

Safety of transformers, reactors, power supply units and combinations thereof - Part 2-10: Particular requirements and tests for separating transformers with high insulation level and separating transformers with output voltages exceeding 1 000 V

EVS

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 61558-2-10:2014 sisaldab Euroopa standardi EN 61558-2-10:2014 inglisekeelset teksti.	This Estonian standard EVS-EN 61558-2-10:2014 consists of the English text of the European standard EN 61558-2-10:2014.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 23.05.2014.	Date of Availability of the European standard is 23.05.2014.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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English Version

Safety of transformers, reactors, power supply units and combinations thereof - Part 2-10: Particular requirements and tests for separating transformers with high insulation level and separating transformers with output voltages exceeding 1 000 V (IEC 61558-2-10:2014)

Sécurité des transformateurs, bobines d'inductance, blocs d'alimentation et des combinaisons de ces éléments -
Partie 2-10: Règles particulières et essais pour les transformateurs d'isolement à enroulements séparés à niveau d'isolement élevé et pour les transformateurs d'isolement à enroulements séparés à tensions secondaires supérieures à 1 000 V
(CEI 61558-2-10:2014)

Sicherheit von Transformatoren, Netzgeräten, Drosseln und dergleichen - Teil 2-10: Besondere Anforderungen und Prüfungen an Netztransformatoren mit hohem Isolationspegel und Netztransformatoren mit Ausgangsspannungen über 1 000 V
(IEC 61558-2-10:2014)

This European Standard was approved by CENELEC on 2014-05-15. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Foreword

The text of document 96/407/FDIS, future IEC 61558-2-10, prepared by IEC/TC 96, "Transformers, reactors, power supply units and combinations thereof" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61558-2-10:2014.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2015-02-15
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2017-05-15

This Part 2-10 is intended to be used in conjunction with the latest edition of EN 61558-1 and its amendments.

This Part 2-10 supplements or modifies the corresponding clauses in EN 61558-1, so as to convert that publication into the IEC standard: Particular requirements and tests for separating transformers with high insulation level and separating transformers with output voltages exceeding 1 000 V.

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

In this part, the following print types are used:

- requirements proper: in roman type;
- test specifications: in italic type;
- explanatory matters: in smaller roman type.

In the text of this part the words in bold are defined in Clause 3.

Subclauses, notes, figures and tables additional to those in Part 1 are numbered starting from 101; supplementary annexes are entitled AA, BB, etc.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 61558-2-10:2014 was approved by CENELEC as a European Standard without any modification.

In the Bibliography of EN 61558-1:2005, the following note has to be **added** for the standard indicated:
Addition:

IEC 60076-11	NOTE	Harmonised as EN 60076-11 (not modified).
IEC 61050	NOTE	Harmonised as EN 61050 (modified).
IEC 61347-2-10:2000	NOTE	Harmonised as EN 61347-2-10:2001 (not modified).

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu

Annex ZA of EN 61558-1:2005 applies, except as follows:

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61558-1	2005	Safety of power transformers, power supplies, reactors and similar products -- Part 1: General requirements and tests	EN 61558-1	2005
			+EN 61558-1:2005/corrigendum Aug. 2006	2006
IEC 61558-2-16	-	Safety of transformers, reactors, power supply units and similar products for voltages up to 1 100 V -- Part 2-16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units	EN 61558-2-16	-

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SAFETY OF TRANSFORMERS, REACTORS, POWER SUPPLY UNITS AND COMBINATIONS THEREOF –

Part 2-10: Particular requirements and tests for separating transformers with high insulation level and separating transformers with output voltages exceeding 1 000 V

1 Scope

Replacement:

This part of IEC 61558 deals with the safety of **separating transformers** with high **insulation level** and **separating transformers** with **output voltages** exceeding 1 000 V. **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 **separating transformers with high insulation level** and **separating transformers** with **output voltages** exceeding 1 000 V a.c or 1 500 V d.c .

This Part 2-10 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.

This standard is applicable to **transformers** and **power supply** (linear) with **internal operational frequencies** not exceeding 500 Hz.

This standard used in combination with Part 2-16 for **switch mode power supply units (SMPS)** is also applicable to power supplies with **internal operational frequencies** higher than 500 Hz. Where the two requirements are in conflict the most severe take precedence.

The **rated supply voltage** does not exceed 1 000 V a.c., and the **rated supply frequency** and the **internal operating frequency** do not exceed 500 Hz.

The **rated output** does not exceed:

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

This Part 2-10 is applicable to **transformers** without limitation of the **rated output** 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 1 500 V d.c. for **separating transformers with high insulation level**;
- does exceed 1 000 V a. c or 1 500 V d.c. and does not exceed 15 000 V a.c. or 15 000 V d.c. for **separating transformer** with **output voltage** exceed 1 000 V.

This Part 2-10 is not applicable to:

- **transformers** covered by IEC 60076-11;