



ISO/IEC 30129

Edition 1.2 2025-07

# INTERNATIONAL STANDARD

CONSOLIDATED VERSION

**Information technology - Telecommunications bonding networks for buildings  
and other structures**

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## **Information technology - Telecommunications bonding networks for buildings and other structures**

### **FOREWORD**

- 1) ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.
- 2) The formal decisions or agreements of IEC and ISO on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC and ISO National bodies.
- 3) IEC and ISO documents have the form of recommendations for international use and are accepted by IEC and ISO National bodies in that sense. While all reasonable efforts are made to ensure that the technical content of IEC and ISO documents is accurate, IEC and ISO cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC and ISO National bodies undertake to apply IEC and ISO documents transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC and ISO document and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC and ISO do not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC and ISO marks of conformity. IEC and ISO are not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this document.
- 7) No liability shall attach to IEC and ISO or their directors, employees, servants or agents including individual experts and members of its technical committees and IEC and ISO National bodies for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this ISO/IEC document or any other IEC and ISO documents.
- 8) Attention is drawn to the Normative references cited in this document. Use of the referenced publications is indispensable for the correct application of this document.
- 9) IEC and ISO draw attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC and ISO take no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC and ISO had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at <https://patents.iec.ch> and [www.iso.org/patents](http://www.iso.org/patents). IEC and ISO shall not be held responsible for identifying any or all such patent rights.

This consolidated version of the official IEC Standard and its amendments has been prepared for user convenience.

ISO/IEC 30129 edition 1.2 contains the first edition (2015-10) [documents 72/899/FDIS and 72/928/RVD], its amendment 1 (2019-02) [documents JTC1-SC25/2849/FDIS and JTC1-SC25/2858/RVD] and its amendment 2 (2025-07) [documents JTC1-SC25/3308/FDIS and JTC1-SC25/3325/RVD].

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendments 1 and 2. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

International Standard ISO/IEC 30129 was prepared by subcommittee 25: Interconnection of information technology equipment, of ISO/IEC joint technical committee 1: Information technology.

This International Standard has been approved by vote of the member bodies, and the voting results may be obtained from the address given on the second title page.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

## INTRODUCTION

This International Standard specifies requirements and recommendations for the design and installation of connections (bonds) between various electrically conductive elements in buildings and other structures, during their construction or refurbishment, in which information ~~technology (IT) and, more generally,~~ or telecommunications ~~technology~~ equipment is intended to be installed in order to

- a) minimise the risk to the correct function of that equipment and interconnecting cabling from electrical hazards,
- b) provide the telecommunications installation with a reliable signal reference – which may improve immunity from electromagnetic interference (EMI).

This International Standard

- specifies assessment criteria to determine the relevant bonding configurations that are appropriate,
- enables the implementation of any bonding configurations that may be necessary by means of either
  - the provision of a bonding network that utilises the existing protective bonding network for electrical safety, or
  - the provision of a dedicated bonding network for the telecommunications infrastructure.

