

ICS 27.160
CCS F 12



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

GB/T 46924-2025

**Requirements for unmanned aerial vehicle intelligent
inspection of photovoltaic power stations**

光伏电站无人机智能巡检要求

Issued on: December 31, 2025

Implemented on: July 1, 2026

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

Table of Contents

1.Scope	1
2 Normative References	1
3.Terms and Definitions	1
4.General Requirements	1
5.Unmanned Aerial Vehicle (UAV) Intelligent Inspection System	2
6.Intelligent Inspection Strategy	3
7.Intelligent Inspection Project	3
5 References	9

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. 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 and is under the jurisdiction of the China Electricity Council. This document was drafted by: China Power Investment Northeast New Energy Development Co., Ltd., Guangzhou Yineng Digital Technology Co., Ltd., and Guangdong Provincial Power Development Corporation. Limited Liability Company, Wuhan University of Technology, Tianjin Yunsheng Intelligent Technology Co., Ltd., Guangzhou Qi'an Zhongzhi Construction Management Co., Ltd., Hubei School of Automotive Industry, Shanxi Branch of Guangdong Wind Power Co., Ltd., and China Southern Power Grid Digital Platform Technology (Guangdong) Co., Ltd. The main drafters of this document are. Liu Lihua, Xu Lixia, Jiang Jing, Liu Tao, Yang Tiefeng, Guo Kai, Chen Qihong, Cao Feng, Wang Dongxin, Chen Fangping, and Tian Yu. Liang Yongsheng, Lian Chengxiong, Rong Zhiqiang, Yang Yi, He Kaihua, Han Jishuang, Chen Qianqian, Qi Ji, Zhang Liyan, Zheng Zhaoxian, Xiao Haibo, Chen Difang, Guo Chunyuan Wang Yifan, Li Mengze, Chen Zhen, Wang Weihua, Yang Shunming, Wang Zhenyuan, Zhang Linxuan, Sun Haiwei, Zhang Yongliang, Chen Long. Requirements for Intelligent Inspection of Photovoltaic Power Plants by Drones

1 Scope

GB/T 46924-2025 is the Chinese national standard covering inspecting a solar farm by drone - the thermal imaging that finds hot spots and failed cells, the flight planning over a site of millions of modules, the automatic defect recognition and the location of a fault down

to the individual panel. Walking a large plant is no longer possible; this is how it is done. First edition. It was issued on 31 December 2025 and has been in force since 1 July 2026, as a first edition. The document is under the responsibility of the China Electricity Council. This page is published from the official record of the 2025 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document specifies the technical requirements for the unmanned aerial vehicle (UAV) intelligent inspection system for photovoltaic power plants, intelligent inspection strategies, intelligent inspection items, and intelligent analysis. This document applies to the intelligent inspection of photovoltaic power stations by drones, including those on the ground, water, and rooftops of buildings.

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 35691 Coding Guidelines for Identification System of Photovoltaic Power Stations

GB/T 35694 Safety Regulations for Photovoltaic Power Stations

GB/T 36572 Guidelines for Network Security Protection of Power Monitoring Systems

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Powered, unmanned aircraft. [Source: GB/T 38954-2020, 3.1, with modifications]

3.2 Task equipment The equipment and corresponding software carried on the drone to accomplish the mission. [Source: GB/T 39586-2020, 3.5, with modifications]

3.3 Using drones (3.1), mission equipment (3.2), drone ground facilities, and intelligent inspection software, the inspection task of a photovoltaic power station is completed. Industry system.

4 General Requirements

4.1 The unmanned aerial vehicle (UAV) intelligent inspection system should be formulated based on the operation and maintenance requirements and environmental conditions of the photovoltaic power station, combined with the photovoltaic power station's operational data.

Inspection strategy and development of inspection plans.

4.2 When conducting intelligent inspection operations using drones, appropriate drones and equipment should be selected based on the content of the inspection task.

4.3 Unmanned aerial vehicle (UAV) operators should receive training and obtain relevant qualifications.

4.4 Photovoltaic power plants should develop a special safety plan for unmanned aerial vehicle (UAV) intelligent inspection.

4.5 Before conducting intelligent inspection operations using drones, drone operators should understand the equipment inspection requirements and develop an inspection route. During the inspection operation...