

Transformers and inductors for use in electronic and telecommunication equipment —

Part 4: Sectional specification for power transformers for switched mode power supplies (SMPS) on the basis of the capability approval procedure

The European Standard EN 61248-4:1997 has the status of a
British Standard

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee EPL/51, Transformers, inductors, magnetic components and ferrite materials, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/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.

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From 1 January 1997, all IEC publications have the number 60000 added to the old number. For instance, IEC 27-1 has been renumbered as IEC 60027-1. For a period of time during the change over from one numbering system to the other, publications may contain identifiers from both systems.

Cross-references

Attention is drawn to the fact that CEN and CENELEC Standards normally include an annex which lists normative references to international publications with their corresponding European publications. The British Standards which implement these international or European publications may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Find” facility of the BSI Standards Electronic Catalogue.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their 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, pages i and ii, the EN title page, pages 2 to 17 and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

This British Standard, having been prepared under the direction of the Electrotechnical Sector Board, was published under the authority of the Standards Board and comes into effect on 15 November 1997

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English version

**Transformers and inductors for use in electronic and
telecommunication equipment**
**Part 4: Sectional specification for power transformers for
switched mode power supplies (SMPS) on the basis of the
capability approval procedure**

(IEC 61248-4:1996)

Transformateurs et inductances destinés aux
équipements électroniques et de
télécommunications

Partie 4: Spécification intermédiaire pour les
transformateurs de puissance pour
alimentations à découpage (SMPS) sur la base
de la procédure de l'agrément de savoir-faire
(CEI 61248-4:1996)

Transformatoren und Drosseln für
elektronische und nachrichtentechnische
Einrichtungen

Teil 4: Rahmenspezifikation für
Leistungstransformatoren für Schaltnetzteile
(SMPS) mit Befähigungsanerkennung
(IEC 61248-4:1996)

This European Standard was approved by CENELEC on 1997-07-01. 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, 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

Foreword

The text of the International Standard IEC 61248-4:1996, prepared by IEC TC 51, Magnetic components and ferrite materials, was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 61248-4 on 1997-07-01 without any modification.

- 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) 1998-06-01
 - latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1998-06-01

Annexes designated “normative” are part of the body of the standard.

In this standard, Annex A and Annex ZA are normative.

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61248-4:1996 was approved by CENELEC as a European Standard without any modification.

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1 Scope

This part of IEC 1248 specifies how to prepare detail specifications for SMPS power transformers to be released under the terms of IEC 1248-1 (QC 260000) capability approval. It includes a blank detail specification (BDS), which shows the format and indicates which tests are considered to be appropriate to this type of component, although the final selection of tests to be included in the inspection schedule is at the discretion of the specification writer. It also lists appropriate ratings and characteristics.

The components covered by this part of IEC 1248 are used for the transfer of power in conjunction with semi-conductor devices working in a switched mode where the input waveform is sinusoidal or non-sinusoidal, symmetrical or asymmetrical.

2 Normative references

The following normative documents contain provisions, which, through reference in this text, constitute provisions of this part of IEC 1248. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this part of IEC 1248 are encouraged to investigate the possibility of applying the most recent editions of the normative documents listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC Guide 102:1989, *Electronic components — Specification structures for quality assessment (Qualification approval and capability approval)*.

IEC QC 001001:1986, *Basic rules of the IEC Quality Assessment System for Electronic Components (IECQ)*.

Amendment 2 (1994)

IEC QC 001002:1986, *Rules of procedure of the IEC Quality Assessment System for Electronic Components (IECQ)*.

Amendment 2 (1994)

IEC QC 001004, *Specifications list*.

IEC QC 001005, *Register of firms, products and services approved under the IECQ System, including ISO 9000*.

IEC 68-2, *Environmental testing — Part 2: Tests*.

IEC 68-2-6:1982, *Environmental testing — Part 2: Tests — Test Fc and guidance: Vibration (sinusoidal)*.

IEC 68-2-20:1979, *Environmental testing — Part 2: Tests — Test T: Soldering*.

Amendment 2 (1987)

IEC 68-2-21:1983, *Environmental testing — Part 2: Tests — Test U: Robustness of terminations and integral mounting devices*.

Amendment 2 (1991), Amendment 3 (1992)

IEC 68-2-27:1987, *Environmental testing — Part 2: Tests — Test Ea and guidance: Shock*.

IEC 68-2-29:1987, *Environmental testing — Part 2: Tests — Test Eb and guidance: Bump*.

IEC 317-4:1990, *Specifications for different types of winding wires — Part 4: Solderable polyurethane enamelled round copper wires, class 130*.

IEC 367-1:1982, *Cores for inductors and transformers for telecommunications — Part 1: Measuring methods*.

IEC 410:1973, *Sampling plans and procedures for inspection by attributes*.

IEC 1007:1994, *Transformers and inductors for use in electronic and telecommunication equipment — Measuring methods and test procedures*.

IEC 1248-1:1996, *Transformers and inductors for use in electronic and telecommunication equipment — Part 1: Generic specification*.

ISO 128:1982, *Technical drawings — General principles of presentation*.

ISO 129:1985, *Technical drawings — Dimensioning — General principles, definitions, methods of execution and special indications*.

3 Preparation of the detail specification

This standard is intended to be used for the preparation of detail specifications for SMPS power transformers released under the terms of IEC 1248-1 (QC 260000) capability approval procedure.

It is intended for use by the following originators:

- a) a customer wishing to procure SMPS power transformers that are within the scope of the approved capability of his supplying component manufacturer, for example for detail specifications (DS);
- b) a capability approved manufacturer of SMPS power transformers wishing to prepare specifications for his own products which are within the scope of his capability approval.

NOTE 1 The detail specification should take the form of the BDS shown in clause 5, particularly in respect of the front page format and, in principle, in respect of the presentation of the inspection requirements.