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

GB/T 19183.1-2024

Replacing GB/T 19183.1-2003

**Mechanical structures for electrical and electronic equipment -
Outdoor enclosures - Part 1: Design guidelines**

电气和电子设备机械结构 户外机壳 第1部分：设计导则

(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 1 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 19183.1-2003 "Electronic equipment mechanical structure outdoor enclosure Part 1: Design guidelines" and Compared with GB/T 19183.1-2003, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

--- Deleted the chapter "Application Places" (see Chapter 4 of the 2003 edition);

---Change "climate, mechanical tests and safety requirements" to "environmental requirements, tests and safety requirements", and make corrections to the clauses and their corresponding requirements.

has been redefined (see Chapter 5, Chapter 6 of the 2003 edition);

--- Changed "environmental conditions" to "working and transportation conditions", and detailed the relevant conditions and test requirements (see Table 1, 2003

Table 1 of the version);

--- Added "chemically active substances", "thermal management and heat transfer rate k", "resistance to mechanical stress" and "coating", and deleted "corrosive gases" "Corrosive liquids" and "corrosion resistance" (see Table 1, Table 1 of the 2003 edition);

--- The relevant requirements and test specifications of "safety requirements" have been refined (see Table 2, Table 2 of the 2003 edition);

--- Added "Lifting and Rigidity", "Malicious Damage" and "Flammability", and deleted "Mechanical Safety Requirements" and "Coating" (see Table 2, 2003

Table 2 of the 2010 edition);

--- Changed "thermal performance" to "thermal management", refined the relevant provisions, and added the requirements for "noise emission" (see Chapter 7, 2003 8 of the 2011 edition).

This document is equivalent to IEC 61969-1:2023 "Mechanical structures for outdoor enclosures of electrical and electronic equipment Part 1: Design guidelines".

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 outline of the requirements for the use of enclosures in outdoor non-weather-protected locations.

specification.

--- 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, the requirements for transportation and final installation conditions establish the basic environmental performance standards for outdoor enclosure compliance.

With the continuous development of electrical and electronic equipment, outdoor enclosures are increasingly used.

The general guidelines developed in other parts of the Outdoor Enclosures series provide more complete design guidance for outdoor enclosures and accelerate their in-depth develop.

Mechanical structures for electrical and electronic equipment Outdoor enclosures Part 1: Design guidelines

1 Scope

This document contains guidelines for the design of outdoor enclosures for electrical and electronic equipment and is applicable to a wide range of mechanical, electromechanical, and electrical installations using modular design.

Sub-device.

The purpose of this document is to.

--- Provides a general specification focusing on outdoor application requirements for enclosures used in fixed locations without weather protection;

---Achieve product integrity in outdoor conditions and simplify product selection for outdoor enclosures from different suppliers.

These enclosures can house any equipment and protect equipment installed outdoors from harmful environmental influences. The equipment installed can be but not limited to subracks or enclosures that comply with IEC 60917 series or IEC 60297 series. A typical outdoor enclosure is shown in Figure 1.

Figure 1 Typical outdoor enclosure

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.