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Information technology – Implementation and operation of customer premises cabling –
Part 3: Testing of optical fibre cabling

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Part 3: Testing of optical fibre cabling

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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INFORMATION TECHNOLOGY – IMPLEMENTATION AND OPERATION OF CUSTOMER PREMISES CABLING –

Part 3: Testing of optical fibre cabling

FOREWORD

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

This Consolidated version of ISO/IEC 14763-3 bears the edition number 2.1. It consists of the second edition (2014-06) and its corrigendum (2015-03), and its amendment 1 (2018-08). The technical content is identical to the base edition and its amendment.

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. 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 14763-3 was prepared by subcommittee 25: Interconnection of information technology equipment, of ISO/IEC joint technical committee 1: Information technology.

This edition constitutes a technical revision.

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

– general requirements (Clause 5) have been revised and the concept of normalization has been replaced by reference measurements;
– OTDR characterization (6.2) and requirements for cabling interface adapters (6.3) and test cords have been revised and requirements for single-mode fibre test cords (6.3.4) have been removed;
– enhanced three-test-cord reference method has been introduced (9.1.1.2);
– requirements for the attenuation measurement of cords (10.6) have been revised;
– Annex A "Launched modal distribution (LMD)" has been simplified and the new title now reads "Launched modal conditions for testing multimode optical fibre cabling";
– visual inspection criteria for connectors have been reworked (Annex B);
– information on optical time domain reflectometry (Annex C) has been revised;
– examples of calculations of channel and permanent link limits (Annex G) have been revised;
– and information regarding cleaning and inspection of fibre optic connections have been added (Annex H).

A list of all parts in the ISO/IEC 14763 series, published under the general title *Information technology – Implementation and operation of customer premises cabling*, can be found on the IEC website.

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

The committee has decided that the contents of the base publication and its amendment will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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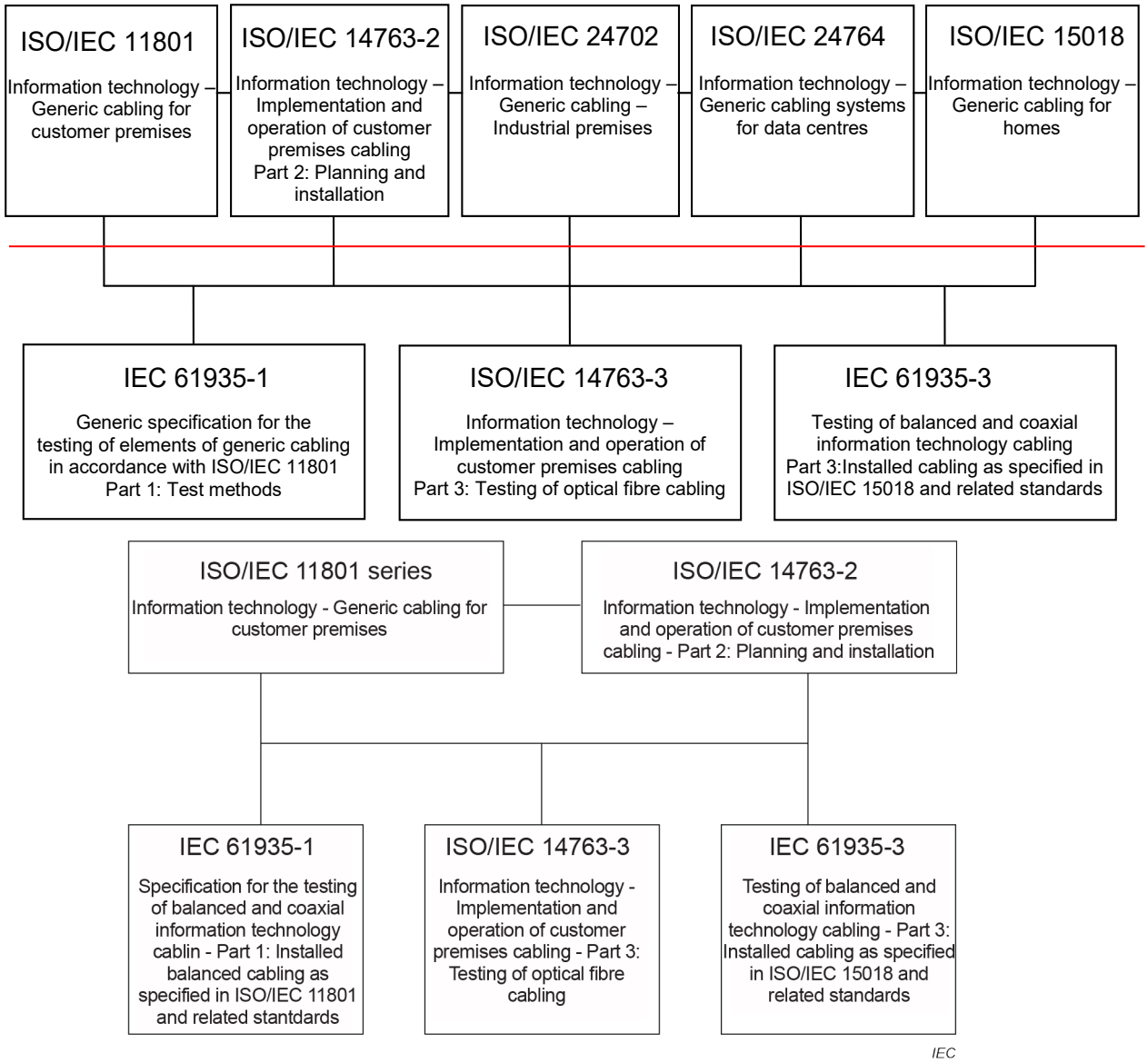
- amended.

