e. g. bypass diodes, connection boxes, connecting cables, etc., or if and to the extent that one of these product components is defective or damaged.

### **5.3.10**

If the defect arose during the use of the solar power modules on moving (nonstationary) units, such as e. g. vehicles or ships.

### **5.3.11**

If the reduction in the performance of a solar power module was caused by discoloration or other changes to the glass.



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#### **5.4**

The warranty entitlements contained herein constitute the only warranty entitlements granted by Solar Fabrik GmbH.

### **6. Assignment of Warranty**

The warranty entitlements contained herein shall be capable of assignment to successive owners of solar power modules, insofar as the solar power modules remain at their original place of installation pursuant to clause 5.2 above.

### **7. Contact Person**

The contact person for all questions and claims connected with these warranty conditions is:

Solar Fabrik GmbH  
Hermann-Niggemann-Str. 7-9  
63846 Laufach / Germany  
Telefon +49 (0)6093 20770-0  
Telefax +49 (0)6093 20770-99  
[www.solar-fabrik.de](http://www.solar-fabrik.de)

### **8. Concluding Provisions**

#### **8.1**

In addition to these warranty conditions, the sales and delivery conditions of Solar Fabrik GmbH shall apply. German law applies, with the exclusion of the UN Convention on Contracts for the International Sale of Goods.

#### **8.2**

The invalidity of individual provisions contained in these warranty conditions does not affect the validity of the other provisions.

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