

Australian/New Zealand Standard™

**Information technology — Generic
cabling for customer premises**

**Part 1: General requirements (ISO/IEC
11801-1:2017, MOD)**



AS/NZS 11801.1:2019

This Joint Australian/New Zealand Standard™ was prepared by Joint Technical Committee CT-001, Communications Cabling. It was approved on behalf of the Council of Standards Australia on 4 April 2019 and by the New Zealand Standards Approval Board on 7 May 2019.

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- Australian Chamber of Commerce and Industry
- Australian Council of Trade Unions
- Australian Digital and Telecommunications Industry Association
- Australian Industry Group
- Australian Information Industry Association
- BICSI South Pacific (Australia)
- BICSI South Pacific (New Zealand)
- Energy Networks Australia
- Engineers Australia
- KNX National Group
- National Electrical and Communications Association
- Telecommunications Users Association of New Zealand
- Telstra Corporation

This Standard was issued in draft form for comment as DR AS/NZS 11801.1:2018.

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**Part 1: General requirements (ISO/IEC
11801-1:2017, MOD)**

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Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee CT-001, Communications Cabling, to supersede as follows:

In Australia:

AS/NZS 11801.1 in conjunction with AS 11801.2, replaces AS/NZS 3080:2013, *Information technology — Generic cabling for customer premises (ISO/IEC 11801:2011, MOD)*

AS/NZS 11801.1 in conjunction with AS 11801.3, replaces AS/NZS ISO/IEC 24702:2007, *Telecommunications installations — Generic cabling — Industrial premises*

AS/NZS 11801.1 in conjunction with AS 11801.4, replaces AS/NZS ISO/IEC 15018:2005, *Information technology — Generic cabling for homes*

AS/NZS 11801.1 in conjunction with AS 11801.5, replaces AS/NZS ISO/IEC 24764:2012, *Generic cabling systems for data centres*

In New Zealand:

AS/NZS 11801.1 in conjunction with ISO/IEC 11801-2, replaces AS/NZS 3080:2013, *Information technology — Generic cabling for customer premises (ISO/IEC 11801:2011, MOD)*

AS/NZS 11801.1 in conjunction with ISO/IEC 11801-3, replaces AS/NZS ISO/IEC 24702:2007, *Telecommunications installations — Generic cabling — Industrial premises*

AS/NZS 11801.1 in conjunction with ISO/IEC 11801-4, replaces AS/NZS ISO/IEC 15018:2005, *Information technology — Generic cabling for homes*

AS/NZS 11801.1 in conjunction with ISO/IEC 11801-5, replaces AS/NZS ISO/IEC 24764:2012, *Generic cabling systems for data centres*

The objective of this Standard specifies requirements that are common to the other parts of the AS/NZS 11801 series or ISO/IEC 11801 series. Cabling specified by this Standard supports a wide range of services including voice, data, and video that may also incorporate the supply of power.

This Standard specifies the following:

- (a) In Australia, the fundamental structure and configuration of generic cabling requirements within the types of premises defined by the other parts of the AS/NZS 11801 series.
- (b) In New Zealand, the fundamental structure and configuration of generic cabling requirements within the types of premises defined by the other parts of the ISO/IEC 11801 series.
- (c) Channel transmission and environmental performance requirements.
- (d) Link performance requirements.
- (e) In Australia, backbone cabling reference implementations in support of the parts of the AS/NZS 11801 series.
- (f) In New Zealand, backbone cabling reference implementations in support of the parts of the ISO/IEC 11801 series.
- (g) Component performance requirements, referring to available international Standards for components and test methods where appropriate.
- (h) In Australia, test procedures to verify conformance to the cabling transmission performance requirements of the AS/NZS 11801 series.

- (i) In New Zealand, test procedures to verify conformance to the cabling transmission performance requirements of the ISO/IEC 11801 series.

A list of all parts in the AS/NZS 11801 series can be found in the Standards Australia online catalogue.

This Standard is an adoption with national modifications, and has been reproduced from ISO/IEC 11801-1:2017, *Information Technology — Generic cabling for customer premises — Part 1: General requirements* and its Technical Corrigendum No. 1 (2018). The modifications in [Appendices ZZ](#) and [ZA](#) are additional requirements. [Appendix ZB](#) provides additional information. These appendices have been added at the end of the source text.

This Standard is structured as follows:

- (i) Preface.
- (ii) ISO/IEC 11801-1:2017 (unedited from the contents page to the final clause of the source document) and its Corrigendum No. 1 (2018).
- (iii) [Appendix ZZ](#) lists the variations to ISO/IEC 11801-1:2017 for the application of this Standard in Australia and New Zealand.
- (iv) [Appendix ZA](#) sets out a test method for modular plug terminated links (MPTLs).
- (v) [Appendix ZB](#) lists other communication cabling standards and regulations.

