

# **Limited Warranty for Solar Module**

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HT SOLAR ENERJI ANONIM SIRKETI (hereafter "our company"), provides following limited warranty on the terrestrial photovoltaic modules (hereafter "modules") produced by it, according to the items stipulated below.

The limited warranty for the specified products in market listed below.

### P-type photovoltaic module:

166mm Series

HT72/66/60/54/48/32-166M-XXX

18Xmm Series

HT78/72/66/60/54-18X-XXX

210mm Series

HT66/60/32-210-XXX

### N-type photovoltaic module:

#### 18Xmm Series

HT78/72/66/60/54-18X(N)-XXX

HT78/72/66/60/54-18X(ND)-F-XXX

### 18X+mm Series

HT66/54/48-18X+(N)-XXX

HT66/54/48-18X+(ND)-F-XXX

#### 210mm Series

HT66/60/32-210(N)-XXX

HT66/60/32-210(ND)-F-XXX

"XXX" means Nominal Power Output

#### 1 Basic Rules

### 1.1 Warranty Commence Period

The warranty commences from the date of ex works.

# 1.2 Acceptance Period

1.2.1 If have any disagreement with the number, or the appearance, or the size, or the peak power, the feedback should be delivered to our company in writing after the arrival of the module(s) within 30 days.



1.2.2 If there is no objection in writing (including E-mail, registered letter, express, and fax), within the specified period, the module(s) will be considered acceptance.

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1.2.3 Beyond the specified period, the objection will be treated with as the used module(s).

### 1.3 Degradation Rate

1.3.1 Degradation Rate means any positive amount calculated in accordance with the following formula, expressed as a percent:

Degradation Rate = (Nominal Power Output-Actual Power Output)/Nominal Power Output × 100%

1.3.2 P<sub>1st year %</sub>

 $P_{1st\ year}$  % represents the warranted Actual Power Output of Modules at the end of the first year following the Warranty Start Date.

 $P_{1st year \%} = 100\% * (1 - First Year Degradation Rate)$ 

1.3.3 P<sub>N year %</sub>

P<sub>N year % represents</sub> the warranted Actual Power Output of Modules at the end of a year (N) after the first year following the Warranty Start Date until the end of the applicable Limited Power Warranty Period as specified at P/N type(Single-side/Bifacial) photovoltaic module.

 $P_{N \text{ year }\%} = 100\% * (1 - (First Year Degradation Rate + Annual Degradation Rate * (N-1)),$ With N, 2  $\leq$  N  $\leq$  Limited Power Warranty Period

### 1.4 Power Testing

- 1.4.1 The power of the module(s) must be tested under the standard condition (STC).
- 1.4.2 STC: light spectrum of AM1.5, irradiation of 1000 W/m<sup>2</sup>, cells temperature of 25 °C.

### 2 Limited Product Warranty

- 2.1 Our company warrants that the PV modules are free from defects caused by the modules themselves, under normal conditions of use, installation, and maintenance, within a period of the 12-year (P-type photovoltaic module)/15-year (N-type photovoltaic module) limited product warranty period from the date of delivery. (The defect is as follows: result in module not work normally, or very obvious and approved by our company.)
- 2.2 Within the 12-year (P-type photovoltaic module)/15-year (N-type photovoltaic module) limited product warranty period, the modules do not work normally caused by supply-side, or defects are found very obviously and approved by our company, these modules will be repaired free of charge, or replacement, or supply additional modules, or refund to the customer surplus value in the market price at the time of treatment. The selection right



shall belong to our company. For replacement, or supply additional modules, our company only undertakes modules that need to be provided.

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- 2.3 Repair, replacement, supply additional modules, or refund remedy shall be the sole and exclusive performances guaranteed under this Limited Product Warranty and shall not extend beyond the period set forth herein.
- 2.4 As for the modules beyond the product warranty period, our company provide paid services: repair, or replacement, or supply modules. The related business should be determined through mutual consultation.

# 3 Limited Power Warranty

- 3.1 Limited Power Warranty
- 3.1.1 P type single-side module: Within the first year from the date of warranty, the output power of modules shall not be less than 98% of the minimum nominal peak power as set forth in the specifications. Thereafter the loss of average output power shall not exceed 0.55% per year. After twenty-five (25) years, the output power of the modules shall not be less than 84.80% of its minimum nominal peak power as set forth in the specifications.
- 3.1.2 P type Bifacial monocrystalline module: Within the first year from the date of warranty, the output power of modules shall not be less than 98% of the minimum nominal peak power as set forth in the specifications. Thereafter the loss of average output power shall not exceed 0.45% per year. After thirty (30) years, the output power of the modules shall not be less than 84.95% of its minimum nominal peak power as set forth in the specifications.
- 3.1.3 N type solar module: Within the first year from the date of warranty, the output power of modules shall not be less than 99% of the minimum nominal peak power as set forth in the specifications. Thereafter the loss of average output power shall not exceed 0.40% per year. After thirty (30) years, the output power of the modules shall not be less than 87.40% of its minimum nominal peak power as set forth in the specifications.
- 3.2 The power must be measured at the standard conditions (STC).
- 3.3 If the peak power of module(s) beyond the scope of the clause 3.1, our company will, at its sole discretion, repair or replace the defective module(s), or supply additional module(s) to compensate the power loss, or refund the cost of the module(s) according to the power difference (according to the market price at the time of treatment), provided such a loss in peak power is attributable to defects in material and /or workmanship by the diagnosis of our company. The selection right shall belong to our company.



3.4 If applicable, our company has right to compare the actual power generation with the design power generation to measure the power loss caused by the modules.

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3.5 Repair, replacement, supply additional modules, or refund remedy shall be the sole and exclusive performances guaranteed under this Limited Power Warranty and shall not extend beyond the period set forth herein.

