

A large industrial factory setting with robotic arms and solar panels. The background shows a complex manufacturing environment with multiple robotic arms positioned over a conveyor system. Several large, dark rectangular solar panels are visible on the conveyor. The ceiling is high with industrial lighting fixtures. The overall scene conveys a sense of advanced manufacturing technology.

TCL SOLAR

**N-Type Back-Contact
Bifacial Modules
Limited Warranty**

**Applicable to
Residential &
Commercial Modules
in South-East Asia**

LIMITED WARRANTY STATEMENT FOR PV MODULES

(Hereinafter referred to as the “Limited Warranty”)

GENERAL PROVISIONS

This Limited Warranty is provided by Huansheng Photovoltaic (Jiangsu) Co., Ltd. and its affiliates (hereinafter referred to as "TCL Solar"). This Limited Warranty applies only to Double-Glass Bifacial Half-cut Back-Contact PV Module ((hereinafter referred to as "Double-Glass BC Modules") models provided by TCL SOLAR: HSM-BD66-GRxxx, HSM-BD72-GCxxx, HSM-BD72-WCxxx, HSM-BD72 GFxxx, HSM-BD78-GFxxx, HSM-BD60-GAxxx, HSM-BD60-DAxxx, HSM-BD54-GAxxx, HSM-BD54-DAxxx, HSM-BD54-GRxxx, HSM-BD48-GRxxx, HSM-BD60-GCxxx, HSM-BD54-GCxxx. This Limited Warranty comes into effect on July 10, 2025 and shall remain in effect until the release of a new version with the same scope.

WARRANTY START DATE

The Warranty Start Date shall be ninety (90) calendar days after the date of shipment of the PV modules from TCL SOLAR's factory or the date of receipt of the PV modules by the Buyer (as per INCOTERM 2020), whichever date is earlier (the "Warranty Effective Date").

CHAPTER I: 15-YEAR LIMITED PRODUCT WARRANTY

Subject to the limitations & exclusions contained herein, TCL SOLAR provides the following Limited Warranty to the original Buyer (hereinafter referred to as the "Buyer") for the PV modules, valid for a period of fifteen (15) years from the warranty start date:

- The Modules shall be free from defects in design, materials, workmanship, or manufacturing that materially impact their functionality.
- The Modules shall comply with all applicable specifications and drawings provided by TCL SOLAR.

Claims under the Limited Product Warranty will be accepted only if it is proven that the PV modules were used in accordance with TCL SOLAR's latest published product specifications and installation manual, including normal application, installation, use and operation.

In the event of a breach of the 15-Year Limited Product Warranty set forth here, TCL SOLAR, at its sole option, will provide one of the following remedies: (1) repair the defective PV module; or (2) replace the defective PV module with a new module of equivalent or higher performance; or (3) refund the warranted residual value of the PV module at the time the warranty claim is approved by TCL SOLAR.

For the avoidance of doubt, any deterioration in the appearance of the Products (including, without limitation, any scratches, stains, rust, discoloration, or mold) or any other changes to the Products in appearance stemming from the normal wear and tear over time of product materials are not covered by the 15-Year Limited Product Warranty. No warranty claim may be made if the product label, type or serial number of the applicable Products has been altered, removed or made illegible. Buyer shall be entitled to make a warranty claim under this 15-Year Limited Product Warranty only if Buyer provides sufficient documentary evidence to prove that the failure or non-conformity of the PV module was caused solely by a defect in the PV module itself and was within the scope of the 15-Year Limited Product Warranty.

This 15-Year Limited Product Warranty only applies to the warranty claims received by TCL SOLAR during the period when the 15-Year Limited Product Warranty was not expired.

This 15-Year Limited Product Warranty does not guarantee a specific power output for the PV modules, which shall be exclusively covered under Chapter 2 hereinafter (PV Module Limited Peak Power Output Warranty).

CHAPTER 2: PV MODULE LIMITED PEAK POWER OUTPUT WARRANTY

Subject to the limitations & exclusions contained herein, TCL SOLAR provides the following Limited Warranty on the peak power output of the PV modules when used under normal conditions of application, installation, use and operation as specified in the product specification and subject to the exclusions and limitations, and the exemptions and limitations of liability in Chapters 3 and 4 below.