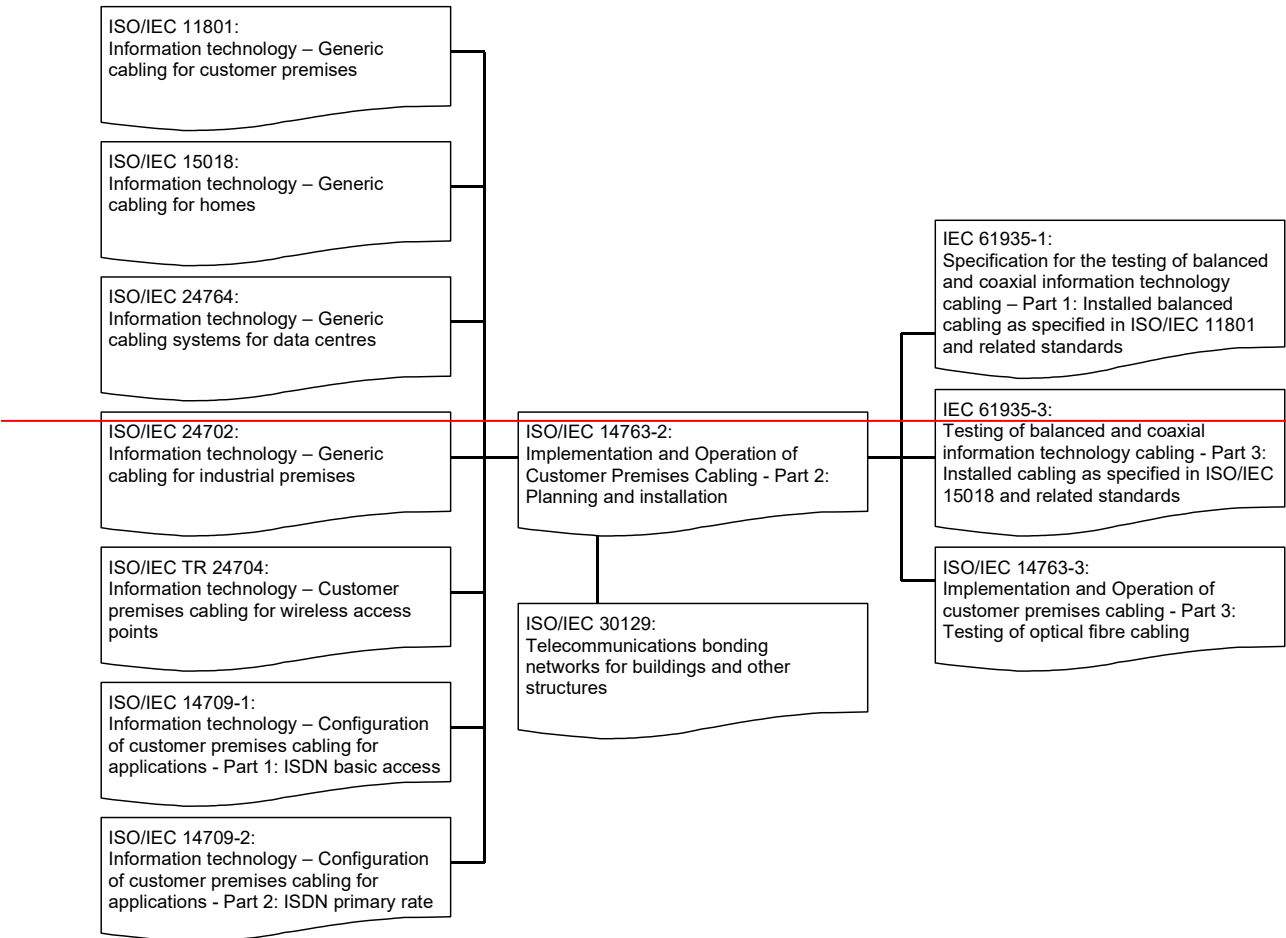
This standard is intended for

- building architects, owners and managers,
- designers and installers of electrical and telecommunications cabling installations.

