



CSA E61558-2-13:20

Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V — Part 2-13: Particular requirements and tests for auto transformers and power supply units incorporating auto transformers

(IEC 61558-2-13:2009, MOD)

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Sécurité des transformateurs, bobines d'inductance, blocs d'alimentation et produits analogues pour des tensions d'alimentation jusqu'à 1 100 V — Partie 2-13 : Règles particulières et essais pour les autotransformateurs et les blocs d'alimentation incorporant des autotransformateurs

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CSA Preface

This is the second edition of CSA E61558-2-13, *Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V — Part 2-13: Particular requirements and tests for auto transformers and power supply units incorporating auto transformers*, which is an adoption, with Canadian deviations, of the identically titled IEC (International Electrotechnical Commission) Standard 61558-2-13 (second edition, 2009-02). It supersedes the previous edition, published in 2003 as CAN/CSA-E61558-2-13 (adopted IEC 61558-2-13:1999), *Safety of power transformers, power supply units and similar devices — Part 2-13: Particular requirements for auto-transformers for general use*.

For brevity, this Standard will be referred to as “CSA E61558-2-13” throughout.

This Standard is intended to be used in conjunction with CAN/CSA-E61558-1:12, *Safety of power transformers, power supplies, reactors and similar products — Part 1: General requirements and tests* (adopted IEC 61558-1:2005+A1:2009, with Canadian deviations).

This Standard is considered suitable for use for conformity assessment within the stated scope of the Standard.

This Standard was reviewed for Canadian adoption by the CSA Technical Committee on International Standards, under the jurisdiction of the CSA Strategic Steering Committee on Requirements for Electrical Safety, and has been formally approved by the Technical Committee.

This Standard has been developed in compliance with Standards Council of Canada requirements for National Standards of Canada. It has been published as a National Standard of Canada by CSA Group.

Interpretations: The Strategic Steering Committee on Requirements for Electrical Safety has provided the following direction for the interpretation of standards under its jurisdiction: “The literal text shall be used in judging compliance of products with the safety requirements of this Standard. When the literal text cannot be applied to the product, such as for new materials or construction, and when a relevant

CSA committee interpretation has not already been published, CSA Group's procedures for interpretation shall be followed to determine the intended safety principle."

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This Standard is subject to review within five years from the date of publication, and suggestions for its improvement will be referred to the appropriate committee. The technical content of IEC and ISO publications is kept under constant review by IEC and ISO. To submit a proposal for change, please send the following information to inquiries@csagroup.org and include "proposal for change" in the subject line:

- a) Standard designation (number);
- b) relevant clause, table, and/or figure number;
- c) wording of the proposed change; and
- d) rationale for the change.

Canadian deviations

The following deviations are intended to meet Canadian product requirements and to align with the *Canadian Electrical Code, Part I*.

International Standard IEC 61558-2-13:2009 (second edition) forms the basis for CSA E61558-2-13, which contains the following deviations in addition to those shown in CAN/CSA-E61558-1:12.

[Replace all references to “IEC 61558-1” with “CAN/CSA-E61558-1”]

1 Scope

[Add the following]

This Standard applies to the safety of such equipment designed and constructed for installation and use in accordance with CSA C22.1, *Canadian Electrical Code, Part I*.

2 Normative references

[Add the following]

In this Standard, any reference to International Standards shall be replaced by the relevant National Standard of Canada.

Where reference is made to CSA Group publications, such reference shall be considered to refer to the latest edition and all amendments published to that edition. This Standard refers to the following publications, and the years shown indicate the latest editions available at the time of printing:

CSA Group

C22.1-18

Canadian Electrical Code, Part I

CAN/CSA-E61558-1:12 (R2017)

Safety of power transformers, power supplies, reactors and similar products — Part 1: General requirements and tests

8 Marking and other information

8.1

[Add the following paragraph to this Clause in the Part 1]

Warning and caution markings shall be in both English and French.

19 Construction

19.106.2

[Add the following note after the third paragraph]

Note 1A: A Class A ground fault circuit interrupter (GFCI) is considered to be an acceptable device under this Clause.

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Part 2-13: Particular requirements and tests for auto transformers and power supply units incorporating auto transformers**

**Sécurité des transformateurs, bobines d'inductance, blocs d'alimentation et produits analogues pour des tensions d'alimentation jusqu'à 1 100 V –
Partie 2-13: Règles particulières et essais pour les autotransformateurs et les blocs d'alimentation incorporant des autotransformateurs**

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

Part 2-13: Particular requirements and tests for auto transformers and power supply units incorporating auto transformers

1 Scope

Replacement:

This part of IEC 61558 deals with the safety of **auto transformers** for general applications and **power supply units** incorporating **auto 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 **auto transformers** for general applications and **power supply units** incorporating **auto 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 **core power** does not exceed:

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

The **rated output** does not exceed:

- 40 kVA for single-phase **transformers**;
- 200 kVA for polyphase **transformers**.

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

Where applicable, the **no-load output voltage** or the **rated output voltage** does not exceed 1 000 V a.c. or 1 415 V ripple-free d.c., and for **independent transformers**, the **no-load output voltage** and the **rated output voltage** exceeds 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 only in applications where no **insulation** between circuits is required by the installation rules or by the end product standard.

NOTE 3 Attention is drawn to the following: