

AS/NZS 3001.1:2022



Australian/New Zealand Standard™

Electrical installations — Connectable electrical installations and supply arrangements

Part 1: Site supplies for connectable electrical installations



AS/NZS 3001.1:2022

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- Australian Energy Council
- Australian Industry Group
- Communications, Electrical and Plumbing Union—Electrical Division
- Consumers' Federation of Australia
- Electrical Regulatory Authorities Council
- Electrical Safety New Zealand
- Electrical Workers Registration Board
- ElectroComms & Energy Utilities Industry Skills Council
- Energy Networks Australia
- Engineering New Zealand
- Engineers Australia
- Institute of Electrical Inspectors
- Master Electricians Australia
- Master Electricians NZ
- National Electrical and Communications Association
- National Electrical Switchboard Manufacturers Association
- The Manufacturers' Network
- WorkSafe New Zealand

Additional Interests

- B&R Enclosures
- Caravan Industry Association of Australia
- Coates Hire
- Dometic Power & Control (Enerdrive)
- Triple Electrical Inspections

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Australian/New Zealand Standard™

Electrical installations — Connectable electrical installations and supply arrangements

Part 1: Site supplies for connectable electrical installations

Originated in Australia as part of AS 3001—1959 and AS 3005—1982.
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Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-001, Wiring Rules, to supersede part of AS/NZS 3001:2008, *Electrical installations—Transportable structures and vehicles including their site supplies*.

The objective of this Standard is to update the requirements for electrical installations that provide site supply to relocatable structures or premises, recreational vehicles and non-recreational vehicles (known as connectable electrical installations).

This Standard may be applied through legislative requirements, as indicated in [Clause 1.2](#). This Standard supersedes AS/NZS 3001:2008 from its date of publication for the requirements covered in this Standard. This may not be practicable in some cases and a transition period, for example of 12 months, may need to be arranged. For example, where work on an installation was commenced before publication of this edition, the relevant regulatory authority should be consulted regarding permission for the installation to be completed in accordance with AS/NZS 3001:2008.

This Standard forms Part 1 of the AS/NZS 3001 series as follows:

AS/NZS 3001.1, *Electrical installations — Connectable electrical installations and supply arrangements, Part 1: Site supplies for connectable electrical installations* (this Standard)

AS/NZS 3001.2, *Electrical installations — Connectable electrical installations and supply arrangements, Part 2: Connectable electrical installations*

The major changes in this edition are as follows:

- (a) AS/NZS 3001 has been divided into two parts. Part 1 specifies requirements for site supplies for connectable electrical installations.
- (b) Alterations and repairs for site supplies have been included.
- (c) [Section 2](#) encompasses site supplies at caravan parks and camping grounds.
- (d) [Section 3](#) encompasses site supplies at locations other than at caravan parks or camping grounds.
- (e) [Section 4](#) encompasses testing and inspection requirements.
- (f) Additional requirements have been set out for the use of common submains to supply multiple service pillars, including by ring circuit.
- (g) New figures have been included and existing figures updated.
- (h) [Appendix A](#) has been updated to reflect increased supply requirements for new installations.

Differences between requirements in Australia and New Zealand are as follows:

In Australia, round-pin plugs and socket-outlets complying with AS/NZS 3123 may be used, however flat-pin type connections are the type most commonly used for single-phase supply to connectable electrical installations.

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In New Zealand, the following apply:

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- (i) A diminishing number of recreational vehicles (RVs), e.g. caravans, are fitted with a neutral-earth connection. This precludes providing residual current device (RCD) protection to the caravan by the installation of RCDs on the supply side of the neutral-earth connection.
- (ii) Since publication of the 2008 edition, all new site supplies have been required to have RCD protection. That requirement continues in this edition.

