

2023

AE SOLAR

LIMITED WARRANTY

- PHOTOVOLTAIC
- MODULE
- PRODUCTS

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1. Warranty Start Date and Validity

1.1. Warranty Start Date

Warranty starts when the modules arrive at the initial buyer or within 6 months of the modules leaving the factory for shipment, whichever date is earlier.

1.2. Validity

This warranty covers all orders made after the date of this publication, which means that these warranty terms are not valid for the modules sold prior to the date of this publication.

2. Module Products

This Global Limited Warranty shall only apply to the following Products:

2.1. P-type Poly PERC module products

AEXXP6-72, AEXXP6-60, AEXXP6-36.

2.2. P-type Mono PERC single-glass module products

AExxxME-T120, AExxxME-T150, AExxxME-110, AExxxME-120, AExxxME-132, AExxxME-110E, AExxxME-120E, AExxxME-132E, AExxxMD-156, AExxxMD-144, AExxxMD-132, AExxxMD-120, AExxxMD-108, AExxxMD-144E, AExxxMD-132E, AExxxMD-120E, AExxxMD-108E, AExxxMC-120, AExxxMC-144, AExxxMB-120, AExxxMB-144, AExxxBMC-60F, AExxxBMC-60E, AExxxBME-44F, AExxxBME-44E, AExxxBME-46F, AExxxBME-46E, AExxxSMB-66F, AExxxSMB-66E, AExxxMB-72, AExxxMB-60, AExxxMB-72E, AExxxMB-60E, AExxxME-T120BS, AExxxME-T150BS, AExxxME-110BS, AExxxME-120BS, AExxxME-132BS, AExxxMD-156BS, AExxxMD-144BS, AExxxMD-132BS, AExxxMD-120BS, AExxxMD-108BS, AExxxMC-144BS, AExxxMC-120BS.

2.3. P-type Mono PERC double-glass module products

AExxxME-T120BD, AExxxME-T150BD, AExxxME-110BD, AExxxME-120BD, AExxxME-132BD, AExxxMD-156BD, AExxxMD-144BD, AExxxMD-132BD, AExxxMD-120BD, AExxxMD-108BD, AExxxMC-144BD, AExxxMC-120BD.

2.4. N-type Mono HJT double-glass module products

AExxxTMC-120BDS, AExxxTMC-144BDS, AExxxTME-110BDS, AExxxTME-120BDS, AExxxTME-132BDS.

2.5. P-Type Mono PERC single-glass – HSF Series module products

AExxxSMB-60, AExxxSMB-36.

2.6. N-Type Mono TOPCon module products

AExxxCMD-108BDS, AExxxCMD-120BDS, AExxxCMD-144BDS.
AExxxCMD-108BDE, AExxxCMD-120BDE, AExxxCMD-144BDE.
AExxxCMD-108, AExxxCMD-120, AExxxCMD-144, AExxxCMD-108E.

3. Limited Product Warranty - Repair, Replacement, or Refund Remedy

3.1. Warranted Products

Subject to the terms and conditions of this Limited Product Warranty, AE Solar provides to the Buyer a Repair, Replacement, or Refund Remedy with a term of 15 years for the modules contained in 2.2, 2.3, 2.4, 2.5 and 2.6, and 12 years for the modules in 2.1, starting from the Warranty Start Date.

3.2. Warranty Terms

- 3.2.1. AE Solar warrants to the original buyer (the “Buyer”) that the modules shall be free from defects in materials and workmanship that influence module functionality under normal application, installation, use, and service conditions as specified in AE Solar’s installation manual.
- 3.2.2. AE Solar guarantees that the modules will maintain mechanical integrity and stability in accordance with approved operation methods described in the company’s installation manual. The glass of a module will maintain its integrity provided there are no indications of localized impacts or external forces. Additionally, the module’s cable and connector plug will remain safe and operational provided the modules are professionally installed. Any damages caused by abrasion, improper installation, or animals are exempt from this warranty.
- 3.2.3. Claims under the warranty can only be accepted if the Buyer can provide proof that the malfunctioning or nonconformity of a module results exclusively from defects in materials and/or workmanship under normal application, installation, use, and service conditions specified in AE Solar’s installation manual. Any color change on the module or any other changes in module appearance does not represent defects, insofar as the change in appearance does not stem from defects in material and/or workmanship and does not cause degradation of the functionality of the module. The module(s) can only be considered defective if directly confirmed by AE Solar or an evaluation from a third-party testing institute, which must be priorly agreed upon by AE Solar and the Buyer. If the product fails to conform to this warranty, AE Solar will, at its option, either repair or replace the product, or provide an appropriate residual market value of the product(s) as compensation.

