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Edition 1.0 2017-11

INTERNATIONAL STANDARD

Information technology – Generic cabling for customer premises –
Part 5: Data centres



საინფორმაციო ნაწილი. სრული ტექსტის სახანაგად შეიძინეთ სტანდარტი.



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**Information technology – Generic cabling for customer premises –
Part 5: Data centres**

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CONTENTS

FOREWORD.....	6
INTRODUCTION.....	8
1 Scope.....	10
2 Normative references	10
3 Terms, definitions and abbreviated terms	11
3.1 Terms and definitions.....	11
3.2 Abbreviated terms.....	13
4 Conformance.....	13
5 Structure of the generic cabling system	14
5.1 General.....	14
5.2 Functional elements.....	14
5.3 General structure and hierarchy.....	14
5.4 Cabling subsystems.....	16
5.4.1 General	16
5.4.2 Network access cabling subsystem.....	16
5.4.3 Main distribution cabling subsystem.....	16
5.4.4 Intermediate distribution cabling subsystem.....	16
5.4.5 Zone distribution cabling subsystem	16
5.4.6 Design objectives	17
5.5 Accommodation of functional elements	17
5.6 Interfaces.....	17
5.6.1 Equipment interfaces and test interfaces	17
5.6.2 Channels and links	18
5.7 Dimensioning and configuring	19
5.7.1 Distributors	19
5.7.2 Redundancy	20
5.7.3 External network interface	21
5.7.4 Cables	22
5.7.5 Equipment cords.....	22
5.7.6 Patch cords and jumpers	22
5.7.7 Equipment outlets.....	22
5.7.8 LDP	23
5.7.9 Building entrance facilities	23
5.8 Earthing and equipotential bonding.....	23
6 Channel performance requirements	23
6.1 General.....	23
6.2 Environmental performance	25
6.3 Transmission performance.....	25
6.3.1 General	25
6.3.2 Balanced cabling	25
6.3.3 Optical fibre cabling.....	25
7 Link performance requirements	26
7.1 General.....	26
7.2 Balanced cabling	26
7.3 Optical fibre cabling	26
8 Reference implementations	26

8.1	General.....	26
8.2	Balanced cabling	26
8.2.1	Assumptions.....	26
8.2.2	Zone distribution cabling.....	27
8.2.3	Cabling between distributors.....	30
8.2.4	Network access cabling	33
8.3	Optical fibre cabling	35
8.3.1	General	35
8.3.2	Component choice	35
8.3.3	Dimensions.....	36
9	Cable requirements	36
9.1	General.....	36
9.2	Balanced cables	36
9.3	Optical fibre cables	36
10	Connecting hardware requirements	36
10.1	General requirements	36
10.1.1	Overview	36
10.1.2	Location	36
10.1.3	Design.....	37
10.1.4	Operating environment	37
10.1.5	Mounting	37
10.1.6	Installation practices.....	37
10.1.7	Marking and colour coding.....	37
10.2	Connecting hardware for balanced cabling.....	37
10.2.1	General requirements	37
10.2.2	Performance marking.....	37
10.2.3	Mechanical characteristics.....	37
10.3	Connecting hardware for optical fibre cabling.....	38
10.3.1	General requirements	38
10.3.2	ENI requirements.....	38
10.3.3	EO requirements	38
10.3.4	Optical fibre assignments at the EO.....	39
10.3.5	Other connecting hardware.....	39
11	Requirements for cords and jumpers	39
11.1	Jumpers.....	39
11.2	Balanced cords	39
11.3	Optical fibre cords.....	39
Annex A	(normative) Combination of balanced cabling links.....	40
A.1	General.....	40
A.2	Requirements	40
Annex B	(informative) Usage of high density connecting hardware within optical fibre cabling.....	41
B.1	General.....	41
B.2	Use cases for high density connecting hardware.....	41
Annex C	(informative) Examples of structures in accordance with ISO/IEC 11801-5	45
C.1	General.....	45
C.2	Data centre minimum configuration	46
C.3	End of Row concept.....	47

