SVENSK STANDARD SS-EN 61558-2-4

Fastställd	Utgåva	Sida	Ansvarig kommitté
2009-06-29	2	1 (1+14)	SEK TK 96

Transformatorer, strömförsörjningsdon och liknande för högst 1 100 V matningsspänning – Säkerhet – Del 2-4: Särskilda fordringar på isolertransformatorer och strömförsörjningsenheter med isolertransformatorer

Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V – Part 2-4: Particular requirements and tests for isolating transformers and power supply units incorporating isolating transformers

Som svensk standard gäller europastandarden EN 61558-2-4:2009. Den svenska standarden innehåller den officiella engelska språkversionen av EN 61558-2-4:2009.

Nationellt förord

Europastandarden EN 61558-2-4:2009

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC

– **IEC 61558-2-4, Second edition, 2009 - Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V - Part 2-4: Particular requirements and tests for isolating transformers and power supply units incorporating isolating transformers**

utarbetad inom International Electrotechnical Commission, IEC.

Standarden ska användas tillsammans med SS-EN 61558-1, utgåva 2, 2006.

Tidigare fastställd svensk standard SS-EN 61558-2-4, utgåva 1, 1997, gäller ej fr o m 2012-03-01.

ICS 29.180

Denna standard är fastställd av SEK Svensk Elstandard,
som också kan lämna upplysningar om **sakinnehållet** i standarden.
Postadress: SEK, Box 1284, 164 29 KISTA
Telefon: 08 - 444 14 00. *Telefax*: 08 - 444 14 30
E-post: sek@elstandard.se. *Internet*: www.elstandard.se

Standarder underlättar utvecklingen och höjer elsäkerheten

Det finns många fördelar med att ha gemensamma tekniska regler för bl a säkerhet, prestanda, dokumentation, utförande och skötsel av elprodukter, elanläggningar och metoder. Genom att utforma sådana standarder blir säkerhetskraven tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

Många standarder inom elområdet beskriver tekniska lösningar och metoder som åstadkommer den elsäkerhet som föreskrivs av svenska myndigheter och av EU.

SEK är Sveriges röst i standardiseringsarbetet inom elområdet

SEK Svensk Elstandard svarar för standardiseringen inom elområdet i Sverige och samordnar svensk medverkan i internationell och europeisk standardisering. SEK är en ideell organisation med frivilligt deltagande från svenska myndigheter, företag och organisationer som vill medverka till och påverka utformningen av tekniska regler inom elektrotekniken.

SEK samordnar svenska intressenters medverkan i SEKs tekniska kommittéer och stödjer svenska experters medverkan i internationella och europeiska projekt.

Stora delar av arbetet sker internationellt

Utformningen av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

Standardiseringsarbetet inom SEK är organiserat i referensgrupper bestående av ett antal tekniska kommittéer som speglar hur arbetet inom IEC och CENELEC är organiserat.

Arbetet i de tekniska kommittéerna är öppet för alla svenska organisationer, företag, institutioner, myndigheter och statliga verk. Den årliga avgiften för deltagandet och intäkter från försäljning finansierar SEKs standardiseringsverksamhet och medlemsavgift till IEC och CENELEC.

Var med och påverka!

Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61558-2-4

May 2009

ICS 29.180

Supersedes EN 61558-2-4:1997

English version

Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V - Part 2-4: Particular requirements and tests for isolating transformers and power supply units incorporating isolating transformers

(IEC 61558-2-4:2009)

Sécurité des transformateurs, bobines d'inductance, blocs d'alimentation et produits analogues pour des tensions d'alimentation jusqu'à 1 100 V - Partie 2-4: Règles particulières et essais pour les transformateurs de séparation des circuits et les blocs d'alimentation incorporant des transformateurs de séparation des circuits
(CEI 61558-2-4:2009)

Sicherheit von Transformatoren, Drosseln, Netzgeräten und dergleichen für Versorgungsspannungen bis 1 100 V - Teil 2-4: Besondere Anforderungen und Prüfungen an Trenntransformatoren und Netzgeräte die Trenntransformatoren enthalten
(IEC 61558-2-4:2009)

CENELEC

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

Central Secretariat: avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 61558-2-4:2009 E

SEK Svensk Elstandard

Foreword

The text of document 96/316/FDIS, future edition 2 of IEC 61558-2-4, prepared by IEC TC 96, Transformers, reactors, power supply units and similar products for low voltage up to 1 100 V, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61558-2-4 on 2009-03-01.

This European Standard supersedes EN 61558-2-4:1997.

The main changes consist of updating this part in accordance with EN 61558-1:2005, and increasing the supply voltages up to 1 100 V to be in line with the standards of TC 14.

This part is intended to be used in conjunction with the latest edition of EN 61558-1 and its amendments. It is based on EN 61558-1:2005.

This part supplements or modifies the corresponding clauses in EN 61558-1, so as to convert that publication into the European Standard: *Particular requirements and tests for isolating transformers and power supply units incorporating isolating transformers.*

Where 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 adapted accordingly.

The following dates were fixed:

– latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2009-12-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2012-03-01

In this part, the following print types are used:

– requirements proper: in roman type;

– *test specifications: in italic type*;

– explanatory matter: 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.

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61558-2-4:2009 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 61558-2-16 NOTE Harmonized as EN 61558-2-16:200X (not modified).

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

Addition *to Annex ZA of EN 61558-1:*

Publication	Year	Title	EN/HD	Year
IEC 61558-1	2005	Safety of power transformers, power supplies, reactors and similar products - Part 1: General requirements and tests	EN 61558-1 + corr. August	2005 2006

CONTENTS

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

Part 2-4: Particular requirements and tests for isolating transformers and power supply units incorporating isolating transformers

1 Scope

Replacement:

This part of IEC 61558 deals with the safety of **isolating transformers** for general applications and **power supply units** incorporating **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 **isolating transformers** for general applications and **power supply units** incorporating **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:

– 25 kVA for single-phase **transformers;**

– 40 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 exceed 50 V a.c. or 120 V ripple-free d.c., and where applicable, does not exceed 500 V a.c. or 708 V ripple-free d.c.

The **no-load output voltage** and the **rated output voltage** may be up to 1 000 V a.c. or 1 415 V ripple-free d.c. for special applications.

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;
- measures to protect the **enclosure** and the components inside the enclosure against external influences such as fungus, vermin, termites, solar-radiation, and icing should also be considered;
- the different conditions for transportation, storage, and operation of the **transformers** should also be considered;
- additional requirements in accordance with other appropriate standards and national rules may be applicable to **transformers** intended for use in special environments.

NOTE 5 Future technological development of **transformers** may necessitate a need to increase the upper limit of the frequencies, until then this part may be used as a guidance document.

2 Normative references

This clause of Part 1 is applicable except as follows.

Addition:

IEC 61558-1 :2005, *Safety of power transformers, power supplies, reactors and similar products – Part 1: General requirements and tests*