CSA C22.2 No. 66.2:21

Low voltage transformers — Part 2: General purpose transformers

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Low voltage transformers — Part 2: General purpose transformers

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Standard for Safety for Low Voltage Transformers – Part 2: General Purpose Transformers

Second Edition, Dated August 16, 2021

Summary of Topics

This new edition includes Alternate Temperature Rise Test Loading Methods

The new and revised requirements are substantially in accordance with Proposal(s) on this subject dated January 22. 2021 and May 28, 2021.

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CSA Group
CSA C22.2 No. 66.2:21
Second Edition

Underwriters Laboratories Inc.
UL 5085-2
Second Edition

Low Voltage Transformers – Part 2: General Purpose Transformers

August 16, 2021

ANSI/UL 5085-2-2021

Commitment for Amendments

This standard is issued jointly by the Canadian Standards Association (operating as “CSA Group”) and Underwriters Laboratories Inc. (UL). Comments or proposals for revisions on any part of the standard may be submitted to CSA Group or UL at anytime. Revisions to this Standard will be made only after processing according to the standards development procedures of CSA Group and UL. CSA Group and UL will issue revisions to this Standard by means of a new edition or revised or additional pages bearing their date of issue.

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This ANSI/UL Standard for Safety consists of the Second Edition.

The most recent designation of ANSI/UL 5085-2 as an American National Standard (ANSI) occurred on August 16, 2021. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, Title Page (front and back), or the Preface.

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Preface

This is the harmonized CSA Group and UL standard for low voltage transformers. It is the second edition of CSA C22.2 No. 66.2 and the second edition of UL 5085-2. This edition of CSA C22.2 No. 66.2/UL 5085-2 supersedes the previous edition published on April, 2006.

This harmonized Standard was prepared by a Technical Harmonization Committee comprised of members from CSA Group, Underwriters Laboratories Inc. (UL), and representatives of the low voltage transformer manufacturing industry. The efforts and support of members of the Technical Harmonization Committee are gratefully acknowledged.

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

This Standard was reviewed by the CSA Subcommittee on Specialty Transformers, under the jurisdiction of the CSA Technical Committee on Industrial Products and the CSA Strategic Steering Committee on Requirements for Electrical Safety, and has been formally approved by the CSA Technical Committee.

Application of Standard

Where reference is made to a specific number of samples to be tested, the specified number is to be considered a minimum quantity.

Note: Although the intended primary application of this Standard is stated in its scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.

Level of harmonization

This Standard uses the IEC format but is not based on, nor is it considered equivalent to, an IEC standard.

This Standard is published as an equivalent standard for CSA Group and UL.

An equivalent standard is a standard that is substantially the same in technical content, except as follows: Technical national differences are allowed for codes and governmental regulations as well as those recognized as being in accordance with NAFTA Article 905, for example, because of fundamental climatic, geographical, technological, or infrastructural factors, scientific justification, or the level of protection that the country considers appropriate. Presentation is word for word except for editorial changes.

Reasons for Differences from IEC

The THC determined that the safe use of transformers and reactors is critically dependent on the electrical system in which they are intended to be installed. Significant investigation is required to assess safety and system compatibility issues that may lead to harmonization of traditional North American transformers and reactors with those presently addressed in the known IEC standards. The THC agreed such future investigation might be facilitated by completion of harmonization of North American standards for transformers and reactors.

Interpretations

The interpretation by the standards development organization of an identical or equivalent standard is based on the literal text to determine compliance with the standard in accordance with the procedural rules of the standards development organization. If more than one interpretation of the literal text has been

identified, a revision is to be proposed as soon as possible to each of the standards development organizations to more accurately reflect the intent.

Parts

The Standard for Low Voltage Transformers is divided into the following parts:

Part Number	Standard Title	Standard Number
1	General Requirements	CSA C22.2 No. 66.1/UL 5085-1
2	General Purpose Transformers	CSA C22.2 No. 66.2/UL 5085-2
3	Class 2 and Class 3 Transformers	CSA C22.2 No. 66.3/UL 5085-3

NOTES –

1. Part 1 covers the general requirements for transformer characteristics, marking, construction, and tests. Additional specific requirements are provided in the subsequent parts.

2. Part 2 and Part 3 supplement requirements and/or modify the corresponding clauses in Part 1 and should be applied together with Part 1. The numbered clauses in Part 2 and Part 3 correspond to the numbered clauses in Part 1.

PART 2: GENERAL PURPOSE TRANSFORMERS

1 Scope

1.1 As noted in Low Voltage Transformers – Part 1: General Requirements, UL 5085-1, or CSA C22.2 No. 66.1, Low Voltage Transformers – Part 1: General Requirements, the requirements of Part 2 cover:

a) Air-cooled transformers and reactors for general use;

b) Autotransformers;

c) Ferroresonant transformers;

d) Cord-connected transformers; and

e) Transformers incorporating overcurrent or over-temperature protective devices, transient voltage surge protectors, or capacitors.

1.7 These requirements do not cover Class 2 and Class 3 transformers (which are evaluated in Part 3).

1.8 Part 2 is intended to be used in conjunction with Part 1. The numbering of the clauses in Part 2 corresponds to the numbered clauses in Part 1. The requirements in Part 1 apply unless modified by Part 2.

2 Units of Measurement

2.1 Values stated without parentheses are the requirement. Values in parentheses are explanatory or approximate information.

3 Referenced Publications

3.1 Any undated reference to a code or standard appearing in the requirements of this Standard shall be interpreted as referring to the latest edition of that code or standard.

3.2 When a reference is made to a code or standard, the product shall comply with the code or standard of the country in which the product is intended to be used.

3.3 In Canada, general requirements applicable to this Standard are given in CSA C22.2 No. 0, *General Requirements – Canadian Electrical Code, Part II*.

3.4 Throughout this Standard, the CSA standard references apply to products intended for use in Canada, and the UL standard references apply to products intended for use in the United States. Combined references are separated by a slash (“ / ”) to denote the difference between the applicable requirements specified for use in Canada and the United States.

3.5 The following publications are referenced in this Standard:

CSA C22.2 No. 0, *General Requirements – Canadian Electrical Code, Part II*

CSA C22.2 No. 66.1, *Low Voltage Transformers – Part 1: General Requirements*

CSA C22.2 No. 94.2, *Enclosures for Electrical Equipment, Environmental Considerations*