

# INTERNATIONAL STANDARD

# ISO/IEC 18010

First edition  
2002-05

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## Information technology – Pathways and spaces for customer premises cabling

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## INFORMATION TECHNOLOGY – PATHWAYS AND SPACES FOR CUSTOMER PREMISES CABLING

### FOREWORD

- 1) ISO (International Organization for Standardization) and IEC (International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.
- 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.
- 3) 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 18010 was prepared by subcommittee 25: Interconnection of information technology equipment, of ISO/IEC joint technical committee 1: Information technology.

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

Annexes A and B are for information only.

The committee has decided that this publication remains valid until 2007. At this date, in accordance with the committee's decision, the publication will be

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- reconfirmed, <https://standards.iteh.ai/catalog/standards/sist/eca5bd3e-5e34-4125-8a8d-12d651caa093/iso-iec-18010-2002>
- withdrawn,
- replaced by a revised edition, or
- amended.

## INTRODUCTION

The telecommunications infrastructure is an integral part of building design. It may include voice, data, environmental control, security, audio, television, sensing, alarms, paging and other low voltage and power limited signal systems. These systems are subject to frequent changes. Design of the pathways and spaces should accommodate this dynamic behaviour. This Standard significantly influences the design of other building services, such as electrical power and heating, ventilation and air conditioning (HVAC).

ISO/IEC 18010 generally makes no specific recommendations among the design options available for telecommunications pathways and spaces. For example, the choice between a conduit system versus a tray system is not delineated. It is up to the telecommunications designer to properly select among the options based upon the applications at hand and the constraints imposed.

This standard generally imposes no specific requirements for the dimensions of pathways and spaces. The reader should refer to

- local regulations and standards,
- telecommunications service providers' rules,
- manufacturers' guidelines.

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# INFORMATION TECHNOLOGY – PATHWAYS AND SPACES FOR CUSTOMER PREMISES CABLING

## 1 Scope

This International Standard specifies the structure and requirements for pathways and spaces within or between buildings for information exchange and telecommunications cabling according to ISO/IEC 11801 and ISO/IEC 15018.

This International Standard also influences space allocation within the building. Both single- and multi-tenant buildings are considered by this Standard.

This standard does not cover safety aspects of the building design, fire stopping measures or telecommunications systems that require any special types of security measures.

## 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 60050(826), *International Electrotechnical Vocabulary – Chapter 826: Electrical installations of buildings* [standards.iteh.ai/catalog/standards/sist/eca5bd3e-5e34-4125-8a8d-12d651caa093/iso-iec-18010-2002](https://standards.iteh.ai/catalog/standards/sist/eca5bd3e-5e34-4125-8a8d-12d651caa093/iso-iec-18010-2002)

IEC 60364-4-41, *Electrical installations of buildings – Part 4-41: Protection for safety – Protection against electric shock*

IEC 60364-4-44, *Electrical installations of buildings – Part 4-44: Protection for safety – Protection against voltage disturbances and electromagnetic disturbances*

IEC 60364-5-52, *Electrical installations of buildings – Part 5-52: Selection and erection of electrical equipment – Wiring systems*

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

IEC 61386 (all parts), *Conduit systems for electrical installations – Part 1: General requirements*

ISO/IEC 11801, *Information technology – Generic cabling for customer premises*

ISO/IEC 14763-1, *Information technology – Implementation and operation of Customer Premises Cabling – Part 1: Administration*

ISO/IEC 15018, *Information technology – Integrated cabling for all services other than mains power in homes, SOHO (Small Office, Home Office), and buildings<sup>1</sup>*

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<sup>1)</sup> Under consideration.



### 3 Definitions and abbreviations

#### 3.1 Definitions

For the purposes of this International Standard, the following definitions apply in addition to those of ISO/IEC 11801 and the IEC 60050(826).

