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

GB/T 33588.5-2025

Replacing GB/T 33588.5-2020

**Lightning protection system components(LPSC) - Part 5:
Requirements for earth electrode inspection housings and
earth electrode seals**

雷电防护系统部件（LPSC）第5部分：接地极检测箱和接地极密封件的要求
(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 5 of GB/T 33588 Lightning Protection System Components (LPSC). GB/T 33588 has been published as follows part.

- Part 1: Requirements for connectors;
- Part 2: Requirements for lightning arresters, down conductors and grounding electrodes;
- Part 3: Requirements for isolating spark gaps (ISGs);
- Part 4: Requirements for conductor fasteners;
- Part 5: Requirements for grounding electrode test boxes and grounding electrode seals;
- Part 6: Requirements for lightning strike counters (LSCs);
- Part 7: Requirements for grounding resistance reduction materials;
- Part 8: Requirements for isolation components of lightning protection systems.

This document replaces GB/T 33588.5-2020 "Lightning protection system components (LPSC) Part 5: Grounding electrode detection box and grounding electrode Compared with

GB/T 33588.5-2020, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

- a) Added classification of grounding electrode seals (see 4.2);
- b) Changed the requirements for "Product and Installation Instructions" (see 5.2, 5.2 of the 2020 edition);
- c) Changed the labeling requirements (see 5.3.2, 5.5 of the 2020 edition);
- d) Added test requirements for the applicability of tests performed in previous versions (see 6.1);
- e) The identification test has been changed (see 6.3.2, 6.5.2 of the 2020 edition);
- f) Added the second alternative for the grounding electrode detection box load test [see 6.4.2b)];
- g) Changed the "Sealing test installation method" (see Figure 3, Figure 2 of the 2020 edition);
- h) The concrete parameters used for the test device have been changed (see Table 1, Table 1 of the 2020 edition);
- i) Added the normative appendix "Applicability of tests performed according to previous versions" (see Appendix A).

This document is equivalent to IEC 62561-5:2023 "Lightning protection system components (LPSC) Part 5: Grounding electrode detection box and grounding Requirements for Extreme Seals.

The following minimal editorial changes were made to this document.

--- Added notes in 6.1 to facilitate understanding and application.

Introduction

GB/T 33588 "Lightning protection system components (LPSC)" aims to establish the lightning protection system components designed and installed according to the IEC 62305 series of standards.

The requirements and test methods for various components used in the life protection system (LPS) are intended to consist of eight parts.

--- Part 1: Requirements for connectors. The purpose is to establish the requirements and test methods for metal connectors in lightning protection systems.

--- Part 2: Requirements for lightning terminals, down conductors and grounding electrodes. The purpose is to establish the requirements for the metallic conductors that constitute lightning terminals and down conductors.

Requirements and test methods for metal grounding electrodes (non-"natural" conductors) and metal grounding electrodes that constitute the grounding system.

--- Part 3: Requirements for Isolating Spark Gaps (ISGs). The purpose is to establish the requirements for isolating spark gaps in lightning protection systems and test methods.

--- Part 4: Requirements for conductor fasteners. The purpose is to establish the metal fasteners used to fix and support air terminals, down conductors and grounding devices.

Requirements and test methods for fasteners for metal and non-metallic conductors.

--- Part 5: Requirements for grounding electrode detection boxes and grounding electrode seals. The purpose is to establish grounding electrode detection boxes installed underground Requirements and test methods for terminal boxes and earthing electrode seals.

--- Part 6: Requirements for lightning strike counters (LSCs). The purpose is to establish the requirements and test methods for lightning strike counters.

--- Part 7: Requirements for grounding resistance reduction materials. The purpose is to establish the requirements and tests for grounding resistance reduction materials in lightning protection systems method.

--- Part 8: Requirements for isolation components of lightning protection systems. The purpose is to establish the requirements for insulation supports and insulation down conductors and their special tight Requirements and test methods for firmware.

Lightning Protection System Components (LPSC) Part 5: Earthing electrode test box and earthing electrode Requirements for seals

1 Scope

This document specifies the requirements for grounding electrode test boxes (terminal boxes) and grounding electrode seals installed underground, and describes the corresponding tests.

method.

Lightning protection system components (LPSC) are also suitable for use in hazardous environments. Components installed in such conditions must take into account necessary additional requirements.

NOTE: For different requirements and test procedures, see EN 124 (all parts) and EN 1253 (all parts).

2 Normative references

This document has no normative references.

3 Terms and definitions

The following terms and definitions apply to this document.

The terminology databases used for standardization maintained by ISO and IEC are located at.

A box consisting of a metal or non-metal box body and a removable cover, which contains the down conductor and grounding electrode for detection and testing.

Connect the terminals or breakout card.

Earthing electrode seals A hydraulic seal used when a grounding electrode passes through or enters a building foundation or wall to prevent groundwater from entering the building.

earthelectrode

The part of the grounding system that is directly connected to the earth and disperses the lightning current into the earth through the conductor.

Examples. ground rods, wire (ribbon) ground electrodes, and ground plates.

4.1 Grounding electrode detection box

According to the load stress tolerance, they are divided into.

- a) Class H. suitable for heavy-duty vehicles such as low-speed or multi-axle vehicles passing through;
- b) Class M. suitable for medium loads such as those passed by low-speed light motor vehicles;