1. Limited Peak Power Output Warranty In The First Year

TCL SOLAR guarantees that the peak power output of the Double-Glass BC Modules in the first year (start from Warranty Effective Date) under standard testing conditions (STC) shall not be less than 99.0% of the rated power (nominal power) of the PV module as specified in the product specification, i.e., the power output shall decline by no more than 1.0% in the first year; if this is not achieved, TZE, TCL SOLAR, HSPV shall undertake to take any of the following remedial measures at its option: (1) provide the Buyer with additional PV modules to make up for such loss in power to the guaranteed level specified in this section; or (2) repair the defective PV modules to make up for such loss in power to the guaranteed level specified in this section; or (3) Compensated Buyer in accordance with the following formula: the difference between the actual peak power and the peak power guaranteed in this section multiplied by the price per watt of a similar PV module in a similar market.

2. PV Module Limited Peak Power Output Warranty From The 2nd To The 30th Year

TCL SOLAR guarantees that from the 2nd year to the 30th year, start from Warranty Effective Date, based on standard testing conditions, the degradation of Double-Glass BC Modules shall not be more than 1.35% within 2 years, shall not be more than 2.4% within 5 years, shall not be more than 4.15% within 10 years, and not more than 11.15% of the rated power (nominal power) within 30 years.

If the above degradation rates are exceeded, TCL SOLAR shall undertake to take any of the following remedial measures at its option:

- (1) provide the Buyer with additional PV modules to make up for such loss in power to the guaranteed levels specified in this section;
- (2) or (2) repair the defective PV modules to make up for such loss in power to the guaranteed level specified in this section;
- (3) or (3) Compensate Buyer with the following formula: the difference between the actual peak power and the peak power guaranteed in this section multiplied by the price per watt of a similar PV module in a similar market.

DEFINITIONS AND DESCRIPTIONS OF TERMS USED

a) The formula used to calculate the residual value: spot price of similar PV module * $(1 - a/15)$. "a" here represents the actual service time (years) of the PV modules from the effective date of the warranty.

b) "Peak power of PV module under standard testing conditions (STC)" refers to the peak power (in watts) that the PV module can output. "STC" refers to the following conditions (a) air mass 1.5 (AM1.5) spectrum (b) irradiance $1000\text{W}/\text{m}^2$, (c) cell temperature of 25°C under irradiation at right angles to the module surface. This test is performed in accordance with IEC 60904 and the simulator calibration criteria should follow the relevant standards of the international certification bodies.

c) The rated power (nominal power) specified in the product specification refers to the peak power (in watts) generated by the PV module at STC. The actual PV module power output shall be measured under STC only. The actual power output test shall be conducted by TCL SOLAR or a accredited third-party testing agency accepted by both parties. Testing equipment tolerance shall be applied to actual power output measurements.

d) PV Modules Limited Peak Power Output Warranty applies only to warranty claim received by TCL SOLAR during the guaranteed period in each section of this chapter, from the Warranty Effective Date.

WARRANTY CLAIM PROCESS

a) If the Buyer believes that there have been a breach of the Limited Product Warranty or Limited Power Warranty, the Buyer shall notify TCL SOLAR in writing without undue delay, but no later than thirty (30) days after the date the issue is discovered during the applicable warranty period. The Notice must include:

- A detailed description of the warranty claim and supporting materials, including photos or data
- The serial number(s) of the affected PV modules
- Proof of purchase (such as a commercial invoice)
- Project location
- Sufficient evidence to substantiate the breach of this Limited Warranty

To the below address:

TCL Solar

Customer Service Department

ADDRESS: No.20 Wenzhuang Road, Economic and Technological Development Zone, Yixing City, Jiangsu

Tel: 0510-87121015

E-mail: cqe@tzeco.com

b) Upon receiving a written warranty claim, TCL SOLAR reserves the right to request additional verification to assess the validity of the Buyer's claim. If third-party testing is required, the selected testing institute must be ISO/IEC 17025:2017 accredited and mutually agreed upon by both parties in advance.

c) TCL SOLAR reserves the right to determine whether an on-site inspection is necessary to evaluate the Buyer's warranty claim. If TCL SOLAR decides to send a representative for investigation, the associated costs will initially be covered by TCL SOLAR. The Buyer must fully cooperate with the inspection process. Failure to grant reasonable access to the installation site may result in a delay in claim resolution until sufficient evidence is provided.