C.4	Middle of Row concept.....	48
C.5	Top of Rack concept.....	49
C.6	End of Row and Middle of Row concept with redundancy.....	50
C.7	Top of Rack concept with redundancy.....	51
C.8	End of Row concept with full redundancy.....	52
C.9	Top of Rack concept with redundancy.....	53
Annex D (informative)	Examples of networking architectures.....	54
D.1	General.....	54
D.2	Data centre fabric fat-tree.....	54
D.3	Data centre fabric full-mesh.....	55
D.4	Data centre fabric interconnected meshes.....	55
D.5	Data centre fabric centralized switch.....	56
D.6	Data centre fabric virtual switch.....	57
Bibliography	58

Figure 1	– Relationships between the generic cabling documents produced by ISO/IEC JTC 1/SC 25.....	8
Figure 2	– Structure of generic cabling within a data centre.....	15
Figure 3	– Hierarchical structure of generic cabling within a data centre.....	15
Figure 4	– Example of accommodation of functional elements.....	17
Figure 5	– Test and equipment interfaces.....	19
Figure 6	– Connection of functional elements providing redundancy.....	21
Figure 7	– Examples of external service cabling connections to the ENI.....	22
Figure 8	– Example of a channel with four connections.....	24
Figure 9	– Example of a system showing the location of cabling interfaces.....	25
Figure 10	– Zone distribution cabling models.....	28
Figure 11	– Cabling model between distributors using Class E _A to F _A	31
Figure 12	– Cabling model between distributors using Class I and II.....	31
Figure 13	– Network access cabling models.....	34
Figure A.1	– Examples of combination of different links.....	40
Figure B.1	– Examples of high density connecting hardware within main distribution cabling and intermediate distribution cabling.....	42
Figure B.2	– Examples of high density connecting hardware at the LDP and EO within zone distribution cabling.....	44
Figure C.1	– Key for Figures C.2 through C.9.....	45
Figure C.2	– Example of a minimum configuration.....	46
Figure C.3	– Example of End of Row configuration.....	47
Figure C.4	– Example of Middle of Row configuration.....	48
Figure C.5	– Example of Top of Rack configuration.....	49
Figure C.6	– Example of End of Row configuration with redundancy.....	50
Figure C.7	– Example of Top of Rack configuration with redundancy.....	51
Figure C.8	– Example of End of Row configuration with full redundancy.....	52
Figure C.9	– Example of Top of Rack configuration with full redundancy.....	53
Figure D.1	– Fat-tree example.....	54
Figure D.2	– Full-mesh example.....	55

Figure D.3 – Interconnected mesh example 56

Figure D.4 – Centralized switch example 56

Figure D.5 – Virtual switch example 57

Table 1 – Zone distribution cabling – length assumptions for balanced cabling using Classes E_A to F_A..... 29

Table 2 – Zone distribution cabling – length assumptions for balanced cabling using Classes I and II..... 30

Table 3 – Zone distribution channel length equations for Classes 30

Table 4 – Cabling between distributors – length assumptions for balanced cabling using Classes E_A to F_A 31

Table 5 – Cabling between distributors – length assumptions for balanced cabling using Classes I and II 32

Table 6 – Length equations for cabling between distributors 32

Table 7 – Network access cabling channel equations..... 35

Table 8 – Connecting hardware of the type used at the EO 37

INFORMATION TECHNOLOGY – GENERIC CABLING FOR CUSTOMER PREMISES –

Part 5: Data centres

FOREWORD

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International Standard ISO/IEC 11801-5 was prepared by subcommittee 25: Interconnection of information technology equipment, of ISO/IEC joint technical committee 1: Information technology.

This first edition cancels and replaces ISO/IEC 24764:2010 and Amendment 1:2014. This edition constitutes a technical revision.