##### 3.1.1

###### **access floor**

system consisting of completely removable and interchangeable floor panels that are supported on pedestals or stringers (or both) to allow access to the area beneath

##### 3.1.2

###### **aerial facility**

component of the building entrance facility consisting of poles, cable-support strand and support system

##### 3.1.3

###### **alternate entrance**

supplementary building entrance facility into a building using a different routing to provide diversity of building entrance facilities for assurance of service continuity

##### 3.1.4

###### **antenna entrance**

pathway facility from the antenna to the associated equipment

##### 3.1.5

###### **building pathway**

pathway facility for interconnecting telecommunications entrance rooms, equipment rooms, and telecommunications rooms within a building

##### 3.1.6

###### **cable ducting system**

a system of closed enclosures of non-circular section, for insulated conductors, cables and cords in electrical installations, allowing them to be drawn in and replaced

##### 3.1.7

###### **cable management system**

assembly comprising cable trunking, cable ducting or conduit system to provide an enclosure for the accommodation of insulated conductors and (or) cables

##### 3.1.8

###### **cable trunking system**

a system of closed enclosures comprising a base with a removable cover, intended for the complete surrounding of insulated conductors, cables, cords and/or for the accommodation of other electrical accessories

##### 3.1.9

###### **campus pathway**

pathway facility for interconnecting telecommunications entrance rooms or spaces of different buildings, as in a campus environment, as well as to the property line for connection off the premises

##### 3.1.10

###### **customer premises**

building(s), grounds and appurtenances (belongings) under the control of the customer

### 3.1.11

#### **device (as related to a work area)**

item such as a telephone, personal computer, graphic or video terminal, sensor

### 3.1.12

#### **directly buried cable**

cable installed under the surface of the ground in direct contact with the soil

### 3.1.13

#### **entrance point (telecommunications)**

point of emergence for telecommunications cabling through an exterior wall, a floor, or from a conduit

### 3.1.14

#### **entrance room or space**

space, preferably a room, in which the joining of campus and building backbone facilities takes place

NOTE The entrance room may also house electronic equipment serving any telecommunications (IT) function.

### 3.1.15

#### **handhole**

structure similar to a small maintenance hole in which it is expected that a person cannot enter to perform work

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### 3.1.16

#### **header ducting**

cable ducting placed within the floor to consolidate cables from the distribution ducting to the telecommunications (IT) room

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### 3.1.17

#### **infrastructure (telecommunications)**

collection of those telecommunications components, excluding active equipment, that together provide the basic support for the distribution of all information within a building or campus

### 3.1.18

#### **inner duct**

duct placed within a duct

NOTE Also known as subduct.

### 3.1.19

#### **main terminal space**

location of the cross-connect point of incoming cables from the telecommunications external network and the premises cable system

### 3.1.20

#### **maintenance hole (telecommunications)**

vault located in the ground or earth as part of an underground distribution system and used to facilitate placing, connectorization and maintenance of cables as well as the placing of associated equipment, in which it is expected that a person will enter to perform work

### 3.1.21

#### **open office furniture system**

contiguous group(s) of work areas, typically including space divisions, work surfaces, storage and seating within an open office environment

NOTE The space divisions, also known as partitions often contain pathways for telecommunications cabling and power wiring.

**3.1.22  
pathway**

facility for the placement of telecommunications cable

**3.1.23  
plenum**

compartment or chamber to which one or more air ducts are connected and that forms part of the air distribution system

**3.1.24  
service pole**

enclosed pathway extending from the ceiling to furniture or to the floor, that forms a pathway for electrical wiring or telecommunications cable, or both

NOTE It may also be used to mount or contain connecting hardware.

**3.1.25  
space (telecommunications)**

area used for housing the installation and termination of telecommunications equipment (IT) and cabling

NOTE Examples of spaces are equipment rooms, telecommunications rooms, work areas and maintenance holes/handholes.

**3.1.26  
suspended ceiling**

ceiling that creates an area or space between ceiling material and the structure above

