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INTERNATIONAL STANDARD

colour inside

Information technology – Implementation and operation of customer premises cabling –
Part 2: Planning and installation

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INFORMATION TECHNOLOGY – IMPLEMENTATION AND OPERATION OF CUSTOMER PREMISES CABLING –

Part 2: Planning and installation

FOREWORD

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2) In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

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10) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

International Standard ISO/IEC 14763-2 was prepared by subcommittee 25: Interconnection of information technology equipment, of ISO/IEC joint technical committee 1: Information technology.

This first edition supersedes Clauses 11 and 12 of ISO/IEC 11801, published in 2002, replaces ISO/IEC 14763-1, published in 1999, its Amendment 1 (2004), ISO/IEC TR 14763-2, published in 2000, ISO/IEC 18010, published in 2002, and its Amendment 1 (2005) and constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

In addition to the supersession of parts of earlier standards and the incorporation of other standards, this standard provides much greater detail in all aspects of planning and installation with respect to ISO/IEC TR 14763-2 and provides clearly differentiated and directed requirements and recommendations.

The list of all currently available parts of the ISO/IEC 14763 series, under the general title *Information technology – Implementation and operation of customer premises cabling*, can be found on the IEC web site.

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.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

The importance of services delivered by information technology cabling infrastructure is similar to that of utilities such as heating, lighting and electricity supplies. As with those utilities, interruptions to service can have a serious impact. Poor quality of service due to lack of planning, use of inappropriate components, incorrect installation, poor administration or inadequate support can threaten an organisation's effectiveness.

There are four phases in the successful implementation of information technology cabling

a) design,
b) specification – the detailed requirement for the cabling, including the planning of its accommodation and associated building services addressing safety and specific environments (e.g. electromagnetic) together with the quality assurance requirements to be applied,
c) installation – in accordance with the requirements of the specification,
d) operation – the management of connectivity and the maintenance of transmission performance during the life of the cabling.

This International Standard supports the specification, implementation and operation of generic information technology cabling designed in accordance with the standards and associated documents developed by ISO/IEC JTC 1/SC 25 and addresses the following topics

- specification depending on the application, environment, building infrastructure and facilities, etc.,
- quality assurance,
- installation planning (including pathways and spaces) depending on the application, environment, building infrastructure and facilities, etc,
- installation practice (including pathways and spaces),
- documentation and administration,
- testing,
- inspection,
- operation,
- maintenance and maintainability (based on any impact from planning and installation),
- repair and repairability (based on any impact from planning and installation).

It does not cover those aspects of installation associated with the transmission of signals in free space between transmitters, receivers or their associated antenna systems (e.g. wireless, radio, microwave or satellite).

The following normative Annexes support specific aspects of planning and installation

- Annex A: Optical fibre polarity,
- Annex B: Common infrastructures within multi-tenant premises.

The requirements and recommendations of the main body of this standard are premises-independent. The following normative Annexes include requirements for generic cabling in accordance with specific standards

- Annex C: Cabling in accordance with ISO/IEC 11801,
- Annex D: Cabling in accordance with ISO/IEC 15018,
- Annex E: Cabling in accordance with ISO/IEC 24764,
- Annex F: Cabling in accordance with ISO/IEC 24702,

- Annex G: Cabling in accordance with ISO/IEC TR 24704.

This standard sets out the responsibilities of information technology cabling installers and premises owners, and is intended to be referenced in relevant contracts. The owners may delegate selected responsibilities to designers, specifiers, operators and maintainers of installed information technology cabling.

This standard is also relevant to

- architects, building designers and builders,
- main contractors,
- designers, suppliers, installers, inspectors (auditors), building managers, maintainers and owners of information technology cabling,
- public network providers and local service providers,
- end users.

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 the applicable cabling design standard.

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.

