Australian/New Zealand Standard™

Telecommunications installations—Integrated telecommunications cabling systems for commercial premises (ISO/IEC 11801:2000, MOD)

Standards Australia

STANDARDS NEW ZEALAND

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 5 December 2000 and on behalf of the Council of Standards New Zealand on 17 November 2000. It was published on 20 December 2000.

The following interests are represented on Committee CT-001:

Australian Chamber of Commerce and Industry
Australian Communications Authority
Australian Communications Industry Forum
Australian Electrical and Electronic Manufacturers Association
Australian Information Industry Association
Australian Telecommunications Users Group
BICSI Australia
Cable & Wireless Optus
Electrical Compliance Testing Association
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Electricity Supply Association of Australia
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Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about joint Australian/New Zealand Standards can be found by visiting the Standards Australia web site at www.standards.com.au or Standards New Zealand web site at www.standards.co.nz and looking up the relevant Standard in the on-line catalogue.

Alternatively, both organizations publish an annual printed Catalogue with full details of all current Standards. For more frequent listings or notification of revisions, amendments and withdrawals, Standards Australia and Standards New Zealand offer a number of update options. For information about these services, users should contact their respective national Standards organization.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia International or Standards New Zealand at the address shown on the back cover.

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee CT-001, Communications Cabling, and supersedes AS/NZS 3080:1996 and AS/NZS 3080:1996/ Amendment No. 1:1998.

The objective of this Standard is to provide building owners, managers, architects, designers, manufacturers, installers, maintainers and users, with requirements to ensure compatibility with equipment and services and to ensure performance of infrastructure to meet present and foreseeable future requirements.

This Standard applies to the use of generic cabling within commercial premises, which may comprise single buildings, or multiple buildings on a campus.

This Standard is an adoption with national modifications and has been reproduced from, ISO/IEC 11801:2000 Edition 1.2, *Information technology—Generic cabling for customer premises* which incorporates Amendment 1:1999 and Amendment 2:1999. A vertical line in the margin shows where the base publication has been modified by Amendments 1 and 2.

This Edition 1.2 re-specifies Class D to provide support for highspeed applications utilizing multipair transmission at data rates such as 1000Base-T (Gigabit Ethernet).

Changes made by Amendments 1 and 2 include the addition of new permanent link and channel specifications, and the associated testing parameters.

Variations to ISO/IEC 11801 have been made to take account of Australian/New Zealand conditions and these variations are indicated at the appropriate places throughout this Standard. Strikethrough (~~example~~) identifies ISO/IEC tables, figures and passages of text which, for the purposes of this Australian/New Zealand Standard, are deleted. Where Australian/New Zealand tables, figures or passages of text are added, each is set in its proper place and identified by shading (example). Added figures are not themselves shaded, but are identified by a shaded border. The variations for Australia and New Zealand are listed in Annex ZZ for easy reference.

Additional Annexes K to R (marked by shading) have also been included.

Information on modular 8-way connectors, used for terminating 100 Ω metallic twisted pair cabling, is provided in Annex L.

Shared sheath compatibility guidelines are indicated in Annex M.

Annex N is a glossary of terms and abbreviations used in Annexes K to L and Annex ZZ. Preferred terms are shown together with former common terms, which they replace.

Cabling requirements for open office arrangements (usually employing modular furniture), to allow for flexibility in configurations, are covered in Annex O. Annex O also contains attenuation limits that apply to Open Office Cabling for situations where the cabling is only installed from floor distributor to either the consolidation point or MUTO.

An optical fibre cabling arrangement, where associated electronic equipment is centralized, is covered in Annex P. Annex P now includes the use of 62.5/125um multimode, 50/125um multimode and singlemode optical fibre.

The informative Annex Q provides information relating to electromagnetic compatibility (EMC) framework and relevant cabling installation practices.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the annex to which they apply. A ‘normative’ annex is an integral part of a Standard, whereas an ‘informative’ annex is only for information and guidance.

Statements expressed in mandatory terms are deemed to be requirements of this Standard.