4. Limited Peak Power Warranty - Limited Remedy

4.1. Warranted Products

Subject to the terms and conditions of this Limited Warranty, AE Solar provides to the Buyer a Limited Peak Power Warranty with a term of 25 years for the modules contained in 2.1, and 30 years for the modules contained in 2.2, 2.3, 2.4, 2.5 and 2.6, starting from the Warranty Start Date:

4.2. Warranty Terms

4.2.1. To avoid misinterpretation, the terms used in the Limited Peak Power Warranty will be explained below:

- a) Standard Test Conditions: defined as irradiation of 1000W/m², AM1.5 light spectrum, and a cell temperature of 25°C in accordance with IEC61215.
- b) Nominal power output: the original power output measured by AE SOLAR under Standard Test Conditions, which is indicated on the nameplate, excluding any positive tolerance (≤ 5W) in the modules.
- c) Actual power output: the power output during the warranty period under Standard Test Conditions, corrected for any measurement error.
- d) Degradation rate: ratio of declined power output to nominal power output in the warranty period, which is expressed as a percentage and calculated in accordance with the following formula:

$$\text{Degradation Rate} = \frac{\text{Nominal Power Output} - \text{Actual Power Output}}{\text{Nominal Power Output}} \times 100\%$$

- 4.2.2. For P-type polycrystalline PERC module products mentioned in 2.1, AE Solar guarantees the first-year power degradation is no more than 3% of its nominal power output. From year 2 to year 25, the actual annual power decline will be no more than 0.7%. By the end of year 25, the actual power output will be no less than 80.2% of the nominal power output.
- 4.2.3. For the P-Type monocrystalline PERC single-glass module products mentioned in 2.2, AE Solar guarantees the first-year power degradation is no more than 2.5% of its nominal power output. From year 2 to year 30, the actual annual power decline will be no more than 0.55%. By the end of year 30, the actual power output will be no less than 81.55% of the nominal power output.
- 4.2.4. For P-type monocrystalline PERC double-glass module products mentioned in 2.3, AE Solar guarantees the first-year power degradation is no more than 2.5% of its nominal power output. From year 2 to year 30, the actual annual power decline will be no more than 0.45%. By the end of year 30, the actual power output will be no less than 84.45% of the nominal power output.
- 4.2.5. For N-type monocrystalline heterojunction double-glass module products mentioned in 2.4, AE Solar guarantees the first-year power degradation is no more than 1% of its nominal power output. From year 2 to year 30, the actual annual power decline will be no more than 0.38%. By the end of year 30, the actual power output will be no less than 88% of the nominal power output.
- 4.2.6. For the P-Type monocrystalline PERC single-glass HSF module products mentioned in 2.5, AE Solar guarantees the first-year power degradation is no more than 2.5% of its nominal power output. From year 2 to year 30, the actual annual power decline will be no more than 0.55%. By the end of year 30, the actual power output will be no less than 81.55% of the nominal power output.

4.2.7. For the N-type monocrystalline TOPCon technology module products mentioned in 2.6, AE Solar guarantees the first-year power degradation is no more than 1% of its nominal power output. From year 2 to year 30, the actual annual power decline will be no more than 0.4%. By the end of year 30, the actual power output will be no less than 87.4% of the nominal power output.

*Notes: The actual power output of the module shall be determined for verification using Standard Testing Conditions only. The actual power output measurement is either carried out by an AE Solar facility or by an independent third-party testing institute recognized by AE Solar and the Buyer. Testing equipment tolerances will be applied to all actual power output measurements. The Limited Peak Power Warranty for bifacial modules (mentioned in 2.2, 2.3, 2.4, and 2.6) shall only apply to their front-side power output.

In the event it is determined that there is a negative deviation of actual performance from the warranted values, AE Solar will, at its option, compensate for such loss in power by either providing to the Buyer additional modules to make up the wattage loss or by repairing or replacing the defective modules or providing an appropriate residual market value of the product(s) as compensation. The compensation excludes other services which are not solely relevant to the defective modules, such as installation and transport costs.

5. Exclusions and Limitations

Warranty claims must in any event be filed within the applicable warranty period.

The Limited Product Warranty provided shall not apply to the following events:

Modules that have been subject to misuse, abuse, neglect, or accidents, except when caused by AE SOLAR or its affiliates that sold the modules during storage, transportation, or handling;

Modules that have been installed, used, and serviced in a manner that fails to strictly comply with the relevant provisions of the AE SOLAR module installation manual, product technical specifications, and guidelines;

Modules that have been installed or serviced by installation personnel or other personnel who do not have the relevant qualifications in violation of the relevant laws and regulations;

Modules that have been altered, repaired, modified, or used in processes or in combination with other products not supplied by AE SOLAR in a manner not consistent with the written instructions of or without the prior written consent of AE SOLAR or its affiliates;

Modules that cannot be deemed authentic by their serial numbers or NFC chips i.e., fake or non-registered products;

Modules that have been removed and re-installed at any location other than the physical location in which it was originally installed. This is also valid for the repaired, replaced, or supplemented new modules provided by AE SOLAR under the Limited Warranty;

The product type, nameplate, or serial number of the modules has been removed, altered, erased, or rendered illegible;

The design or layout of the photovoltaic power plant system in which the modules are installed does not conform to the designated module application (certification), does not meet applicable requirements and generally accepted codes of

practice for a safe and harmless operation, or is unsuitable in terms of system design, resulting in modules being continuously under shade;