**3.2 Abbreviations**

EMI Electromagnetic Interference

HVAC Heating, Ventilation, and Air Conditioning

IT Information Technology

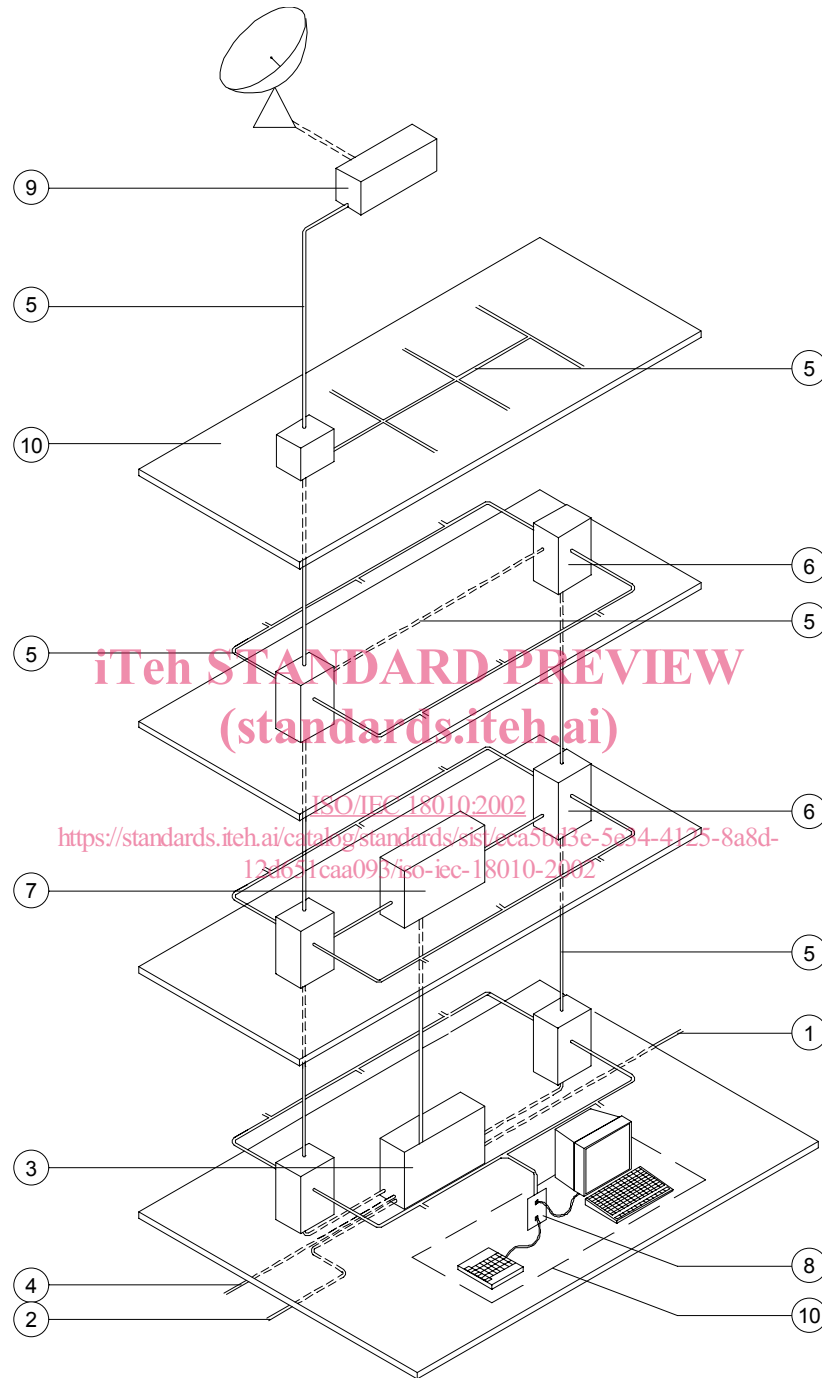
**4 Conformance**

For a pathways and spaces infrastructure to conform to this International Standard the following shall apply:

- a) the telecommunications infrastructure within a building is designed and installed around and including the spaces described in clause 6 and utilises one or more pathway systems outlined in clause 7;
- b) the telecommunications infrastructure between buildings on a customer's premises (campus) is designed and installed with one or more pathway systems around and including related spaces as outlined in clause 8.

### 5 Structure of a pathways' and spaces' infrastructure

Figure 1 illustrates the relationships between the major telecommunications pathway and space elements within a building.



**Key**

- |                                     |                             |
|-------------------------------------|-----------------------------|
| 1 Source entrance                   | 6 Telecommunications room   |
| 2 Alternate entrance                | 7 Equipment room            |
| 3 Entrance room/Main terminal space | 8 Telecommunications outlet |
| 4 Campus pathways                   | 9 Antenna entrance          |
| 5 Building pathways                 | 10 Work area                |

**Figure 1 – Basic elements of a pathways' and spaces' infrastructure**