ISO/IEC TR 11801-9902

Edition 1.0 2017-06

TECHNICAL REPORT

Information technology – Generic cabling for customer premises – Part 9902: End-to-end link configurations

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INFORMATION TECHNOLOGY – GENERIC CABLING FOR CUSTOMER PREMISES –

Part 9902: End-to-end link configurations

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ISO/IEC TR 11801-9902, which is a Technical Report, was prepared by subcommittee 25: Interconnection of information technology equipment, of ISO/IEC joint technical committee 1: Information technology.

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

The list of all currently available parts of the ISO/IEC 11801 series, under the general title *Information technology — Generic cabling for customer premises*, can be found on the IEC website.

INTRODUCTION

One major difference between a standard generic cabling installation and an industrial cabling as also other application areas of cabling is how it is installed. In these areas it is common practice to deploy cabling channels constructed from one or more cords as described in Annex B and Annex C of ISO/IEC 11801-3:—[1]. In addition, the cords are field terminated rather than pre-terminated into plugs elsewhere. As a result, these cords might have problems associated with the termination process which are not identified during channel verification testing in accordance with ISO/IEC 11801-1 since such testing excludes the free connectors at the end of the channel.

This Technical Report provides definitions for, and examples of, such cabling implementations, described as end-to-end (E2E) links. It also provides performance specifications to support Class D and Class E balanced cabling channels of ISO/IEC 11801-1 which include the impact of the terminating connectors that may be used for performance verification using the test method of ISO/IEC 14763-4.

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[1] Under preparation. Stage at the time of publication: ISO/IEC FDIS 11801-3:2017.

INFORMATION TECHNOLOGY – GENERIC CABLING FOR CUSTOMER PREMISES –

Part 9902: End-to-end link configurations

1 Scope

This part of ISO/IEC 11801, which is a Technical Report, provides definitions for, and examples of, cabling implementations described as end-to-end (E2E) links.

In addition, this document provides performance specifications to support Class D and Class E balanced cabling channels of ISO/IEC 11801-1. These specifications amend those channel specifications of ISO/IEC 11801-1 by including the impact of the free connectors in accordance with the interfaces specified in ISO/IEC 11801-3 used to terminate the E2E link.

Test methods are provided in ISO/IEC 14763-4.

End-to-end link configurations can include any type of connection.

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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.

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ISO/IEC 11801-1[2], *Information technology – Generic cabling for customer premises – Part 1: General requirements*

ISO/IEC 11801-3[3], *Information technology – Generic cabling for customer premises – Part 3: Industrial premises*

ISO/IEC 14763-4[4], *Information technology – Implementation and operation of customer premises cabling – Part 4: Measurement of end-to-end (E2E)-links*

3 Terms, definitions, abbreviated terms and symbols

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 11801-1, ISO/IEC 11801-3 and the following apply.

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2 Under preparation. Stage at the time of publication: ISO/IEC FDIS 11801-1:2017.

3 Under preparation. Stage at the time of publication: ISO/IEC FDIS 11801-3:2017.

4 Under preparation. Stage at the time of publication: ISO/IEC CDV 14763-4:2017.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1.1
end-to-end link
end-to-end transmission path formed by structured cabling based on passive components including the portion of the end connection that is attached to the link and the portion of the end connection that is attached to the end equipment

3.1.2
fixed connector
connector for attachment to a rigid surface

3.1.3
free connector
connector for attachment to a free end

3.1.4
bulkhead connection
connection that serves as an interconnection point located through an enclosure wall

3.1.5
segment
cabling between connectors of an end-to-end link

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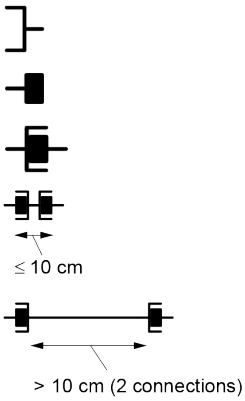
3.2 Abbreviated terms

For the purposes of this document, the abbreviations given in ISO/IEC 11801-1, ISO/IEC 11801-3 and the following apply.

B	bulkhead connection
C	connection
CP	consolidation point
E2E	end-to-end
ffs	for further study
L1	length of E2E-link
TI	test interface

3.3 Symbols

For the purposes of this document, the symbols given in ISO/IEC 11801-1, ISO/IEC 11801-3 and the following apply.



The symbols shown in Figure 1 define the number of connections in all E2E links.

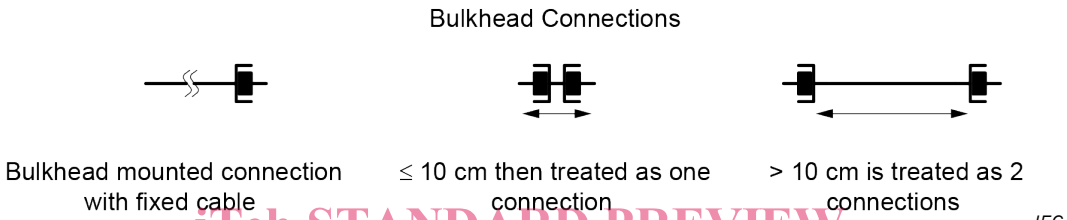


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Figure 1 – Symbols for bulkhead connections

NOTE Bulkhead mounted connections with fixed cable can have a variable length to accommodate the installation with in the cabinet.

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Bulkhead connector assemblies can consist of one plug jack assembly with a cable attached or two back-to-back jacks meeting the distance specifications defined by IEC 61918 for a specific transmission class.

4 Specifications

The specifications for an end-to-end link include the following.

a) The configurations and structure should meet the specifications outlined in Clause 5.

b) The interfaces to the cabling should meet the specifications of ISO/IEC 11801-1 or ISO/IEC 11801-3 with respect to mating interfaces and performance.

c) Connecting hardware at other places in the cabling structure should meet the performance specifications specified in ISO/IEC 11801-1.

d) Installation should be performed in accordance with IEC 61918 and ISO/IEC 14763-2.

e) The E2E links should meet the specifications of Clause 6.

f) Performance testing to the specifications of Clause 6 should be used to provide assurance of installed cabling to determine its capacity to support the applications described by IEC 61918 and ISO/IEC 11801-1.

g) The performance of end-to-end link as specified in Clause 6 should support the channel specifications specified in ISO/IEC 11801-1. Performance can be achieved by one of the following when the additional connections are included in the test results:

   1) an E2E link design and implementation ensuring that the prescribed transmission performance is met;

   2) attachment of appropriate components to a permanent link or CP link meeting the prescribed performance class of ISO/IEC 11801-1;

3) using compatible cabling components that meet the specifications of ISO/IEC 11801-3 and ISO/IEC 11801-1.

5 Examples of end-to-end link configurations

There are multiple configurations of E2E links that are identified by the number of mated connections in the configuration including those at the ends of the E2E link. This document describes two-, three-, four-, five-, and six-connection E2E links as illustrated in Figure 2 to Figure 9.

Annex A provides information regarding CP cords.

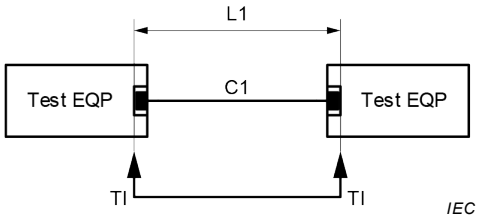

Figure 2 – One-segment, two-connections, E2E link

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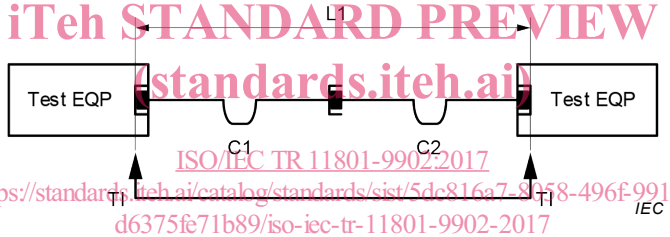

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Figure 3 – Two-segments, three-connections, E2E link

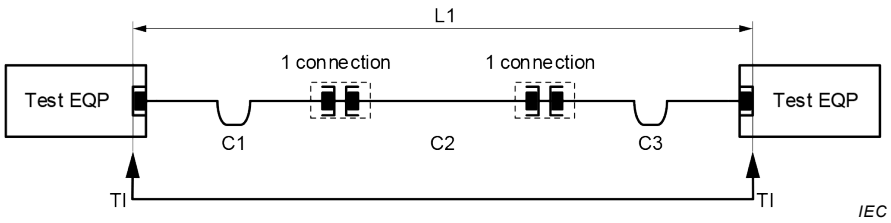

Figure 4 – Three-segments, one-connection bulkheads, four-connections, E2E link

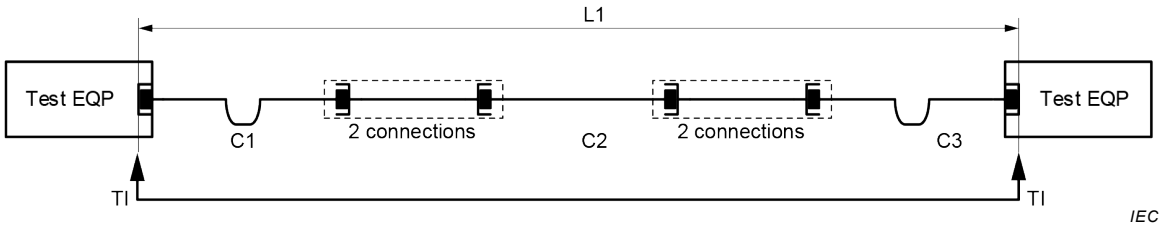

Figure 5 – Three-segments, six-connections, E2E link