As this document has been reproduced from an International Standard, the following applies:

- (A) In the source text “this part of ISO/IEC 11801” should read “this Australian/New Zealand Standard”.
- (B) A full point substitutes for a comma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

The terms “normative” and “informative” are used in Standards to define the application of the appendices or annexes to which they apply. A “normative” appendix or annex is an integral part of a Standard, whereas an “informative” appendix or annex is only for information and guidance.

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INFORMATION TECHNOLOGY – GENERIC CABLING FOR CUSTOMER PREMISES –

Part 1: General requirements

FOREWORD

- 1) ISO (the International Organization for Standardization) and IEC (the 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. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.
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International Standard ISO/IEC 11801-1 was prepared by subcommittee 25: Interconnection of information technology equipment, of ISO/IEC joint technical committee 1: Information technology.

This first edition, together with ISO/IEC 11801-2, cancels and replaces ISO/IEC 11801:2002, Amendment 1:2008 and Amendment 2:2010. 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 those elements and requirements, that are common to generic cabling systems (in application fields such as offices and industrial premises), namely requirements for common elements of topology and transmission performance of channels, links and related components;
- b) addition of balanced cabling channel and link Classes BCT-B, I and II;
- c) addition of coaxial cabling channel and link Class BCT-C;
- d) addition of balanced cabling component requirements for Category BCT-B, 8.1, and 8.2;

- e) addition of coaxial cabling component requirements for Category BCT-C;
- f) addition of cabled fibres of Category OS1a, and OM5;
- g) removal of silica optical fibre cabling;
- h) optical fibre cable OM1, OM2 and OS1 has been moved to an informative annex.

This International Standard 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.

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

This document contains general requirements in support of the other premises-specific referenced cabling design documents developed by ISO/IEC JTC 1/SC 25 including ISO/IEC 11801-2, ISO/IEC 11801-3, ISO/IEC 11801-4, ISO/IEC 11801-5, ISO/IEC 11801-6 and related Technical Reports (including the ISO/IEC TR 11801-99xx series, ISO/IEC TR 24704, ISO/IEC TR 24750 and ISO/IEC TR 29125).

This document specifies a multi-vendor cabling system which may be implemented with material from single or multiple sources, and is related to:

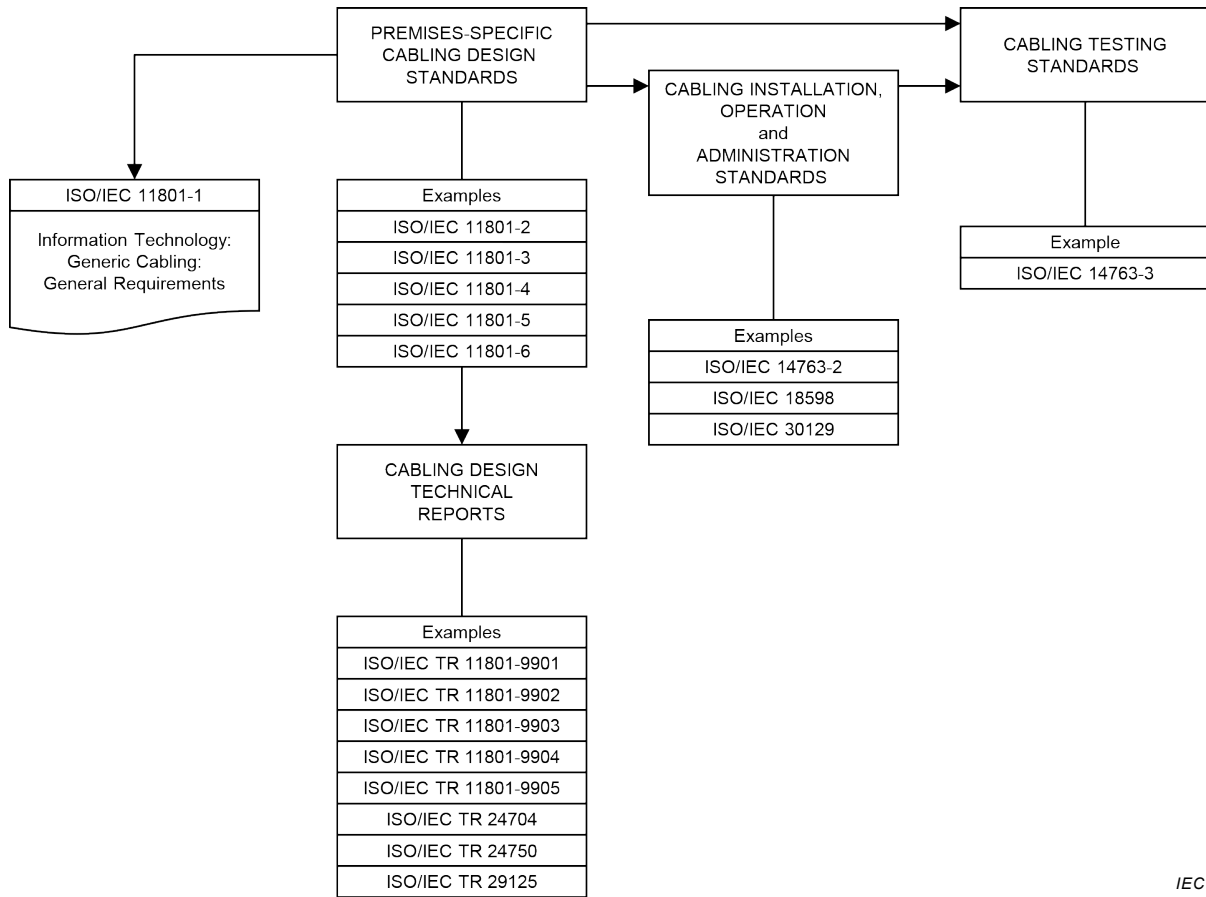
- a) International Standards for cabling components developed by technical committees of the IEC, for example copper cables and connectors as well as optical fibre cables and connectors (see Clause 2 and bibliography);
- b) standards for the testing of installed cabling (see Clause 2 and bibliography);
- c) applications developed by technical committees of the IEC, by subcommittees of ISO/IEC JTC 1, by study groups of ITU-T, for example for LANs and ISDN, and by IEEE 802;
- d) planning and installation guides and other standards which take into account the needs of specific applications for the configuration and the use of cabling systems on customer premises (e.g. ISO/IEC 14709 series, ISO/IEC 14763 series, ISO/IEC 30129, and ISO/IEC 18598).