# **4 Obtaining Warranty Performance**

- 4.1 If the Customer has a justified claim covered by this limited warranty. An immediate notification shall be delivered to our company in writhing (including the E-mail, the registered letter, the express, and the fax).
- 4.2 Together with the notification, the customer should enclose the evidence of the claim (such as photos, power test report, etc), the information of the module(s) type/serial number, the date of purchase, and the warranty.
- 4.3 If the claim is applicable, our company will give advice on handling the claim.
- 4.4 The return of any PV-module will not be accepted unless prior written authorization has been given by our company.
- 4.5 In connection with the Limited Warranty, our company shall reimburse customer for reasonable, customary and documented transportation charges by sea freight for both the return of the modules and reshipment of any repaired or replaced modules, only if this cost is authorized by our company.

### 5 Warranty Exclusions and Limitations

- 5.1 The above limited warranty is not applicable as follow cases determined by our company, at its sole discretion, such as:
- (1) Improperly operated or improperly used.
- (2) Presume to modify the installation program.
- (3) Negligence with storage, transportation or or other transshipment.
- (4) Damaged by repaired or modified (in whatever manner) by anyone other than our company.
- (5) Installed not in accordance with module installation instruction provided by our company.
- 5.2 Our company doesn't take any responsibility for the second-hand module(s), which be got from the disassembled or resold module which have been installed.

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- 5.3 Further exclusions of the limited warranty include following case:
- (1) Caused by external impacts, for example, the system components (such as bypass diodes, junction box, connector, etc.) coupled with the module(s) non-by our company, or the module(s) defects caused by defective system design, configuration, and structure diagram or installation program.
- (2) Caused by faulty wiring or installation, or faulty handling during these modules work.
- (3) Caused by operation in inappropriate environment or with inappropriate methods, which deviates from the instructions in product specification, or operational manual or product label;
- (4) Caused by other external impacts such as mud or leaves on the front glass, shade, pollution or damage due to smoke, salt, salt fog settlement, acid rain, seawater, etc;
- (5) When the distance from the seaside is less than 500m, the mechanical load performance of the modules, due to the corrosion of aluminum frame splashed by seawater, the corrosion of the glass surface, and the power attenuation caused by the corrosion of the module surface.
- (6) Caused by use on mobile objects such as automobiles, ship, etc;
- (7) Caused by force of nature, force majeure, or other unforeseeable circumstances outside of the range of the influence of our company, for instance, earthquake, typhoon, whirlwind, volcanic eruption, flood, lightening, snow damage, fire, war, riot, strike, etc.
- (8) Pressurization exceeds the maximum system voltage or surge impact.
- (9) Caused by customer specified material or by customer provided OEM material, or caused by customer specified design, not by process.
- 5.4 These "Limited Warranties for PV Modules" as set forth herein are expressly in lieu of and exclude all other express or implied warranties, including but not limited to warranties of merchantability and of fitness for particular purpose, use, or application, and all other obligations or liabilities on the part of our company, unless such other obligations or liabilities are expressly agreed to in writing signed and approved by our company.
- 5.5 Under no circumstances shall our company be liable for incidental, consequential, punitive or special loss or damages, howsoever caused.
- 5.6 Limited warranty does not bear the following costs: including but not limited to the costs of module(s) installation, dismantling, re-installation and / or removal, the storage costs of unrepaired or repaired module(s), the costs of product land transport, the costs



incurred by self-arrangement-test, the customs clearance or other costs for return of the module(s).

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- 5.7 Our company's aggregate liability, if any, in damages or otherwise, shall not exceed the invoice value as paid by the customer, for the single unit of module.
- 5.8 If the module(s) type / serial number has been altered, moved or cannot be identified, then the customer will no longer have the appropriate warranty.

### **6 General Terms**

- 6.1 Our company has the right to deliver another type of module with difference in size, form, color, and/or power in case our company discontinued producing the replaced modules at the time of the claim.
- 6.2 The repaired or replaced modules or supply of additional modules neither renews nor extends the period of the warranties.
- 6.3 Any replaced module is the property of our company.
- 6.4 In principle, the limited warranty only applies to the original client (including the first buyer and the owner of the PV modules' initial installation site). When the ownership of the PV modules has been changed and the PV modules were still reserved on initial installation site and not be modified, the limited warranty can be transferred to the new owners of the PV modules, and please notify our company at the first time and submit the declaration to the local tax authorities.

#### 7 Severability

If a part, provision or clause of this Limited Warranty, or the application thereof to any person or circumstance, is held invalid, void or unenforceable, such holding shall not affect and shall leave all other parts, provisions, clauses or applications of this Limited Warranty, and to this end such other parts, provisions, clauses or applications of this Limited Warranty shall be treated as severable.

# 8 Disputes

- 8.1 No action, regardless of form, arising out of or in any way connected with this Limited Warranty, may be brought against our company less than three (3) months after the cause of action has accrued.
- 8.2 In case of discrepancy in a warranty-claim, the test result of a first-class international test institute such as TUV/CSA or PEVL/RETC or other neutral third party testing

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laboratory selected by our company and approved by Customer, such approval not to be

unreasonably withheld or delayed ("Independent Testing Lab") shall be involved as a

technical evidence to judge the claim finally.

8.3 Our company have right to choose the above mentioned test institute.

9 MISCELLANEOUS

The terms of this Limited Warranty are conditioned upon their incorporation in a

contractual agreement between our company 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. our company reserves the right to

modify or update this Limited Warranty at any time, with or without notice.

[END OF LIMITED WARRANTY]

Address: HT SOLAR ENERJI ANONIM SIRKETI

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