- (iii) Many caravan parks and camping grounds have a mixture of new service pillars with RCD protection and old service pillars without. The location of connectable electrical installations with a neutral-earth connection is regarded as a site management issue.
- (iv) In the case of caravan parks and camping grounds that only have pillars with RCD protection, connectable electrical installations with a neutral-earth connection will not be able to obtain a supply due to incompatibility.
- (v) It is intended that, over time, older service pillars without RCD protection will be upgraded to include it. The benchmarks in [Appendix C](#) for periodic assessment of caravan parks and camping grounds have been revised to reflect this intent.
- (vi) It is typical for the plug on the supply lead for recreational vehicles, and hence for all socket-outlets intended to provide electrical power to such connectable electrical installations, to comply with IEC 60309-2.
- (vii) This Standard continues to permit socket-outlets complying with AS/NZS 3112 to be installed in caravan parks and camping grounds.
- (viii) The requirements for earthing of service pillars have been amended in this edition; with each new pillar being required to have a supplementary earth electrode in addition to the protective earthing conductor of the submain supplying the pillar.
- (ix) [Appendix C](#) has been revised to better reflect the intent of the periodic assessment required by New Zealand regulations.

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

See Introduction for information on how to interpret and use this Standard.

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Introduction

Application of typefaces

Four different typefaces are used in this Standard. Each of these has a specific purpose as follows:

- (a) Normal print indicates requirements that form the main part of a clause. It also indicates "deemed to comply" methods that satisfy the requirements. Normal print is used in the appendices to present informative material for guidance only.
- (b) *Italic print indicates exceptions or variations to requirements.*
Exceptions generally give specific examples where the requirements do not apply or where they are varied for certain applications. They may contain requirements. Examples are also presented in italic text.
- (c) Reduced size normal print indicates Notes which give explanations and advice.
NOTE They are preceded by "NOTE" in the manner used in previous editions.
- (d) **Bold print indicates WARNINGS.**

It is important not to read text in any single typeface without consulting the preceding or following paragraphs, which may contain additional or modifying requirements.

National requirements

Certain provisions of the Standard have a different application in Australia and New Zealand. The following symbols appearing in the outer margin indicate that the identified Section or Clause is:

- (i) Applicable in Australia only.

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- (ii) Applicable in New Zealand only.

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Deemed to comply

The term "deemed to comply" means that a requirement can be met by following a specified Standard or method.

So, where an installation is carried out in accordance with the specified Standard or method, the installation is "deemed to comply" with the requirements of this Standard.

Conformance to a deemed to comply Standard may exceed the minimum requirements of this Standard.

Notes

Notes to clauses are informative and give explanations or advice. They do not form a mandatory part of this Standard.

Cross-references

Where reference to another clause has been made, such reference, unless otherwise stated, includes all appropriate subclauses and paragraphs of the clause or portion thereof referred to.

Provision for revision

This Standard is not intended to discourage invention or to exclude materials, equipment and methods that may be developed. Revisions will be made from time to time in view of such developments and Amendments to this edition will be made where essential.

NOTES

Australian/New Zealand Standard

Electrical installations — Connectable electrical installations and supply arrangements

Part 1: Site supplies for connectable electrical installations

Section 1 Scope and general

1.1 Scope

1.1.1 General

This Standard sets out the requirements for electrical installations associated with site supplies for connectable electrical installations that are intended for connection to low voltage (LV) a.c. supply systems (i.e. exceeding 50 V a.c. but not exceeding 1 000 V a.c.).

The particular requirements of this Standard replace, modify, or are additional to the general requirements of AS/NZS 3000 for the electrical wiring of site supplies for connectable electrical installations.

NOTE 1 Guidance on the calculation of maximum demand for switchboards/service pillars is provided in [Appendix A](#).

NOTE 2 See [Appendix B](#) for guidance on providing connection instructions to patrons.

1.1.2 Inclusions

Site supplies may exist in the following:

- (a) Caravan parks.
- (b) Holiday parks.
- (c) Tourist parks.
- (d) Camping grounds.
- (e) Socket-outlets of other electrical installations specifically provided for the connection of connectable electrical installations, including but not limited to:
 - (i) Public areas.
 - (ii) Shows and carnivals.
 - (iii) Golf courses.
 - (iv) Sporting grounds.
 - (v) Horse racing grounds.
 - (vi) Accommodation provider sites (e.g. hotels, motels, bed and breakfast).
- (f) This Standard may also be used for scouting jamborees, military camps or civil defence shelters in conjunction with AS/NZS 3002.