Physical layer requirements for the applications listed in Annex E have been analysed to determine their compatibility with cabling classes specified in this document. These application requirements, together with statistics concerning premises-specific topologies and cabling models of the supported standards, have been used to develop the requirements for balanced, coaxial and optical fibre cabling.

As a result, generic cabling defined within this document:

- 1) specifies balanced cabling channel and link Classes A, B, C, D, E, E_A, F, F_A, I and II meeting both the requirements of standardized applications and to support the development and implementation of future applications;
- 2) specifies balanced cabling channel and link Class BCT-B to support the delivery of BCT applications;
- 3) specifies coaxial cabling channel and link Class BCT-C to support the delivery of BCT applications;
- 4) specifies optical fibre cabling meeting the requirements of standardized applications and exploiting component capabilities to ease the implementation of applications developed in the future;
- 5) invokes component requirements and specifies cabling implementations that ensure performance of links and of channels that meet or exceed the requirements for cabling classes.

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

This document refers to International Standards for components and test methods wherever appropriate International Standards are available.

INFORMATION TECHNOLOGY – GENERIC CABLING FOR CUSTOMER PREMISES –

Part 1: General requirements

1 Scope

This part of ISO/IEC 11801 specifies requirements that are common to the other parts of the ISO/IEC 11801 series. Cabling specified by this document supports a wide range of services including voice, data, and video that may also incorporate the supply of power.

This document specifies:

- a) the fundamental structure and configuration of generic cabling requirements within the types of premises defined by the other parts of the ISO/IEC 11801 series,
- b) channel transmission and environmental performance requirements,
- c) link performance requirements,
- d) backbone cabling reference implementations in support of the parts of the ISO/IEC 11801 series,
- e) component performance requirements, referring to available International Standards for components and test methods where appropriate,
- f) test procedures to verify conformance to the cabling transmission performance requirements of the ISO/IEC 11801 series.

NOTE This document does not contain specific conformance requirements. The cabling design documents supported by ISO/IEC 11801-1 incorporate the requirements of this document as part of their individual conformance requirements.

In addition, this document provides information regarding the applications supported by the cabling channels.

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.

IEC 60352-2, *Solderless connections – Part 2: Crimped connections – General requirements, test methods and practical guidance*

IEC 60352-3, *Solderless connections – Part 3: Solderless accessible insulation displacement connections – General requirements, test methods and practical guidance*

IEC 60352-4, *Solderless connections – Part 4: Solderless non-accessible insulation displacement connections – General requirements, test methods and practical guidance*

IEC 60352-5, *Solderless connections – Part 5: Press-in connections – General requirements, test methods and practical guidance*

IEC 60352-6, *Solderless connections – Part 6: Insulation piercing connections – General requirements, test methods and practical guidance*

IEC 60352-7, *Solderless connections – Part 7: Spring clamp connections – General requirements, test methods and practical guidance*

IEC 60352-8, *Solderless connections – Part 8: Compression mount connections – General requirements, test methods and practical guidance*