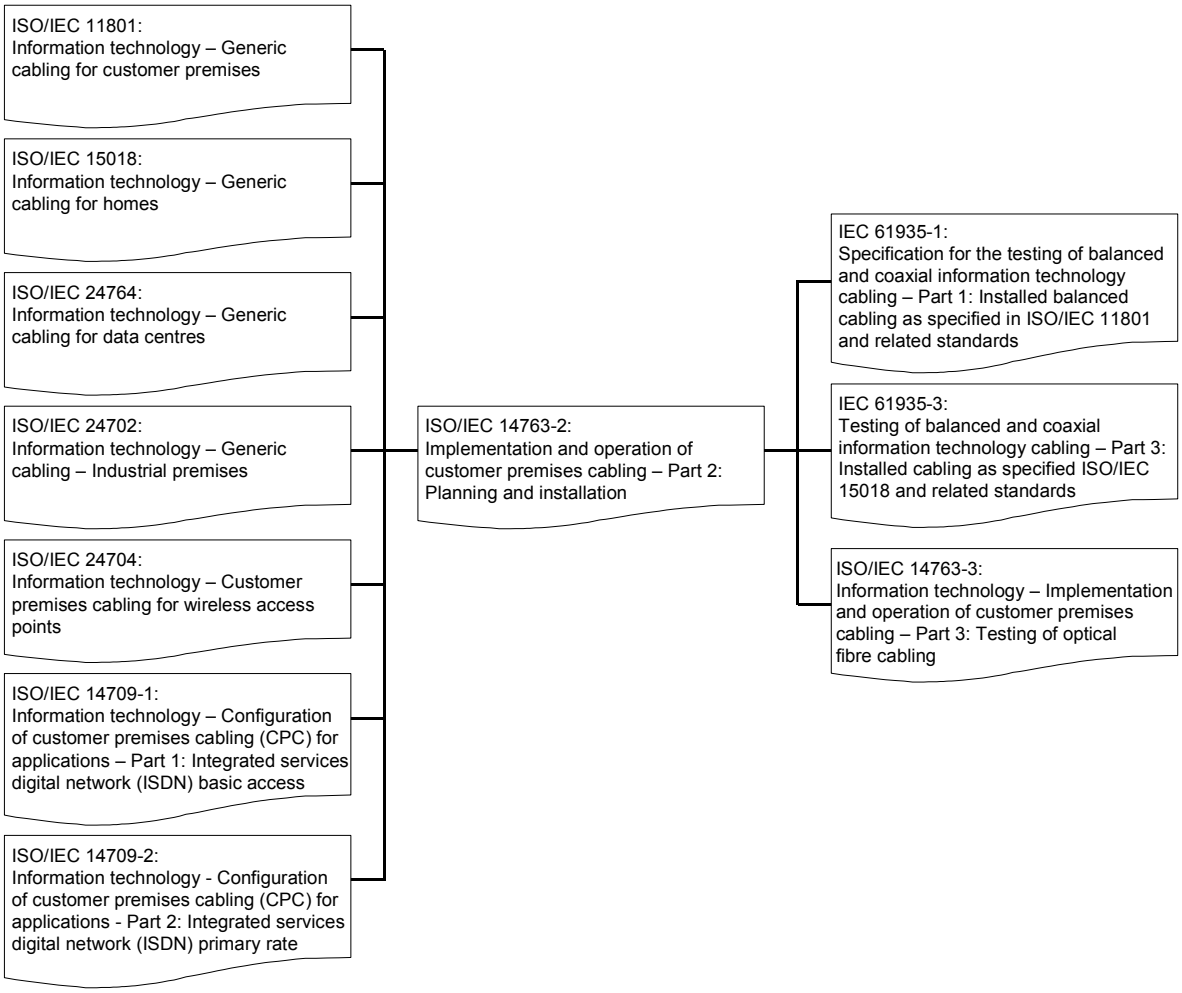

Figure 1 – Schematic relationship between ISO/IEC 14763-2 and other relevant standards

INFORMATION TECHNOLOGY – IMPLEMENTATION AND OPERATION OF CUSTOMER PREMISES CABLING –

Part 2: Planning and installation

1 Scope

This part of ISO/IEC 14763 specifies requirements for the planning, installation and operation of cabling and cabling infrastructures (including cabling, pathways, spaces, earthing and bonding) in support of generic cabling standards and associated documents.

