

Safety of power transformers, power supply units and similar —

Part 2-15: Particular requirements for isolating transformers for the supply of medical locations

The European Standard EN 61558-2-15:2001 has the status of a
British Standard

ICS 29.180

National foreword

This British Standard is the official English language version of EN 61558-2-15:2001, including Corrigendum September 2003 and corrigendum April 2004. It was derived by CENELEC from IEC 61558-2-15:1999.

The CENELEC common modifications have been implemented at the appropriate places in the text and are indicated by common modification tags **[C]** **[C]**.

The UK participation in its preparation was entrusted to Technical Committee PEL/96, Small transformers, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

Cross-references

The British Standards which implement these international or European publications may be found in the *BSI Catalogue* under the section entitled “International Standards Correspondence Index”, or by using the “Search” facility of the *BSI Electronic Catalogue* or of British Standards Online.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 17, and a back cover.

The BSI copyright notice displayed in this document indicates when the document was last issued.

This British Standard, having been prepared under the direction of the Electrotechnical Sector Committee, was published under the authority of the Standards Committee and comes into effect on 15 September 2001

Amendments issued since publication

Amd. No.	Date	Comments
14898 Corrigendum No. 1	14 January 2004	Change to 6.102
15400 Corrigendum No. 2	2 November 2004	Change to paragraph following implementation date, change name of existing annex to ZB and add Annex ZC

EUROPEAN STANDARD

EN 61558-2-15

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2001

ICS 29.180

Incorporates Corrigendum September 2003 and April 2004

English version

**Safety of power transformers, power supply units and similar
Part 2-15: Particular requirements for isolating transformers for the
supply of medical locations
(IEC 61558-2-15:1999, modified)**

Sécurité des transformateurs, blocs
d'alimentation et analogues
Partie 2-15: Règles particulières pour les
transformateurs de séparation de circuits
pour locaux à usages médicaux
(CEI 61558-2-15:1999, modifiée)

Sicherheit von Transformatoren,
Netzgeräten und dergleichen
Teil 2-15: Besondere Anforderungen an
Trenntransformatoren zur Versorgung
medizinischer Räume
(IEC 61558-2-15:1999, modifiziert)

This European Standard was approved by CENELEC on 2000-08-01. 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

© 2001 CENELEC - All rights of exploitation in any form and by any means reserved worldwide for CENELEC members.

Ref. No. EN 61558-2-15:2001 E

AVA Documents
Document Sharing Hub

Foreword

The text of document 96/119/FDIS, future edition 1 of IEC 61558-2-15, prepared by IEC TC 96, Small power transformers, reactors and power supply units: Safety requirements, was submitted to the IEC/CENELEC parallel vote.

The CENELEC Technical Board asked BTTF 64-1 to assess the comments received and to prepare common modifications, as appropriate. The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 61558-2-15 on 2000-08-01.

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)
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow)

Annexes designated "normative" are part of the body of the standard.
Annexes designated "informative" are given for information only.
In this standard, annex ZB is normative and Annex ZC is informative.
Annexes ZB and ZC have been added by CENELEC.

This Part 2-15 of EN 61558 is to be used in conjunction with EN 61558-1:1997.

This Part 2-15 supplements or modifies the corresponding clauses of EN 61558-1, so as to convert it into the European Standard "Particular requirements for isolating transformers for the supply of medical locations".

When a particular clause or subclause of Part 1 is not mentioned in this Part 2-15, that clause or subclause applies as far as is reasonable. Where this Part 2-15 states "addition", "modification" or "replacement", the relevant text of Part 1 is to be adapted accordingly.

Subclauses, tables and figures which are in addition to those of Part 1 are numbered starting with 101. The reference of subclauses, notes, figures and annexes which have been added by CENELEC is prefixed with the letter Z.

There are no special national conditions (snc) causing a deviation from this European Standard other than those listed in annex ZB of EN 61558-1.

Endorsement notice

The text of the International Standard IEC 61558-2-15:1999 was approved by CENELEC as a European Standard with agreed common modifications.

SAFETY OF POWER TRANSFORMERS, POWER SUPPLY UNITS AND SIMILAR –

Part 2-15: Particular requirements for isolating transformers for the supply of medical locations

1 Scope

Replacement:

This international standard deals with all aspects of safety such as electrical, thermal and mechanical.

ⓘ This part 2-15 of EN 61558 applies to stationary, single-phase or polyphase, air-cooled (natural or forced) **isolating transformers** for the supply of group II medical locations, designed to be permanently connected to the fixed wiring and intended to form the IT system on the secondary side, having a **rated supply voltage** not exceeding AC 1 kV and **rated frequency** not exceeding 500 Hz. The **rated output** shall not be less than 0,5 kVA and shall not exceed 10 kVA ⓘ.

NOTE 1 – Details of IT supply systems are to be found in IEC 60364-3.

NOTE 2 – The wiring rules for group II medical locations are under consideration [1]*.

The **no-load output voltage** and the **rated output voltage** shall not exceed 250 V a.c. single-phase or polyphase (phase-to-phase voltage).

Isolating transformers are used where **double** or **reinforced insulation** between circuits is required by the installation rules or by the appliance specification.

This standard is applicable to **dry-type transformers**. The winding may be encapsulated or non-encapsulated.

NOTE 3 – For transformers filled with liquid dielectric or pulverised material such as sand, requirements are under consideration.

NOTE 4 – Attention is drawn to the fact that:

- for transformers intended to be used in tropical countries, special requirements may be necessary;
- in locations where special environmental conditions prevail, particular requirements may be necessary.

This standard also applies to transformers incorporating electronic circuits. This standard does not apply to external circuits and their components intended to be connected to the input and output terminals or socket-outlets of the transformer.

ⓘ NOTE Z1 Transformers for medical appliance are not covered by this standard. ⓘ

* The figures in square brackets refer to the bibliography.

2 Normative references

This clause of part 1 is applicable except as follows:

Addition:

IEC 60252:1993, *A.C. motor capacitors*

IEC 60364-3:1993, *Electrical installations of buildings – Part 3: Assessment of general characteristics*

3 Definitions

This clause of part 1 is applicable except as follows:

Addition:

3.1.101

isolating transformer for the supply of medical locations

an **isolating transformer** used for the supply of medical locations with **double** or **reinforced insulation** between each part of the transformer (**body**, screen, circuits, thermal device) except between the core and the **body**

3.3.101

inrush current

the maximum instantaneous value of the no-load input current of the transformer (peak value) when switching on the transformer at **rated supply voltage**

3.4.101

functional screening

separation between two windings or between a winding and the core or shielding of a part or of the whole transformer, by means of a conductive material for functional reasons

3.5.101

rated input current

the input current, when the transformer is loaded with **rated output**

4 General requirements

This clause of part 1 is applicable.

5 General notes on tests

This clause of part 1 is applicable.