1.1.3 Exclusions

In Australia, this Standard does not apply to fixed electrical installations forming part of the following:

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- (a) electrical installations as per AS/NZS 3000;
- (b) shows and carnival installations as per AS/NZS 3002;
- (c) construction and demolition installations as per AS/NZS 3012;
- (d) marina installations as per AS/NZS 3004.1; or
- (e) parts of other installations not intended to supply electricity to a connectable electrical installation.

In New Zealand, this Standard does not apply to the following:

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- (i) marina installations; or
- (ii) parts of other installations not intended for use to supply electricity to a connectable electrical installation.

1.2 Application

This Standard may be applied through legislative requirements, made in each state and territory of Australia and in New Zealand, concerned with the safety of electrical installations. This Standard may also be applied in conjunction with any additional requirements, exemptions or restrictions in such legislation.

1.3 Normative references

The following documents are referred to in the text in such a way that some or all their content constitutes requirements of this Standard.

NOTE Documents referenced for informative purposes are listed in the Bibliography

AS 4702, *Polymeric cable protection covers*

AS 60529, *Degrees of protection provided by enclosures (IP Code)*

AS/NZS 2648.1, *Underground marking tape, Part 1: Non-detectable tape*

AS/NZS 3000, *Electrical installations (known as the Australian/New Zealand Wiring Rules)*

AS/NZS 3010, *Electrical installations—Generating sets*

AS/NZS 3017, *Electrical installations — Verification by inspection and testing*

AS/NZS 3019, *Electrical installations — Periodic assessment*

AS/NZS 3112, *Approval and test specification—Plugs and socket-outlets*

AS/NZS 3123, *Approval and test specification—Plugs, socket-outlets and couplers for general industrial application*

AS/NZS 4509, *Stand-alone power systems (all parts)*

AS/NZS 4763, *Safety of portable inverters*

AS/NZS 4777, *Grid connection of energy systems via inverters (all parts)*

AS/NZS 5033, *Installation and safety requirements for photovoltaic (PV) arrays*

AS/NZS 5139, *Electrical installations — Safety of battery systems for use with power conversion equipment*

AS/NZS 61008.1, *Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs), Part 1: General rules (IEC 61008-1, Ed. 3.2 (2013) MOD)*

AS/NZS 61009.1, *Residual current operated circuit-breakers with integral overcurrent protection for household and similar uses (RCBOs), Part 1: General rules (IEC 61009-1, Ed. 3.2 (2013) MOD)*

IEC 60309-2, *Plugs, socket-outlets and couplers for industrial purposes — Part 2: Dimensional interchangeability requirements for pin and contact-tube accessories*

1.4 Terms and definitions

For the purposes of this Standard, the terms and definitions in AS/NZS 3000 and those below apply. Where an additional term is defined in a particular section or clause, the term takes the meaning defined in that section or clause.

1.4.1

accessible, readily

capable of being reached quickly and without climbing over or removing obstructions, or using a movable ladder, and in any case not more than 2.0 m above the ground, floor or platform

1.4.2

caravan park

camping ground

area of land —

- (a) that is used, or intended to be used, to site two or more connectable electrical installations for recreational purposes; and
- (b) on which fittings are installed to supply electricity to those connectable electrical installations

1.4.3

competent person

person, who has acquired, through training, qualification or experience or a combination of these, the knowledge and skill enabling that person to perform the required task correctly

1.4.4

connectable electrical installation

electrical installation of a *non-recreational vehicle* (1.4.6), a *recreational vehicle* (1.4.8) or a *relocatable unit* (1.4.9) that is designed, intended for, or capable of, connection to an external low voltage power supply by detachable connection