Modules that are installed on mobile units (except photovoltaic tracking systems), such as vehicles, ships, etc., or on offshore facilities;

Exposure of the modules to an extreme environment or damage caused by drastic changes in such environments, including but not limited to extreme heat, high UV doses, acidic rainfall (including snow), blowing sand, corrosiveness, salty air (e.g., marine environment), contaminated air, soil or groundwater, abnormal levels of oxidation, high wind speeds and snow loads, mold, or any nearby fire, explosion, smoke, or charring;

Damage caused by force majeure such as natural disasters, including but not limited to lightning, hail, frost, snow, storms, tidal waves, floods, extreme temperatures, earthquakes, typhoons, tornadoes, volcanic eruptions, meteorites, ground motions, earth fissures, landslides, or animal damage;

Direct or indirect damage caused by third-party vandalism or acts beyond the control of AE SOLAR and its affiliates that sold the modules, including but not limited to accidents, riots, war, insurrection, and communal violence;

Damage caused by an accident at the photovoltaic power plant in which the modules are installed due to any external factor. External factors include but are not limited to voltage fluctuations, power peaks, excess current, power failure, poor electrical or mechanical engineering work, untrained personnel, or other faults occurring in the power supply system (whether such failures are caused by any act or omission of the Buyer or not);

Damage caused by improper handling, installation, maintenance, or cleaning e.g., walking on the modules, leaving devices on top of the modules, or dropping things on the modules.

The limited warranties do not cover any shipping costs for the return of the PV modules or for reshipment of any repaired or replaced PV modules or costs associated with installation, removal, or reinstallation of the PV modules.

Warranty claims will not be honored if the type or the serial number of the PV modules has been altered, removed, or made illegible. All other statements made by AE Solar (including without limitation those made in AE Solar's promotional materials) in respect of the properties, performance characteristics, and other aspects of the modules are for illustration only and are not legally binding to AE Solar. To the fullest extent permitted by law, AE Solar excludes all implied representations and warranties with respect to the modules, their properties, and performance characteristics. To the fullest extent permitted by law, AE Solar also excludes all liabilities to the Buyer and any user of the PV modules produced by AE Solar for any loss of actual or anticipated profits, revenues, turnover, anticipated savings, business, or goodwill.

In case of glass breakage, the Buyer is required to make a static load calculation on the substructure.

6. Warranty Claims

6.1. Time Limit for Warranty Claims

All claims under the Limited Product Warranty must be submitted in writing to AE SOLAR within the Limited Product Warranty Period, while all **claims** under the Limited Peak Power Warranty must be submitted in writing to AE SOLAR within the Limited Peak Power Warranty Period. AE SOLAR shall have the right to reject any and all warranty claims

submitted outside of the respective warranty period.

6.2. Burden of Proof for Warranty Claims

In any circumstance, the burden of proof for any warranty claim made by the Buyer shall rest upon the Buyer. The warranty claim will only be accepted if the Buyer provides sufficient documentary evidence to fully demonstrate that the only cause of the fault or non-conformity in the modules is a breach of the Limited Product Warranty and/or the Limited Peak Power Warranty.

6.3. Claim Procedure

The Buyer is required to submit any problems with the modules to AE SOLAR within 30 days of identification, either by scanning the NFC chip on their backside or by contacting the company's after-sales team via email. The submission needs to contain the following information (Customer Claim Information Collection): (1) the claimant; (2) details about the problems; (3) attached material like photos or videos; (4) modules' serial number; (5) proforma invoice of the modules; (6) installation site; (7) other possible materials required by AE SOLAR. The Buyer may be asked to send back some of the modules for testing in case AE SOLAR deems it necessary. Therefore, in the event that the Buyer sends back the modules without an agreement, all costs will be borne by the Buyer. The freight costs will be paid by AE SOLAR only after the confirmation from the company and in case the modules are shipped for factory testing. AE Solar also reserves the right to send a representative to the installation site to carry out an investigation, in which case the Buyer shall actively cooperate with the relevant investigation. If the Buyer refuses AE Solar's investigative action without reasonable cause, AE SOLAR reserves the right to delay the claim process until the evidence has been confirmed. The Buyer may choose to send the modules to a third-party company for testing, provided that it is a legitimate company and an institute recognized by AE Solar for inspection, or one which is agreed upon by both parties. The relevant costs are borne by the Buyer unless the third-party testing institute proves that the modules are indeed defective in terms of production and quality, in which case the relevant costs such as shipping, insurance, and testing fees of the defective modules will be passed on to AE SOLAR.

7. Various

The repair or replacement of the PV modules or the supply of additional PV modules does not initiate the beginning of a new warranty term, nor shall the original terms of this limited warranty be extended. Any replaced PV modules shall become the property of AE Solar. AE Solar reserves the right to deliver another type (different in size, color, shape, and /or power) in case AE Solar discontinues producing the PV- module in question at the time of the claim.

8. Note

In the event of any inconsistency between different language versions of the warranty terms, the English version shall prevail.