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

This International Standard ~~is one of four~~ has been prepared in support of International Standard series ISO/IEC 11801 ~~and other cabling standards~~.

Figure 1 below shows the inter-relationship between ISO/IEC 11801 series and other International Standards and for cabling systems with related standards.



NOTE ISO/IEC 15018 has been replaced by ISO/IEC 11801-4.

Figure 1 – Relationship of related International Standards

ISO/IEC 14763-3 details the inspection and test procedures for optical fibre cabling,

a) designed in accordance with premises cabling standards including the ISO/IEC 11801 series~~, ISO/IEC 24764, ISO/IEC 24702 and ISO/IEC 15018~~, and

b) installed according to the requirements and recommendations of ISO/IEC 14763-2.

Users of this International Standard should be familiar with relevant premises cabling standards and ISO/IEC 14763-2.

The quality plan for each installation will define the acceptance tests and sampling levels selected for that installation. Requirements and recommendations for the development of a quality plan are described in ISO/IEC 14763-2.

NOTE JTC 1/SC 25, in cooperation with IEC/TC 86, is currently developing an overall quantitative model to calculate total measurement uncertainty as stated in the reference planes of ISO/IEC 11801-1. When such a model has been verified, it is expected to be incorporated into this standard in form of an Amendment, thereby removing pertinent clauses currently marked “ffs” (for further study).

INTRODUCTION to the amendment

This document contains information for inspecting end faces of the different kinds of installed fibre optic cabling interfaces and connectors of test cords and recommendations for cleaning these interfaces, and replaces the normative Annex B and deletes the informative Annex H of ISO/IEC 14763-3:2014.

Additional information regarding channel and link testing is provided to Annex E.

INFORMATION TECHNOLOGY – IMPLEMENTATION AND OPERATION OF CUSTOMER PREMISES CABLING –

Part 3: Testing of optical fibre cabling

1 Scope

This part of ISO/IEC 14763 specifies systems and methods for the inspection and testing of installed optical fibre cabling designed in accordance with premises cabling standards including the ISO/IEC 11801 series~~, ISO/IEC 24764, ISO/IEC 24702 and ISO/IEC 15018~~. The test methods refer to existing standards-based procedures where they exist.