d) TCL SOLAR will initially bear the reasonable costs of third-party testing, including shipping, transportation insurance, and laboratory fees. However, if the independent testing lab determines that the PV modules do not have a defect covered by this Limited Warranty, or if the Buyer fails to substantiate the warranty claim through other means, the Buyer shall fully reimburse TCL SOLAR for all incurred costs on a dollar-for-dollar basis upon receiving notice.

e) TCL SOLAR must provide prior written authorization before any PV modules are returned. Any return without such authorization will not be accepted.

f) Repair, replacement, or the supply of additional PV modules does not extend or restart the original warranty period under the 15-Year Limited Product Warranty and PV Module Limited Peak Power Output Warranty. The warranty period will continue to be calculated from the original Warranty Effective Date. TCL SOLAR reserves the right to provide replacement PV modules that may differ in size, color, shape, and/or power output at its sole discretion.

CHAPTER 3: EXCLUSIONS AND LIMITATIONS

The Limited Product Warranty and the PV Module Limited Peak Power Output Warranty shall not apply to any PV modules which have been subjected to:

a) Improper installation, connection or maintenance, or affected by imperfect photovoltaic power plant system design, or affected by other imperfect instruments or devices in the power plant system;

b) Mishandling, including but not limited to mishandling during transportation or storage, misuse, damage due to negligence, vandalism, animal damage or accident;

c) Removal from its original location of installation, dismantling, reinstallation or any other form of alteration or movement;

d) Installation in an environment that not meet the requirement of the " Standard Operating Conditions" as defined in product specifications and installation manual, or on a mobile platform, improper voltage or

power surges, abnormal environmental conditions (such as acid rain, salt damage or other corrosive chemical), or contamination by dust, accumulations or other pollutants from industrial environments that cannot be cleaned by common methods in the photovoltaic module industry;

e) Improper maintenance, including maintenance by an unauthorized personnel or non- observance of the Company's installation manual;

f) External accidents or forces such as animals, fire, explosions, and civil disorder;

g) Any warranty claim made outside the applicable warranty period for PV modules.

CHAPTER 4: GENERAL TERMS AND CONDITIONS

The following general terms and conditions shall apply to all the warranties set forth in Chapter 1 and Chapter 2.

I. Exemptions and Limitations of Liability

a) Liability Exemptions

TCL SOLAR's liability under this Limited Warranty shall be limited to the specific provisions carried in the documents and information provided by TCL SOLAR and shall not be subject to any other nonofficial interpretation. The Limited Warranty liability under this Limited Warranty constitutes the full extent of TCL SOLAR's liability and is in lieu of and excludes all other express or implied warranty liabilities. If any provision of this Limited Warranty (or portion thereof) shall be held invalid by applicable law for any reason, the validity of the other provisions herein shall not be affected.

b) Limitation of liability

To the maximum extent permitted by applicable law, TCL Solar expressly disclaims and shall not assume any responsibility or liability for any loss or damage, including but not limited to property damage arising from the use, installation, or operation of its pv modules.

Furthermore, under no circumstances shall tcl solar be liable for any indirect, incidental, special, punitive, exemplary, or consequential losses suffered by the buyer, including but not limited to loss of profits, loss of use, loss of data, loss of business opportunities, loss of goodwill, equipment downtime, or increased operational costs, regardless of whether such losses were reasonably foreseeable by both parties.

To the maximum extent permitted by applicable law, TCL Solar's total aggregate liability, if any, for damages or any other claims shall not exceed the actual sales price received by TCL Solar from the buyer for the pv modules that are the subject of the claim.

Except as expressly stated in this limited warranty, TCL Solar makes no other warranties, whether express, implied, statutory, or otherwise, including but not limited to any implied warranties of merchantability, fitness for a particular purpose, or warranties arising from trade usage or course of dealing.

Some jurisdictions do not allow the exclusion or limitation of certain damages or implied warranties. In such cases, the above exclusions or limitations may not apply to the buyer to the extent prohibited by

applicable law. This limited warranty does not affect any additional rights the buyer may have under consumer protection laws in their jurisdiction.

c) The scope of the reimbursable expenses under the "Limited Product Warranty" as set forth in Chapter 1 and the "PV Module Peak Power Output Limited Warranty" as set forth in Chapter 2 is limited to the transportation costs for the reshipment of any repaired or replaced PV modules to the port of destination as set forth in the relevant sales agreement, and does not include any related customs clearance fees, duties, any costs associated with the installation, removal, or reinstallation of the PV modules, or any transportation charges associated with the return of the PV modules to the Company.

d) Limited Warranty claims will be honored only when the PV Modules can be identified being manufactured by TCL SOLAR and its affiliates.