A reference to an International Standard identified in the Normative References Clause by strikethrough (~~example~~) is replaced by a reference to the Australian or Australian/New Zealand Standard(s) listed immediately thereafter and identified by shading (example). Where the struck-through referenced document and the referenced Australian or Australian/New Zealand Standard are identical, this is indicated in parenthesis after the title of the latter.

As this Standard is reproduced from an International Standard, the following applies:

(a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.

(b) In the source text ‘this Standard’ should read ‘this Australian/New Zealand Standard’.

(c) A full point should be substituted for a comma when referring to a decimal marker.

Many of the documents referenced in this Standard can be viewed at or purchased from the Sydney Research and Information Centre of Standards Australia or Standards New Zealand head office. Refer to Annex R for a list of reference documents relevant to Annex K to Q and Annex ZZ.

Within Australia, there are various Australian and other national and international Standards, and codes of practice, which are relevant to the use of telephone, telemetry and data cabling systems and equipment in premises. Some Standards are mandated by law and some are applied voluntarily. The mandatory requirements for installations of this type, where there is a connection to a public carrier’s network, are covered in ACA Technical Standards.

Within New Zealand there are no regulatory requirements for telecommunications cabling components or design practices, other than for compliance with the *Electricity Regulations* 1993 and relevant NZ Electrical Codes of Practice.

The New Zealand *Telecommunications Act* 1987 gives Telecom New Zealand and any other network operators the right to refuse connection to, or to disconnect, unsatisfactory cabling and components from their networks.

Reference is made to other documents, and notations are made where mandatory requirements for Australia/New Zealand override other Standards or codes. Where there is conflict between this Standard and local codes, the latter shall take precedence.

There are many issues such as environment, quality, compatibility, operation installation, interference, redundancy and administration, which are not addressed by mandatory Standards. This Standard (together with others in this family of Standards) is intended to address these issues. The application of this Standard should lead to the installation of cabling systems which satisfy user requirements and provide a useful life of at least 10 years.

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FOREWORD

ISO (the International Organization for Standardization) and IEC (the International Electro-technical Commission) form the specialised 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. 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.

International Standard ISO/IEC 11801 was prepared by the Joint Technical Committee ISO/IEC JTC 1, Information Technology, Subcommittee 25, Interconnection of Information Technology Equipment.

This International Standard has taken into account requirements specified in application standards listed in annex G. It refers to International Standards for components and test methods whenever an appropriate International Standard was available.

This consolidated version of ISO/IEC 11801 is based on the first edition (1995), its amendments 1 (1999) and 2 (1999) and the corrigendum 1 (December 1996) and the corrigendum 2 (June 1997).

It bears the edition number 1.2.

A vertical line in the margin shows where the base publication has been modified by amendments 1 and 2, and corrigenda 1 and 2.

Annexes A, B and C form an integral part of this International Standard. Annexes D, E, F, G, H and J are for information only.

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

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Any ISO/IEC table, figure or passage of text that is struck-through is not part of this Standard. Any Australian/New Zealand table, figure or passage of text that is added (and identified by shading) is part of this Standard.

1 Scope

International Standard ISO/IEC 11801 specifies generic cabling for use within commercial premises, which may comprise single or multiple buildings on a campus.

The International Standard is optimised for premises having a geographical span of up to 3 000 m, with up to 1 000 000 m² of office space, and a population between 50 and 50 000 persons. It is recommended that the principles of this International Standard should also be applied to installations that do not fall within this range.

Cabling defined by this International Standard supports a wide range of services including voice, data, text, image and video.

This International Standard specifies:

a) the structure and minimum configuration for generic cabling [1)],

b) implementation requirements,

c) performance requirements for individual cabling links, and

d) conformance requirements and verification procedures.

Although safety (electrical, fire, etc.) and Electromagnetic Compatibility (EMC) requirements are outside the scope of this International Standard, and may be covered by other standards and regulations, information given in this International Standard may be of assistance in meeting these requirements.

1) Cables and cords used to connect application specific equipment to the generic cabling system are outside of the scope of this standard. Since they have significant effect on the transmission characteristics of the channel, assumptions and guidance are provided on their performance and length.