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

- a) standard re-structured to contain only those requirements that are specific for generic cabling systems installed in data centres;
- b) addition of balanced cabling channels Class I and Class II;
- c) addition of examples of structures in accordance with ISO/IEC 11801-5 in Annex C;
- d) addition of examples of networking architectures in Annex D.

ISO/IEC 11801-5 is to be read in conjunction with ISO/IEC 11801-1.

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 in the ISO/IEC 11801 series, published under the general title *Information technology – Generic cabling for customer premises*, can be found on the IEC website.

INTRODUCTION

The importance of cabling infrastructure is similar to that of other fundamental utilities such as water and energy supply and interruptions to the services provided over that infrastructure can have a serious impact. A lack of design foresight, the use of inappropriate components, incorrect installation, poor administration or inadequate support can threaten quality of service and have commercial consequence for all types of users.

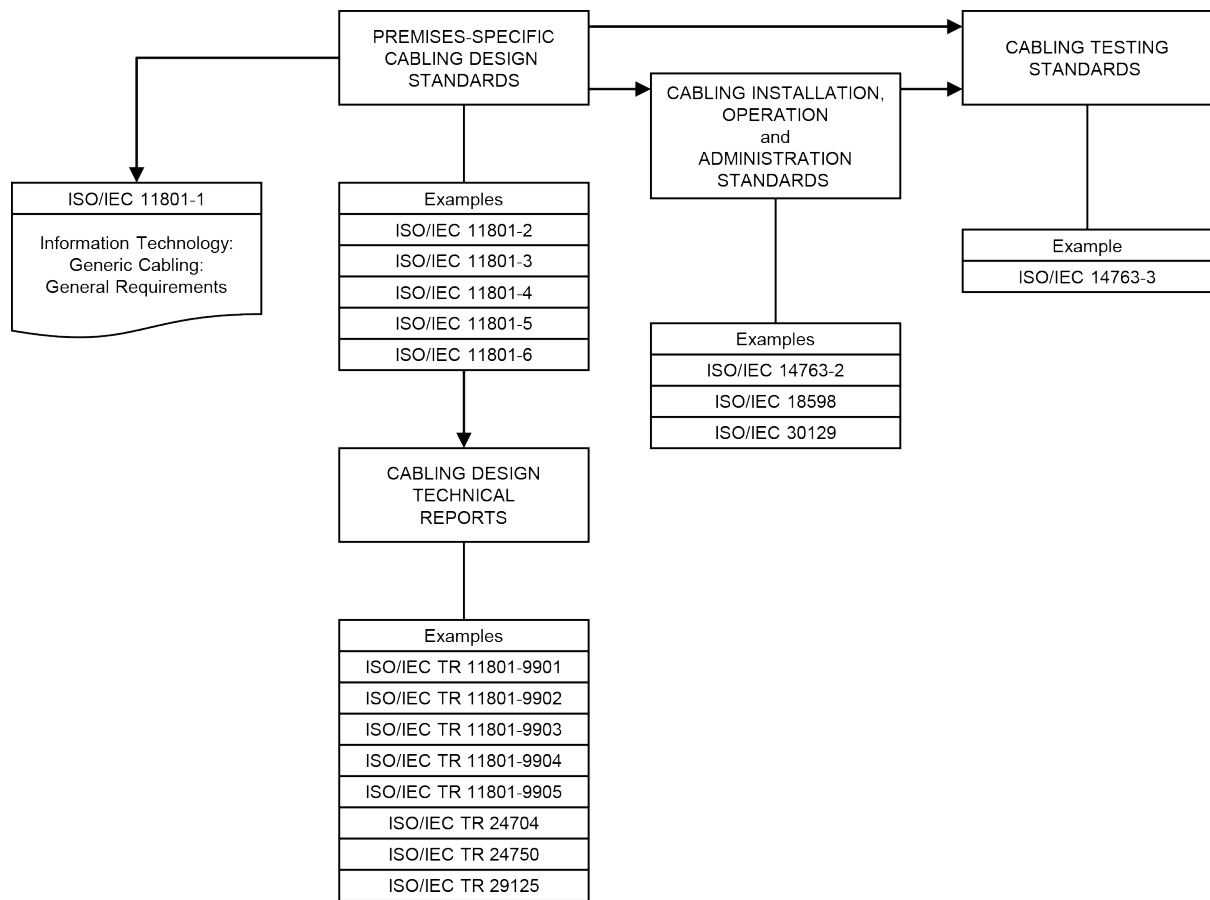
This document specifies generic cabling within and to the computer room spaces of data centre premises, or computer room spaces within other types of building.