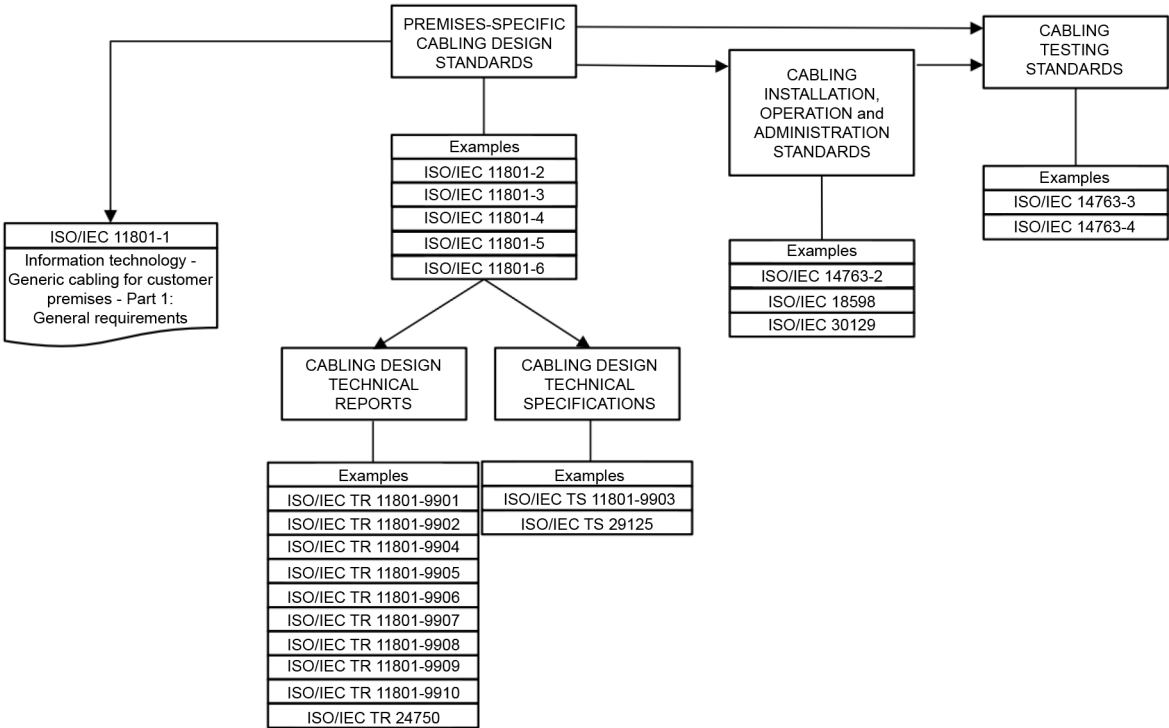
This International Standard is one of a number of documents prepared in support of international standards and technical reports for cabling design produced by ISO/IEC JTC 1/SC 25. Figure 1 shows the inter-relationship between these standards and technical reports.

Users of this standard should be familiar with all applicable cabling design and installation standards.

NOTE Telecommunications infrastructure affects raw material consumption. The infrastructure design and installation methods also influence product life and sustainability of electronic equipment life cycling. These aspects of telecommunications infrastructure impact our environment. Since building life cycles are typically planned for decades, technological electronic equipment upgrades are necessary. The telecommunications infrastructure design and installation process magnifies the need for sustainable infrastructures with respect to building life, electronic equipment life cycling and considerations of effects on environmental waste. Telecommunications designers are encouraged to research local building practices for a sustainable environment and conservation of fossil fuels as part of the design process.



IEC



IEC

Figure 1 – Schematic relationship between ISO/IEC 30129 and other relevant standards



## 1 Scope

This International Standard specifies requirements and recommendations for the design and installation of connections (bonds) between various electrically conductive elements in buildings and other structures, during their construction or refurbishment, in which information ~~technology (IT) and, more generally,~~ or telecommunications ~~technology~~ equipment is intended to be installed in order to

- c) minimise the ~~risk to the correct function of that equipment and interconnecting cabling from electrical hazards~~ d.c. and a.c. potential differences in telecommunications networks due to electromagnetic disturbance, power transients, and other causes to reduce the risk of malfunction of equipment, and
- d) provide the telecommunications installation with a reliable signal reference – which ~~may improve~~ improves immunity from electromagnetic interference (EMI).

The requirements of this International Standard are applicable to the buildings and other structures within premises addressed by ISO/IEC 14763-2 (e.g. residential, office, industrial and data centres) but information given in this International Standard may be of assistance for other types of buildings and structures.

NOTE Telecommunications centres (operator buildings) are addressed by ITU-T K.27.

This International Standard does not apply to power supply distribution of voltages over AC 1 000 V.