1.4.5

may

indicates the existence of an option

1.4.6

non-recreational vehicle

<1> trailer designed to be towed by a road vehicle that has the provision for, or is intended for connection to a low voltage supply from an external source that is not deemed to be a *recreational vehicle* (1.4.8)

<2> self-propelled vehicle with the same features as per <1>

EXAMPLE Cars, trucks and trailers including but not limited to: horse floats; semi-trailers; livestock or car transporters; vehicles such as food and drink vending vans and trailers; educational display caravans and trailers, mobile classrooms; television outside broadcast vans; mobile stages; display units e.g. mobile electronic score boards and advertising signs, mobile traffic information signs; or any towable, self-propelled or hybrid vehicle that does not fit specifically into any of the above categories.

1.4.7**occupier**

person who occupies a site or who is responsible for a group of persons, such as a family, that will normally occupy that site

1.4.8**recreational vehicle**

<1> trailer designed to be towed by a road vehicle, often used for living and accommodation, and has the provision for, or is intended for connection to a low voltage supply from an external source

<2> self-propelled vehicle with the same features as per <1>

EXAMPLE Including but not limited to: camper vans; motor homes; camper trailers; caravans; pop top caravans; tent trailers; fifth wheel caravans; slide on campers; converted buses or trailers for the use of accommodation or recreational purposes; any towable, self-propelled or hybrid vehicle intended for use as accommodation or recreational purposes that does not fit specifically into any of the above categories; or *vehicles* (1.4.16).

Note 1 to entry: Vehicles such as mobile site offices and similar, that are not used for living accommodation or recreational purposes, are not deemed to be recreational vehicles, see *non-recreational vehicles* (1.4.6).

1.4.9**relocatable unit**

designed for human occupation that may be relocated from one site to another and has the provision for or is intended for connection to a low voltage supply from an external source

EXAMPLE Relocatable site offices, cloakrooms, meeting offices, dormitories, canteens, toilets, workshops, site huts or other facilities.

1.4.10**service pillar**

assembly that includes circuit protection devices and one or more socket-outlets suitably arranged together including its enclosure and supporting structure, for the purpose of supplying power to *connectable electrical installations* (1.4.4) and *vehicles* (1.4.16)

Note 1 to entry: For requirements for service pillars, see [Clause 2.4](#).

1.4.11**shall**

indicates a statement is mandatory

1.4.12**should**

indicates a recommendation

1.4.13**site**

area in a *caravan park* (1.4.2), *camping ground* (1.4.2) or other location intended for the placement of one or more *connectable electrical installations* (1.4.4) under the control of one occupier

1.4.14**supply lead**

socket-outlet and plug arrangement, or a lead permanently connected to the connectable electrical installation, used to connect connectable electrical installation to the site supply

1.4.15**switchboard**

assembly of circuit protective devices, with or without switchgear, instruments or connecting devices, suitably arranged and mounted for distribution to, and protection of, one or more submains or final subcircuits, or a combination of both

1.4.16 vehicle

means for transporting people, animals or goods, on land

EXAMPLE Cars, trucks and trailers, including but not limited to: *non-recreational vehicles* ([1.4.6](#)), *recreational vehicles* ([1.4.8](#)), mobile offices, break facilities and similar; or rail vehicles (rolling stock).

1.5 Alterations and repairs

1.5.1 Alterations

Alterations to electrical installations of site supplies for connectable electrical installations shall comply with all relevant provisions of this Standard.

Alterations to electrical installations shall not cause any portion of the original electrical installation, or electrical equipment connected thereto, to —

- (a) carry currents or sustain voltages in excess of those permitted by this Standard; or
- (b) be used in any manner that is not in accordance with this Standard.

1.5.2 Repairs

Repairs to existing electrical installations of site supplies for connectable electrical installations or parts thereof may be effected using methods, fixtures and fittings that were acceptable when that part of the electrical installation was originally installed or with methods, fixtures and fittings currently available as direct replacement, provided that the methods satisfy the fundamental safety principles of Part 1 of AS/NZS 3000.

In New Zealand, see [Clause 2.4.2](#) for service pillar repair requirements.

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