

Australian/New Zealand Standard™

A1 | **Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V**

Part 2.6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers (IEC 61558-2-6 Ed 2, MOD)



AS/NZS 61558.2.6:2009

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-002, Safety of Household and Similar Electrical Appliances and Small Power Transformers. It was approved on behalf of the Council of Standards Australia on 9 September 2009 and on behalf of the Council of Standards New Zealand on 28 August 2009.

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The following are represented on Committee EL-002:

Australian Industry Group
Australian Retailers Association
Business New Zealand
Consumer Electronic Suppliers Association, Australia
Consumers' Federation of Australia
Electrical Regulatory Authorities, Australia
Electrical Compliance Testing Association
Electrical consultants
Engineers Australia
Energy Networks Australia
Ministry of Economic Development, New Zealand
New Zealand Electric Fence Energizer Manufacturers' Standards Group

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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 or Standards New Zealand at the address shown on the back cover.

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Part 2.6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers (IEC 61558-2-6 Ed 2, MOD)

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STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

AS/NZS 61558.2.6:2009**Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V –**

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Part 2.6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers**Foreword**

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-002 - Safety of Household and Similar Electrical Appliances and Small Power Transformers. It replaces AS/NZS 61558.2.6:2001 and its amendments three years from the date of its publication.

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 safety isolating transformers and power supply units incorporating safety isolating transformers which can form the basis for approval by regulatory authorities.

The text of IEC 61558-2-6 Ed 2, prepared by IEC Technical Committee 96, was submitted to the Standards Australia/Standards New Zealand Combined Procedure (dual public comment and committee vote) for adoption of the IEC standard as a Standards Australia/Standards New Zealand joint standard.

A1 | This Standard incorporates Amendment No. 1 (June 2012). The changes required by the amendments are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected. Where an application date other than immediate is applicable to an amendment the date of application (DOA) and the date of withdrawal (DOW) if relevant, is indicated by the marginal bar against the part affected.

A1 | This Standard is an adoption with national modifications of the second edition of IEC 61558-2-6:2009, *Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V – Part 2-6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers*. It has been varied as indicated to take account of Australian and New Zealand conditions.

This part 2 has to be used in conjunction with the latest edition of AS/NZS 61558.1 *Safety of Power Transformers, Power Supplies, Reactors and Similar Products – Part 1: General requirements and tests* and its amendments. It was established on the basis of the 2008 edition of that standard. Amendments and revisions of Part 1 have also to be taken into account and the dates when such changes become applicable will be stated in the relevant amendment or revision of Part 1.

A1 | 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 and tests for safety isolating transformers and power supply units incorporating safety isolating transformers*.

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

NOTE 1 The following numbering system is used:

- subclauses, tables and figures that are numbered starting from 101 are additional to those in Part 1;
- unless notes are in a new subclause or involve notes in Part 1, they are numbered starting from 101, including those in a replaced clause or subclause;
- additional annexes are lettered AA, BB, etc.;
- subclauses, notes and annexes that are additional to those in the IEC standard are prefixed with the letters AZ.

NOTE 2 The following print types are used:

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

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

p NOTE 3 In this document, p is used in the margin to indicate instructions for preparing a consolidated version.

The essential safety requirements in AS/NZS 3820¹ that could be applicable to safety isolating transformers and power supply units incorporating safety isolating transformers are covered by this standard.

The national variations to IEC 61558-2-6 Ed 2 form the Australian and New Zealand national variations for purposes of the IECEE scheme for recognition of results of testing to standards for safety of electrical equipment (the CB scheme).

There are national variations from the IEC Standard from which this standard is adopted, other than those listed in Annex ZZ to AS/NZS 61558.1.

¹ AS/NZS 3820 *Essential safety requirements for low voltage electrical equipment*

The text of the International Standard IEC 61558-2-6 Ed 2 was approved as a joint Australia/New Zealand Standard with the agreed national variations as given below.

AUSTRALIAN NATIONAL VARIATIONS

The following national variations to this Part 2 are additional to those listed in Annex ZZ to AS/NZS 61558.1.

19 Construction

p 19.101 *Replace by:*

19.101 VOID

NEW ZEALAND NATIONAL VARIATIONS

The following national variations to this Part 2 are additional to those listed in Annex ZZ to AS/NZS 61558.1.

19 Construction

p 19.101 *Replace by:*

19.101 VOID

Annex ANZ (normative)

Normative references to international publications with their corresponding joint Australia/New Zealand publications

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.

NOTE When an international publication has been modified by national deviations, indicated by (mod), the relevant joint Australia/New Zealand publications applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>AS/NZS</u>	<u>Year</u>
IEC 61558-1 (mod)	2005	<i>Safety of power transformers, power supplies, reactors and similar products</i>	AS/NZS 61558.1	2009
+ A1	2009	<i>– Part 1: General requirements and tests</i>	+ A1	2009

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SAFETY OF TRANSFORMERS, REACTORS, POWER SUPPLY UNITS AND SIMILAR PRODUCTS FOR SUPPLY VOLTAGES UP TO 1 100 V –

Part 2-6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers

1 Scope

Replacement:

This part of IEC 61558 deals with the safety of **safety isolating transformers** for general applications and **power supply units** incorporating **safety isolating transformers** for general applications. **Transformers** incorporating **electronic circuits** are also covered by this standard.

NOTE 1 Safety includes electrical, thermal and mechanical aspects.

Unless otherwise specified, from here onward, the term **transformer** covers **safety isolating transformers** for general applications and **power supply units** incorporating **safety isolating transformers** for general applications.

NOTE 2 For **power supply units** (linear) this part is applicable. For **switch mode power supply units**, IEC 61558-2-16 is applicable together with this part.

This part is applicable to **stationary** or **portable**, single-phase or polyphase, air-cooled (natural or forced) **independent** or **associated dry-type transformers**. The windings may be encapsulated or non-encapsulated.

The **rated supply voltage** does not exceed 1 100 V a.c., and the **rated supply frequency** and the **internal operating frequencies** do not exceed 500 Hz.

The **rated output** does not exceed:

- 10 kVA for single-phase **transformers**;
- 16 kVA for polyphase **transformers**.

This part is applicable to **transformers** without limitation of the **rated output** subject to an agreement between the purchaser and the manufacturer.

NOTE 3 **Transformers** intended to supply distribution networks are not included in the scope.

The **no-load output voltage** or the **rated output voltage** does not exceed 50 V a.c. or 120 V ripple-free d.c.

This part is not applicable to external circuits and their components intended to be connected to the input terminals and output terminals of the **transformers**.

Transformers covered by this part are used in applications where **double or reinforced insulation** between circuits is required by the installation rules or by the end product standard.

NOTE 4 Attention is drawn to the following:

- for **transformers** intended to be used in vehicles, on board ships, and aircraft, additional requirements (from other applicable standards, national rules, etc.) may be necessary;