Electromagnetic compatibility (EMC) requirements and safety requirements for power supply installation are outside the scope of this International Standard and are covered by other standards and regulations. However, information given in this International Standard may be of assistance in meeting the requirements of these standards and regulations.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60364-4-41, *Low-voltage electrical installations – Part 4-41: Protection for safety – Protection against electric shock*

IEC 60364-4-44:2007, *Low-voltage electrical installations – Part 4-44: Protection for safety – Protection against voltage disturbances and electromagnetic disturbances*

IEC 60364-5-54, *Low-voltage electrical installations – Part 5-54: Selection and erection of electrical equipment – Earthing arrangements and protective conductors*

~~IEC 60950-1, Information technology equipment – Safety – Part 1: General requirements~~

IEC 62368-1, *Audio/video, information and communication technology equipment - Part 1: Safety requirements*

IEC 61140, *Protection against electric shock – Common aspects for installation and equipment*

ISO/IEC 14763-2:2012, *Information technology – Implementation and operation of customer premises cabling – Part 2: Planning and installation*

IEC 61557-4, *Electrical safety in low voltage distribution systems up to 1 000 V a.c. and 1 500 V d.c. – Equipment for testing, measuring or monitoring of protective measures – Part 4. Resistance of earth connection and equipotential bonding*

IEC 61557-5, *Electrical safety in low voltage distribution systems up to 1 000 V a.c. and 1 500 V d.c. – Equipment for testing, measuring or monitoring of protective measures – Part 5. Resistance to earth*

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## INTRODUCTION

This International Standard specifies requirements and recommendations for the design and installation of connections (bonds) between various electrically conductive elements in buildings and other structures, during their construction or refurbishment, in which information or telecommunications technology equipment is intended to be installed in order to

- a) minimise the risk to the correct function of that equipment and interconnecting cabling from electrical hazards,
- b) provide the telecommunications installation with a reliable signal reference – which may improve immunity from electromagnetic interference (EMI).

This International Standard

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This standard is intended for

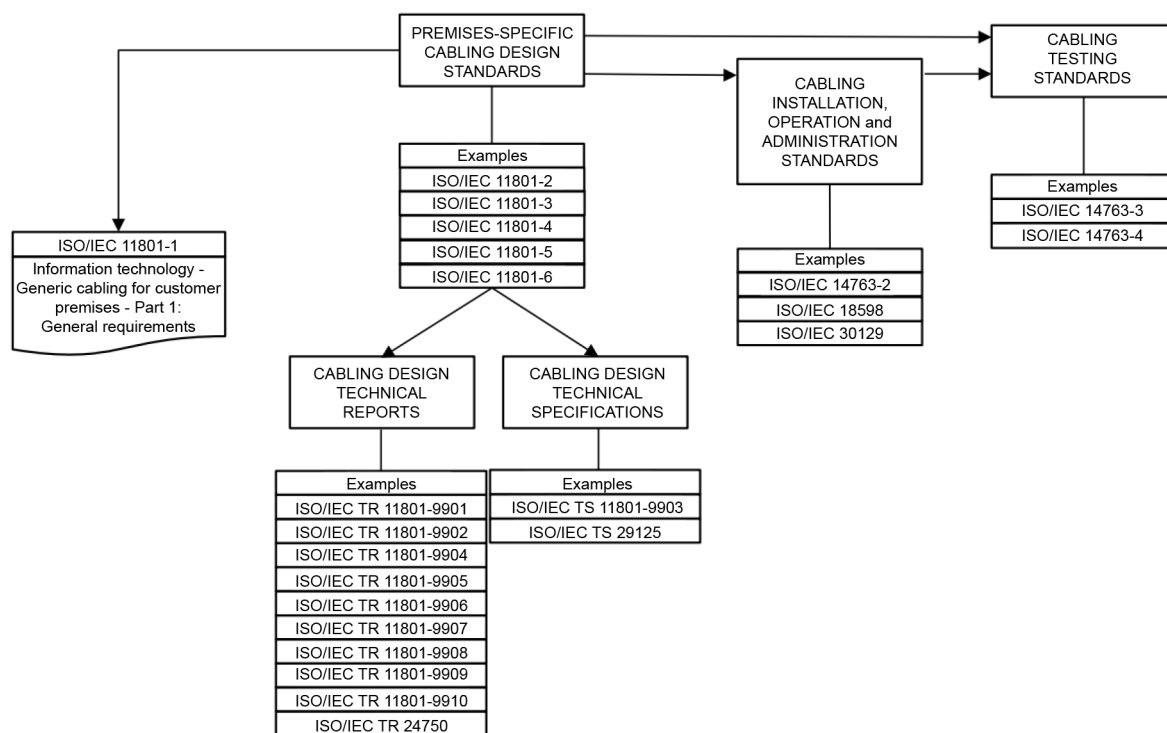
- building architects, owners and managers,
- designers and installers of electrical and telecommunications cabling installations.