Additionally those premises can include

- office spaces for which generic cabling is specified in ISO/IEC 11801-2,
- industrial spaces for which generic cabling is specified in ISO/IEC 11801-3.

Generic cabling for distributed building services in data centre spaces is specified in ISO/IEC 11801-6, which addresses all of the above premises and spaces within them.

Figure 1 shows the schematic and contextual relationships between the standards relating to information technology cabling produced by ISO/IEC JTC 1/SC 25, namely the ISO/IEC 11801 series of standards for generic cabling design, standards for the installation, operation and administration of generic cabling and for testing of installed generic cabling.



IEC

Figure 1 – Relationships between the generic cabling documents produced by ISO/IEC JTC 1/SC 25

The generic cabling specified by this document provides users with

- a) an application independent system capable of supporting a wide range of applications in a range of installation and operating environments,
- b) a flexible scheme such that modifications are both easy and economical,
- c) a multi-vendor supply chain within an open market for cabling components.

In addition, this document provides

- d) relevant industry professionals with guidance allowing the accommodation of cabling before specific requirements are known, i.e. in the initial planning either for construction or refurbishment and for further deployment as the requirements of areas are defined,
- e) industry and standardization bodies with a cabling system which supports current products and provides a basis for future product development and applications standardization.

Applications addressed in this document include those developed by the technical committees of IEC (including the subcommittees of ISO/IEC JTC 1) and study groups of ITU-T as used to support high data rate, mission-critical services within the densely connected environment of data centre spaces.

This document has taken into account requirements specified in application standards listed in Annex E of ISO/IEC 11801-1:2017.

This document should be read in conjunction with ISO/IEC 11801-1, which was created to consolidate general requirements for generic cabling into a single standard which allows the other standards in the ISO/IEC 11801 series to have a common reference.

Physical layer requirements for the applications listed in Annex E of ISO/IEC 11801-1:2017 have been analysed to determine their compatibility with the cabling performance specified in this document and, together with statistics concerning premises geography from different countries and the models described in Clause 6, have been used to develop the requirements for cabling components and to stipulate their arrangement into cabling systems.

As a result, this International Standard specifies a structure for generic cabling supporting a wide variety of applications, which

- 1) adopts balanced cabling channel and link Classes E_A, F, F_A, I and II specified in ISO/IEC 11801-1,
- 2) adopts component requirements, specified in ISO/IEC 11801-1, and specifies cabling implementations that ensure performance of permanent links and of channels that meet or exceed the requirements of a specified group (e.g. Class) of applications,
- 3) adopts optical fibre cabling channel and link requirements specified in ISO/IEC 11801-1.

Life expectancy of generic cabling systems can vary depending on environmental conditions, supported applications, aging of materials used in cables, and other factors such as access to pathways (campus pathways are more difficult to access than building pathways). With appropriate choice of components, generic cabling systems meeting the requirements of this document are expected to have a life expectancy of at least ten years

This document has taken into account requirements specified in application standards listed in ISO/IEC 11801-1:2017, Annex E. It refers to International Standards for components and test methods whenever appropriate International Standards are available.