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

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**Information technology - Telecommunications bonding
networks for buildings and other structures
(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 modified to adopt ISO/IEC 30129:2015 "Information technology - Telecommunications networks for buildings and other structures".

This document has made the following structural adjustments compared to ISO/IEC 30129:2015.

--- Figures 1 to 19 correspond to Figures 2 to 20 in ISO/IEC 30129:2015;

---Appendix A and Appendix C correspond to Appendix C and Appendix A in ISO/IEC 30129:2015 respectively.

The technical differences between this document and ISO/IEC 30129:2015 and their reasons are as follows.

--- Replaced IEC 60950-1 with the normative reference GB 4943.1 (see 7.4.2, A.3.2);

--- Replaced IEC 60364-5-54 with the normative reference GB/T 16895.3 (see 7.2.1, 7.4.1.1, 7.4.1.2, 7.5.2.1);

--- Replaced IEC 60364-4-44 with the normative reference GB/T 16895.10 (see Chapter 4, 6.1, 7.2.1, 7.4.1.2, 7.6.2, 9.2.1.1);

--- Replaced IEC 60364-4-41 with the normative reference GB/T 16895.21 (see 7.2.1, 7.4.1.2);

- Replaced IEC 61140 with the normative reference GB/T 17045 (see 7.2.1, 7.4.1.2);
- Replaced IEC 61557-4 with the normative reference GB/T 18216.4 (see 6.3.3.1);
- Replaced IEC 61557-5 with the normative reference GB/T 18216.5 (see 6.3.3.1);
- Replaced ISO/IEC 14763-2 with the normative reference GB/T 34961.2-2024 (see 3.1, Chapter 5, 7.5.3.1, 11.2.1.2, 11.2.2.2, 11.6.1) to adapt to my country's technical conditions and applications.

The following editorial changes were made to this document.

- Incorporated the amendments to ISO/IEC 30129:2015/AMD1:2019, the outer margin positions of the clauses involved it is marked with vertical double lines (||);
- Added a note in 7.5.2.2.1 to clarify the meaning of the ROUNDUP function in this document.

1 Scope

This document specifies requirements and recommendations for the design and installation of connections between various conductive elements in buildings and other structures.

During the construction or renovation of buildings and other structures, information technology (IT) and more broadly telecommunications equipment is installed for the purpose of.

- a) minimize the risk of electrical hazards to the correct function of the equipment and interconnecting cabling;
- b) Provide reliable signal reference for telecommunication equipment and improve immunity to electromagnetic interference (EMI).

This document applies to buildings and other structures within the building complex referred to in GB/T 34961.2-2024 (such as residences, offices, industrial and data centers), and also helps other types of buildings and structures.

NOTE: Telecommunication centres (operator buildings) are dealt with by ITU-T K.27.

This document is not applicable to power distribution systems with voltages above 1000V AC.

Electromagnetic compatibility (EMC) requirements and safety requirements for power supply installations are outside the scope of this document and are covered by other standards and regulations.

However, the information provided in this document may be helpful in meeting the requirements of these standards and regulations.

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.

GB 4943.1 Audio, video, information technology and communication technology equipment Part 1: Safety requirements (GB 4943.1-2022, IEC 62368-1:2018,MOD) GB/T 16895.3 Low voltage electrical installations Part 5-54.Selection and installation of electrical equipment Grounding arrangements and protective conductors (GB/T 16895.3-2017,IEC 60364-5-54:2011,IDT) GB/T 16895.10-2021 Low voltage electrical installations Part 4-44.Safety protection against voltage disturbances and electromagnetic disturbances (IEC 60364-4-44:2018, IDT) GB/T 16895.21 Low voltage electrical installations Part 4-41.Safety protection Protection against electric shock (GB/T 16895.21-2020, IEC 60364-4-41:2017, IDT) GB/T 17045 Common parts for electric shock protection devices and equipment (GB/T 17045-2020, IEC 61140:2016, IDT) GB/T 18216.4 Tests for electrical safety protection measures for low voltage distribution systems of 1000V AC and 1500V DC and below.

Measuring or monitoring equipment Part 4: Earth resistance and equipotential earth resistance (GB/T 18216.4-2021, IEC 61557-4.

2019, IDT)

GB/T 18216.5 Tests for electrical safety protection measures for low voltage distribution systems of 1000V AC and 1500V DC and below.

Measuring or monitoring equipment Part 5: Resistance to earth (GB/T 18216.5-2021, IEC 61557-5:2019, IDT) GB/T 34961.2-2024 Information technology user building cabling implementation and operation Part 2: Planning and installation (ISO/IEC 14763-2:2019,MOD)

3.1 Terms and Definitions

The terms and definitions defined in GB/T 34961.2-2024 and the following apply to this document. Appendix A provides alternatives to certain terms.