

Australian/New Zealand Standard™

**Safety of power transformers, power  
supply units and similar**

**Part 2.15: Particular requirements for  
isolating transformers for the supply of  
medical locations  
(IEC 61558-2-15:1999, MOD)**



Standards Australia



STANDARDS  
NEW ZEALAND  
Pūrongo Aotearoa

### **AS/NZS 61558.2.15:2001**

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL/2 - Safety of household and similar electrical appliances and small power transformers. It was approved on behalf of the Council of Standards Australia on 2 October 2001 and on behalf of the Council of Standards New Zealand on 12 October 2001. It was published on 12 November 2001.

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The following interests are represented on Committee EL/2:

Association of Certification Bodies  
Australian Chamber of Commerce and Industry  
Australian Electrical and Electronic Manufacturers Association  
Canterbury Manufacturers Association New Zealand  
Consumer Electronic Suppliers Association, Australia  
Electrical regulatory authorities, Australia  
Electrical test laboratories  
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AS/NZS 61558.2.15:2001  
(IEC 61558-2-15:1999, MOD)

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First edition AS/NZS 61558.2.15:2001
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## PREFACE

This standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-002- Safety of Household and Similar Electrical Appliances and Small Power Transformers

The objective of this Standard is to provide manufacturers, designers, regulatory authorities, testing laboratories and similar organizations with safety requirements for the design, manufacture and testing of isolating transformers for the supply of medical locations which can form the basis for approval by regulatory authorities.

This Standard forms the first edition of AS/NZS 61558.2.15 *Safety of power transformers, power supply units and similar - Part 2.15: Particular requirements for isolating transformers for the supply of medical locations.*

This Standard is an adoption with national modifications and contains the full text of the first edition of IEC 61558-2-15:1999, *Safety of power transformers, power supply units and similar - Part 2-15: Particular requirements for isolating transformers for the supply of medical locations* and has been varied as indicated to take account of Australian and New Zealand conditions. It is to be used in conjunction with the latest edition of AS/NZS 61558.1 and its amendments. It was established on the basis of the first edition (2000) of that standard.

This part 2 supplements or modifies the corresponding clauses of AS/NZS 61558.1 so as to convert it into the Australian/New Zealand Standard: *Safety requirements for isolating transformers for the supply of medical locations.*

Where a particular subclause of part 1 is not mentioned in this part 2, that subclause applies as far as is reasonable. Where this Standard states "addition", "modification" or "replacement", the relevant text in part 1 is to be adapted accordingly.

NOTE 1 Subclauses, notes, tables and figures which are additional to those in part 1 are numbered starting from 101. Annexes, which are additional to those in part 1 are lettered AA, BB, etc.

Annex ZZ is for information only.

NOTE 2 In this Standard the following print types are used:

- requirements: in arial type;
- *test specifications: in italic type;*
- notes: in small arial type;

Words **in bold** in the text are defined in clause 3.

The numbering of clauses, subclauses, notes, tables, figures and annexes follows that of IEC 61558-2-15:1999. To allow for the introduction of additional material by the IEC, the numbers 101 to 200 have been reserved. To allow for additional material to be introduced by Australia and New Zealand, the numbers 201 to 300 are used to number further clauses, subclauses, notes, tables and figures in part 1. The numbers 301 to 400 are used to number further clauses, subclauses, notes, tables and figures in this part 2. Additional annexes are lettered ZA, ZB and so on.

This scheme has been introduced to reduce the likelihood of the IEC and Australia and New Zealand using the same identifier for different purposes.

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 on the cover and title page only.
- (b) In the source text "this International Standard" should read "this Australian/New Zealand Standard".
- (c) A full point substitutes for a comma when referring to a decimal marker.

Variations to IEC 61558-2-15:1999 are indicated at the appropriate places throughout this standard. Strikethrough (~~example~~) identifies 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.

Variations made to IEC 61558-2-15:1999 form the Australian variations for the purposes of the IECEE scheme for recognition of testing to standards for safety of electrical equipment (the CB scheme). These variations have been incorporated in the body of the standard. They are listed in Annex ZZ for easy reference.

## AUSTRALIA/NEW ZEALAND STANDARD

### SAFETY OF POWER TRANSFORMERS, POWER SUPPLY UNITS AND SIMILAR – Part 2.15: Particular requirements for isolating transformers for the supply of medical locations (IEC 61558-2-15:1999, MOD)

#### 1 Scope

##### *Replacement:*

This international standard deals with all aspects of safety such as electrical, thermal and mechanical.

~~This part 2-15 of IEC 61558 applies to stationary, single-phase or polyphase, air-cooled (natural or forced) **isolating transformers** for the supply of group II medical locations, designed to be permanently connected to the fixed wiring of IT supply system, having a **rated supply voltage** not exceeding 1 000 V a.c. and **rated frequency** not exceeding 500 Hz. The **rated output** shall not be less than 3 kVA and shall not exceed 10 kVA.~~

This part 2-15 of AS/NZS 61558 applies to **stationary**, single-phase or polyphase, air-cooled (natural or forced) **isolating transformers** used to provide an IT supply system for the supply of cardiac-protected electrical areas.

NOTE 1 – Details of IT supply systems are to be found in IEC 60364-3.

~~NOTE 2 – The wiring rules for group II medical locations are under consideration [1]\*.~~

NOTE 2 – The wiring rules for cardiac-protected electrical areas are to be found in AS/NZS 3003 [1]\*

The **no-load output voltage** and the **rated output voltage** shall not exceed 250 V a.c. single-phase or polyphase (phase-to-phase voltage).

**Isolating transformers** are used where **double** or **reinforced insulation** between circuits is required by the installation rules or by the appliance specification.

This standard is applicable to **dry-type transformers**. The winding may be encapsulated or non-encapsulated.

NOTE 3 – For transformers filled with liquid dielectric or pulverised material such as sand, requirements are under consideration.

NOTE 4 – Attention is drawn to the fact that:

- ~~– for transformers intended to be used in tropical countries, special requirements may be necessary;~~
- for the purposes of this standard, Australia and New Zealand are not considered to be tropical;
- in locations where special environmental conditions prevail, particular requirements may be necessary.

This standard also applies to transformers incorporating electronic circuits. This standard does not apply to external circuits and their components intended to be connected to the input and output terminals or socket-outlets of the transformer.

#### 2 Normative references

This clause of part 1 is applicable except as follows:

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\* The figures in square brackets refer to the bibliography.