This International Standard is one of a number of documents prepared in support of international standards and technical reports for cabling design produced by ISO/IEC JTC 1/SC 25. Figure 1 shows the inter-relationship between these standards and technical reports.

Users of this standard should be familiar with all applicable cabling design and installation standards.

**NOTE** Telecommunications infrastructure affects raw material consumption. The infrastructure design and installation methods also influence product life and sustainability of electronic equipment life cycling. These aspects of telecommunications infrastructure impact our environment. Since building life cycles are typically planned for decades, technological electronic equipment upgrades are necessary. The telecommunications infrastructure design and installation process magnifies the need for sustainable infrastructures with respect to building life, electronic equipment life cycling and considerations of effects on environmental waste. Telecommunications designers are encouraged to research local building practices for a sustainable environment and conservation of fossil fuels as part of the design process.





IEC

**Figure 1 – Schematic relationship between ISO/IEC 30129 and other relevant standards**

## 1 Scope

This International Standard specifies requirements and recommendations for the design and installation of connections (bonds) between various electrically conductive elements in buildings and other structures, during their construction or refurbishment, in which information or telecommunications technology equipment is intended to be installed in order to

- c) minimise the d.c. and a.c. potential differences in telecommunications networks due to electromagnetic disturbance, power transients, and other causes to reduce the risk of malfunction of equipment, and
- d) provide the telecommunications installation with a reliable signal reference – which improves immunity from electromagnetic interference (EMI).

The requirements of this International Standard are applicable to the buildings and other structures within premises addressed by ISO/IEC 14763-2 (e.g. residential, office, industrial and data centres) but information given in this International Standard may be of assistance for other types of buildings and structures.

NOTE Telecommunications centres (operator buildings) are addressed by ITU-T K.27.

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Electromagnetic compatibility (EMC) requirements and safety requirements for power supply installation are outside the scope of this International Standard and are covered by other standards and regulations. However, information given in this International Standard may be of assistance in meeting the requirements of these standards and regulations.

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IEC 60364-4-44:2007, *Low-voltage electrical installations – Part 4-44: Protection for safety – Protection against voltage disturbances and electromagnetic disturbances*

IEC 60364-5-54, *Low-voltage electrical installations – Part 5-54: Selection and erection of electrical equipment – Earthing arrangements and protective conductors*

IEC 62368-1, *Audio/video, information and communication technology equipment - Part 1: Safety requirements*

IEC 61140, *Protection against electric shock – Common aspects for installation and equipment*

ISO/IEC 14763-2, *Information technology – Implementation and operation of customer premises cabling – Part 2: Planning and installation*

IEC 61557-4, *Electrical safety in low voltage distribution systems up to 1 000 V a.c. and 1 500 V d.c. – Equipment for testing, measuring or monitoring of protective measures – Part 4. Resistance of earth connection and equipotential bonding*

IEC 61557-5, *Electrical safety in low voltage distribution systems up to 1 000 V a.c. and 1 500 V d.c. – Equipment for testing, measuring or monitoring of protective measures – Part 5. Resistance to earth*