

ICS 27.160
CCS F 12



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 46986.1-2025

**Photovoltaic (PV) systems - Requirements for testing,
documentation and maintenance - Part 1: Grid connected
systems - Documentation, commissioning tests and inspection**

光伏系统 测试、文件和维护要求 第1部分：并网光伏系统的文件、试运行测试和
检验

(English Translation)

Issued on: December 31, 2025

Implemented on: April 1, 2026

Issued by: State Administration for Market Regulation

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is Part 1 of GB/T 46986 "Testing, Documentation and Maintenance Requirements for Photovoltaic Systems". GB/T 46986 has been published.

The following section.

---Part 1: Documentation, commissioning tests, and inspections of grid-connected photovoltaic systems;

---Part 2: Maintenance of Grid-Connected Photovoltaic Systems this document is equivalent to IEC 62446-1:2016 "Photovoltaic systems - Test, documentation and maintenance requirements - Part 1: Grid-connected photovoltaic systems".

Documents, trial runs, tests, and inspections.

The following minimal editorial changes have been made to this document.

---Incorporated the content of the IEC 62446-1:2016 AMD1.2018 CSV amendment, with blank margins on the outer pages of the corresponding clauses.

The position is indicated by a vertical double line (||).

---Note 3 in section 3.18 corresponding to the IEC 62446-1:2016 AMD1.2018CSV amendment has been removed.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the Ministry of Industry and Information Technology of the People's Republic of China.

This document is under the jurisdiction of the National Technical Committee on Standardization of Solar Photovoltaic Energy Systems (SAC/TC90).

Introduction

GB/T 46986, "Requirements for Testing, Documentation and Maintenance of Photovoltaic Systems," aims to provide recommendations applicable to the maintenance needs of grid-connected photovoltaic systems.

The requirements are proposed to consist of the following two parts.

---Part 1: Documentation, Commissioning Testing, and Inspection of Grid-Connected Photovoltaic Systems. The purpose is to specify the documentation, commissioning tests, and inspections required after the installation of a grid-connected photovoltaic system.

Information and documentation provided to the client. This outlines the expected trial operation tests, verification standards, and documentation to validate the system installation.

Safety and correct operation.

---Part 2: Maintenance of Grid-Connected Photovoltaic Systems. The purpose is to specify the system documentation and verification procedures required for the maintenance of grid-connected photovoltaic systems.

Certificates, test and verification reports. Describes the basic requirements and recommendations for prevention, troubleshooting, and performance maintenance of grid-connected photovoltaic systems.

Note: The correspondence between each part and the IEC 62446 series of international standards is as follows.

---Part 1 corresponds to IEC 62446-1;

---Part 2 corresponds to IEC 62446-2.

This document provides necessary information and documentation for grid-connected photovoltaic (PV) systems, including design requirements and procedures for regular inspections and tests.

The law specifies corresponding test procedures for grid-connected photovoltaic systems of different scales, types, locations, and complexities.

Photovoltaic system testing, documentation and maintenance requirements Part 1:
Documentation for Grid-Connected Photovoltaic Systems Trial run testing and inspection

1 Scope

This document specifies the information and documentation requirements that need to be provided to users when installing grid-connected photovoltaic systems, and describes commissioning testing, inspection standards, and...

This file is used to verify whether the system installation is secure and whether it is running correctly. This file can also be used for periodic retesting.

This document applies to grid-connected photovoltaic systems, but does not include photovoltaic systems or hybrid systems that use energy storage (such as batteries).

This document does not apply to concentrated photovoltaic (CPV) systems.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

GB/T 46982-2025 Methods for temperature and irradiance correction of IV characteristics of photovoltaic devices (IEC 60891:2009, IDT) fication) Note. GB 4793 (all parts) Safety requirements for electrical equipment for measuring, control and laboratory use [IEC 61010 (all parts)] IEC 61557 (all parts) - Test of electrical safety measures for low-voltage power distribution systems below 1000V AC and 1500V DC.

Note: GB/T 18216 (all parts) - Tests, measurements or tests of electrical safety protection measures for low-voltage power distribution systems below 1000V AC and 1500V DC.

Monitoring equipment [IEC 61557 (all parts)] Note. GB/T 20047 (all parts) Safety qualification of photovoltaic modules [IEC 61730 (all parts)] Note. Some countries prefer IEC 60364-7-712. Both standards are expected to provide similar results.