The following aspects are addressed

- specification of the installation,
- quality assurance,
- installation planning,
- installation practice,
- documentation,
- administration,
- testing,
- inspection,
- operation,
- maintenance,
- repair.

The requirements of Clauses 5 to 14 of this standard are premises-independent and may be amended by the requirements of premises-specific Annexes.

This part of ISO/IEC 14763 excludes

- specific requirements applicable to other cabling systems (e.g. mains power cabling); however, it takes account of the effects other cabling systems may have on the installation of information technology cabling (and vice versa) and gives general advice,
- those aspects of installation associated with the transmission of signals in free space between transmitters, receivers or their associated antenna systems (e.g. wireless, radio, microwave or satellite).

This standard is applicable to certain hazardous environments but does not exclude additional requirements which are applicable in particular circumstances (e.g. electricity supply and electrified railways).

Safety (electrical safety and protection, optical power, fire, etc.) and electromagnetic compatibility (EMC) requirements 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 these standards and regulations.

2 Normative references

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

IEC 60364-5-52, *Low-voltage electrical installations – Part 5-52: Selection and erection of electrical equipment – Chapter 52: Wiring systems*

IEC 60794-2, *Optical fibre cables – Part 2: Indoor cables – Sectional specification*

IEC 61082-1, *Preparation of documents used in electrotechnology – Part 1: Rules*

IEC 61084 (all parts), *Cable trunking and ducting systems for electrical installations*

IEC 61156-5 (all parts), *Multicore and symmetrical pair/quad cables for digital communications – Part 5: Symmetrical pair/quad cables with transmission characteristics up to 1 000 MHz – Horizontal floor wiring*

IEC 61156-6 (all parts), *Multicore and symmetrical pair/quad cables for digital communications – Part 6: Symmetrical pair/quad cables with transmission characteristics up to 1 000 MHz – Work area wiring*

IEC 61386 (all parts), *Conduit systems for cable management*

IEC 61537, *Cable management – Cable tray systems and cable ladder systems*

IEC 61784-5 (all parts), *Industrial communication networks – Profiles*

IEC 61918:2010, *Industrial communication networks – Installation of communication networks in industrial premises*

IEC 61935-1, *Specification for the testing of balanced and coaxial information technology cabling – Part 1: Installed balanced cabling as specified in ISO/IEC 11801 and related standards*

IEC 61935-3, *Testing of balanced and coaxial information technology cabling – Part 3: Installed cabling as specified in ISO/IEC 15018*

IEC 61969-1, *Mechanical structures for electronic equipment – Outdoor enclosures – Part 1: Design guidelines*

IEC 61969-2, *Mechanical structures for electronic equipment – Outdoor enclosures – Part 2: Sectional specification – Coordination dimensions for cases and cabinets*

IEC 62305-4, *Protection against lightning – Electrical and electronic systems within structures*

ISO/IEC 11801:2002, *Information technology – Generic cabling for customer premises*
Amendment 1 (2008)
Amendment 2 (2010)

ISO/IEC 14709-1, *Information technology – Configuration of Customer Premises Cabling (CPC) for applications – Part 1: Integrated Services Digital Network (ISDN) basic access*

ISO/IEC 14709-2, *Information technology – Configuration of Customer Premises Cabling (CPC) for applications – Part 2: Integrated services Digital Network (ISDN) primary rate*

ISO/IEC 14763-3, *Information technology – Implementation and operation of customer premises cabling – Part 3: Testing of optical fibre cabling*

ISO/IEC 15018:2004, *Information technology – Generic cabling for homes*
Amendment 1 (2009)

ISO/IEC 20000-1, *Information technology – Service management – Part 1: Service management system requirements*

ISO/IEC 24702:2006, *Information technology – Generic cabling – Industrial premises*
Amendment 1 (2009)

ISO/IEC TR 24704:2004, *Information technology – Customer premises cabling for wireless access points*

ISO/IEC 24764:2010, *Information technology – Generic cabling systems for data centres*

ISO/IEC TR 29106, *Information technology – Generic cabling – Introduction to the MICE environmental classification*