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.

ISO/IEC 11801-1, *Information technology – Generic cabling for customer premises – Part 1: General requirements*

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

IEC 60050-731, *International Electrotechnical Vocabulary – Chapter 731: Optical fibre communication*

IEC 60825-2, *Safety of laser products – Part 2: Safety of optical fibre communication systems (OFCS)*

IEC 60874-14-3, *Connectors for optical fibres and cables – Part 14-3: Detail specification for fibre optic adapter (simplex) type SC for single-mode fibre*

IEC 60874-19-1, *Fibre optic interconnecting devices and passive components – Connectors for optical fibres and cables – Part 19-1: Fibre optic patch cord connector type SC-PC (floating duplex) standard terminated on multimode fibre type A1a, A1b – Detail specification*

IEC 61280-1-3, *Fibre optic communication subsystem test procedures – Part 1-3: General communication subsystems – Central Wavelength and spectral width measurement*

IEC 61280-1-4, *Fibre optic communication subsystem test procedures – Part 1-4: General communication subsystems – Light source encircled flux measurement method*

IEC 61280-4-1, *Fibre-optic communication subsystem test procedures – Part 4-1: Installed cable plant – Multimode attenuation measurement*

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IEC 61300-3-4, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-4: Examinations and measurements – Attenuation*

IEC 61300-3-6, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-6: Examinations and measurements – Return loss*

IEC 61300-3-35~~:2009~~, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-35: Examinations and measurements – Visual inspection of fibre optic connectors ~~endface visual~~ and ~~automated inspection~~ fibre-stub transceivers*

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IEC 62614, *Fibre optics – Launch condition requirements for measuring multimode attenuation*

IEC 62664-1-1, *Fibre optic interconnecting devices and passive components – Fibre optic connector product specifications – Part 1-1: LC-PC duplex multimode connectors terminated on IEC 60793-2-10 category A1a fibre*

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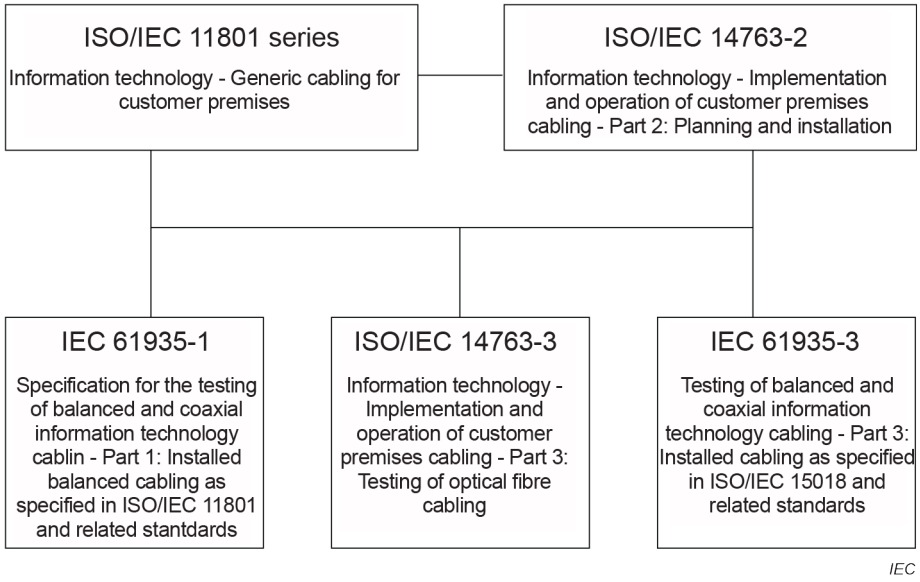

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