2. Assignment of the Limited Warranty

This Limited Warranty for PV Modules extends solely to the Buyer and may be transferred in its entirety to a subsequent owner, provided that all the following conditions are met:

a) Prior Written Notice: The Buyer must provide TCL Solar with formal written notice of the transfer before the warranty rights are assigned.

b) Original Installation Location: The PV modules must remain installed at their original installation site and must not have been tampered with, relocated, or reinstalled.

c) Full Payment: The purchase price of the PV modules and any other payable amounts (such as liquidated damages, if applicable) must be fully settled.

d) Binding Terms: The transferee must agree to be bound by all terms and conditions set forth in this Limited Warranty.

e) Proof of Ownership Transfer: If requested by TCL Solar, the Buyer or transferee shall provide reasonable evidence of the legal transfer of ownership within 15 days of receiving such a request. Failure to do so may result in TCL Solar's right to refuse to process any warranty claim related to the transferred PV modules.

If any of the above conditions are not met, TCL Solar reserves the right to reject the warranty transfer and shall not be held liable for any related claims.

3. Dispute Resolution

a) Any dispute arising from the warranty claim(s) under this Limited Warranty shall be submitted to the relevant arbitration and resolved in accordance with the applicable law as agreed and provided in the sales agreement between TCL SOLAR and the Buyer.

b) "Technical Related Disputes" in this Limited Warranty shall refer to disputes related to the function or malfunction of the PV modules or other related products. The Technical Related Disputes shall be evaluated by an expert appointed by one of the testing agencies listed in paragraph (c) below. The appointed expert shall provide his/her expert opinion on the function of the PV modules and, if applicable,

the cause of the malfunction. The expert shall also provide relevant suggestions that are adequate to resolve the dispute including financial compensation if necessary.

c) Fraunhofer ISE (Freiburg, Germany), or other regions where TÜV are located

d) The expert's opinion shall not be binding on either party to this Limited Warranty, but may be admissible in evidence should the dispute be resolved by arbitration, court proceedings or any other means agreed upon by the parties. For the avoidance of doubt, both parties reserve the right to refer the dispute to relevant arbitration for resolution pursuant to paragraph (a) and to present alternative expert opinions to the arbitration tribunal. The arbitration institution shall be the appropriate institution agreed upon in the sales agreement that is closer to the location of first installation.

e) The parties shall cooperate to fully accommodate the appointed expert and provide him/her with necessary assistance to complete the disposition of disputes in a timely manner. The parties shall bear the cost of the expert's services under this Limited Warranty in proportion to the parties' respective.

FORCE MAJEURE

Force Majeure refers to unforeseeable, unavoidable, and insurmountable events beyond TCL SOLAR's reasonable control that prevent or delay the performance of its obligations under this Limited Warranty. These events include, but are not limited to:

a) Natural disasters such as earthquakes, typhoons, hurricanes, tornadoes, volcanic eruptions, floods, tsunamis, blizzards, fires, and lightning strikes.

b) Social events such as war, riots, strikes, epidemics, quarantine measures, traffic restrictions, and other government-imposed controls.

c) Industrial and regulatory disruptions, including shortages of raw materials, insufficient labor, technological or production capacity limitations, and delays caused by national laws, regulations, administrative orders, or approval processes beyond TCL SOLAR's control.

In the event of Force Majeure, if TCL SOLAR is unable to fulfill or is delayed in fulfilling its obligations under this Limited Warranty, TCL SOLAR shall be exempt from liability for any resulting losses or damages. However, TCL SOLAR shall:

a) Promptly notify the Buyer of the occurrence of Force Majeure.

b) Engage in good-faith discussions with the Buyer to implement necessary measures to mitigate the impact of Force Majeure.

Where applicable, TCL SOLAR's obligations may be wholly or partially excused in accordance with relevant laws or contractual agreements with the Buyer.

NOTE

In the event of any inconsistency among different language versions of this warranty statement, the English version shall prevail.

Contact Details:

TCL Solar

Customer Service Department

ADDRESS: No.20 Wenzhuang Road, Economic and Technological Development Zone, Yixing City, Jiangsu

Tel: 0510-87121015

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