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

GB/T 19183.5-2024

Replacing GB/T 19183.5-2003

**Mechanical structures for electrical and electronic equipment -
Outdoor enclosures - Part 3: Environmental requirements, tests
and safety aspects
(English Translation)**

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is Part 3 of GB/T 19183 "Outdoor enclosures for mechanical structures of electrical and electronic equipment". GB/T 19183 has been published.

The following parts are published.

- Part 1: Design guidelines;
- Part 2: Coordination dimensions;
- Part 3: Environmental requirements, test and safety requirements.

This document replaces GB/T 19183.5-2003 "Electronic equipment mechanical structure outdoor enclosures Part 3: Climatic, Mechanical Testing and Safety Requirements, compared with GB/T 19183.5-2003, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

- Added general rules in "Environmental test conditions" and "Safety requirements" (see 5.1, 7.1);
 - Added "standard test for pass/fail" (see 5.2, Table 1);
 - Changed the environmental parameters, test severity level and duration requirements of "climate test", and added the criteria for judging pass/fail Inspection standards (see Table 2, Table 1 of the 2003 edition);
 - Changed the test severity requirements for "biological tests" and added the test methods and inspection criteria for judging pass/fail.
- Standard (see Table 3, Table 2 of the 2003 edition);
- Changed the environmental parameters and test severity requirements of the "anti-chemical active substance test" and added the test criteria for judging pass/fail Test standards (see Table 4, Table 3 of the 2003 edition);
 - Changed the relevant requirements of "Test for resistance to mechanically active substances" (see 5.6, Table 4 of the 2003 edition);
 - Change "vibration and shock test" to "mechanical test (operation)", change the environmental parameters and test severity level, and add the criteria for determining compliance Qualified/unqualified inspection standards (see Table 5, Table 5 of the 2003 edition);
 - Added the "Transportation Test" item in the "Mechanical Test" (see 6.2);

---The shooting test clarified that outdoor metal casings are optional, detailed the volume and mass of the bullets used, and stipulated improved smoothbore Barrel dimensions (see 7.4, 7.3 of the 2003 edition);

--- Added a chapter on "Thermal Management" (see Chapter 10);

--- Added a chapter on "Noise Emissions" (see Chapter 11).

This document is equivalent to IEC 61969-3:2023 "Electrical and electronic equipment mechanical structure outdoor enclosures Part 3: Environmental requirements, Test and safety requirements.

Introduction

GB/T 19183 "Outdoor enclosures for mechanical structures of electrical and electronic equipment" is for outdoor electrical and electronic equipment used in places without weather protection.

It is designed for electronic equipment casing and is intended to consist of three parts.

--- Part 1: Design guidelines. The purpose is to provide a general specification for the requirements for enclosures used outdoors without weather protection.

--- Part 2: Coordinated dimensions. The purpose is to ensure that the external dimensions of the outdoor enclosure are coordinated by specifying the internal and external dimensions of the outdoor enclosure.

and consistency of internal connection dimensions.

--- Part 3: Environmental requirements, tests and safety requirements. The purpose is to meet the storage, Requirements for transportation and final installation establish basic environmental performance standards for outdoor enclosure compliance.

This document provides minimum performance compliance standards for manufacturers and users of general purpose outdoor enclosures.

Mechanical structures for electrical and electronic equipment Outdoor enclosures Part 3: Environmental requirements, testing and safety requirements

1 Scope

This document specifies a set of basic environmental specifications for outdoor enclosures of electrical and electronic equipment installed above ground in non-weather-protected locations.

Environmental requirements, testing and safety requirements.

This document is intended to specify minimum levels of environmental performance to meet

storage, transportation and final installation requirements.

Basic environmental performance standards for enclosure compliance.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

ISO 2533 Standard atmosphere Note. GB/T 3767-2016 Acoustics - Determination of sound power level and sound energy level of noise source by sound pressure method - Engineering method for approximate free field above reflecting surface (ISO 3744:2010, IDT) ISO 4892-2 Plastics-Methods of exposure to laboratory light sources Part 2: Xenon arc lamps Note. GB/T 16422.2-2022 Plastics laboratory light source exposure test method Part 2: Xenon arc lamp (ISO 4892-2:2013, IDT) ISO 4892-3 Plastics - Methods of exposure to laboratory light sources - Part 3: Fluorescent ultraviolet light (Plastics - Methods of ex-Note. GB/T 16422.3-2022 Plastics Laboratory Light Source Exposure Test Method Part 3: Fluorescent UV Lamp (ISO 4892-3:2016, IDT) Tests-TestA.Cold) Note. GB/T 2423.1-2008 Environmental testing for electric and electronic products Part 2: Test methods Test A. Low temperature (IEC 60068-2-1:2007, IDT) Tests-Test B.Dryheat) Note. GB/T 2423.2-2008 Environmental testing for electric and electronic products Part 2: Test methods Test B. High temperature (IEC 60068-2-2:2007, IDT) Note. GB/T 2423.10-2019 Environmental testing Part 2: Test methods Test Fc. Vibration (sinusoidal) (IEC 60068-2-6:2007, IDT) Part 2-10.Tests-TestJandguidance.Mouldgrowth)