

INTERNATIONAL STANDARD

**Information technology – Implementation and operation of customer premises
cabling –
Part 4: Measurement of end-to-end (E2E) links**



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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 35.200

ISBN 978-2-8322-5444-8

Warning! Make sure that you obtained this publication from an authorized distributor.

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INFORMATION TECHNOLOGY – IMPLEMENTATION AND OPERATION OF CUSTOMER PREMISES CABLING –

Part 4: Measurement of end-to-end (E2E) links

FOREWORD

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International Standard ISO/IEC 14763-4 has been prepared by subcommittee SC 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 can be obtained from the address given on the second title page.

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

A list of all parts of 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 and ISO websites.

INTRODUCTION

Balanced cabling is constructed for connecting equipment using free connectors. It is known that field termination in all parts of the channel has an influence on the channel performance.

Poor termination can cause problems in the channel performance and may affect reliable data transmission.

Until now, a verification of the field terminated cabling was done by measurement of the channel performance of Channel Class D or E according to ISO/IEC 11801-1. The measurement of Channel Class D or E excludes the connections at the end of the cable. The measurement of Channel Class D or E does not identify the influence to the performance caused by bad terminations of the connections at the end.

The measurement of performance of end-to-end (E2E) link includes the termination on both ends of balanced cabling.

This document describes the measurement of E2E links of two- and four-pair balanced cabling of 100 MHz of Class D and 250 MHz of Class E using laboratory and field tester measurement procedures.

The performance of E2E links is described in ISO/IEC TR 11801-9902.

INFORMATION TECHNOLOGY – IMPLEMENTATION AND OPERATION OF CUSTOMER PREMISES CABLING –

Part 4: Measurement of end-to-end (E2E) links

1 Scope

This part of ISO/IEC 14763 specifies the measurement at frequencies of E2E links of two- and four-pair balanced cabling of 100 MHz of Class D and 250 MHz of Class E including free connectors which terminate two and four pairs in both field and laboratory conditions.

The specifications for E2E links are described in ISO/IEC TR 11801-9902.

This document specifies laboratory and field measurement procedures. The requirements for accuracy to measure cabling parameters identified in ISO/IEC TR 11801-9902 are provided in IEC 61935-1 and IEC 61935-2.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

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

ISO/IEC TR 11801-9902:2017, *Information technology – Generic cabling for customer premises – Part 9902: End-to-end link configurations*

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

IEC 60512-29-100, *Connectors for electronic equipment – Tests and measurements – Part 29-100: Signal integrity tests up to 500 MHz on M12 style connectors – Tests 29a to 29g*

IEC 61918, *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 61935-2, *Specification for the testing of balanced and coaxial information technology cabling – Part 2: Cords as specified in ISO/IEC 11801 and related standards*