

Specification for

**D.C. or a.c. supplied electronic
step-down convertors for
filament lamps. General and
safety requirements**

The European Standard EN 61046 : 1992 has the status of a
British Standard

Convertisseurs abaisseurs électroniques
alimentés en courant continu ou alternatif
pour lampes à incandescence
Prescriptions générales et de sécurité

Gleich- oder wechselstromversorgte
elektronische Konverter für Glühlampen —
Allgemeine und Sicherheits-Anforderungen

UDC 621.314.26 : 621.327 : 614.8

Cooperating organizations

The European Committee for Electrotechnical Standardization (CENELEC), under whose supervision this European Standard was prepared, comprises the national committees of the following countries:

Austria	Italy
Belgium	Luxembourg
Denmark	Netherlands
Finland	Norway
France	Portugal
Germany	Spain
Greece	Sweden
Iceland	Switzerland
Ireland	United Kingdom

This British Standard, having been prepared under the direction of the Electrical Illuminations Standards Policy Committee, was published under the authority of the Standards Board and comes into effect on 15 October 1992

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The following BSI references relate to the work on this standard:
Committee reference LGL/21
Draft for comment 88/26079 DC

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Amendments issued since publication

Amd. No.	Date	Text affected

Amendment No. 1
published and effective from 15 March 1993
to BS EN 61046 : 1992

Specification for d.c. or a.c. supplied
electronic step-down convertors for filament
lamps. General and safety requirements

NOTE. The English language version of European Standard EN 61046 was implemented in the United Kingdom by the publication of BS EN 61046 : 1992. This amendment implements amendment A1 to EN 61046.

This amendment together with the European Standard EN 61046 : 1992 has the status of a British Standard.

Revised text

AMD 7608
March 1993

National foreword

Delete paragraph 1 and substitute the following.

'This British Standard has been prepared under the direction of the Electrical Illuminations Standards Policy Committee and is the English language version of EN 61046 *D.C. or a.c. supplied electronic step-down convertors for filament lamps — General and safety requirements* and its Amendment A1 which were published by the European Committee for Electrotechnical Standardization (CENELEC). It is identical with IEC 1046 : 1991 and its Amendment 1 : 1991 published by the International Electrotechnical Commission (IEC).'

Delete paragraph 2.

AMD 7608
March 1993

EN amendment title page and foreword

Insert the attached EN amendment title page (foreword on reverse).

AMD 7608
March 1993

Text of EN 61046

Amend the text of European Standard EN 61046 in accordance with the details given on the attached pages.

UDC 621.314.26:621.327:614.8

Descriptors: Electronic equipment, convertors, AC-DC convertors, incandescent lamps, tungsten lamps, halogen lamps, marking, safety requirements

Amendment A1 to the English version of EN 61046

**D.C. or a.c. supplied electronic step-down convertors for
filament lamps – General and safety requirements**
(IEC 1046 : 1991/A1 : 1991)

Convertisseurs abaisseurs électroniques
alimentés en courant continu ou alternatif pour
lampes à incandescence – Prescriptions
générales et de sécurité
(CEI 1046 : 1991/A1 : 1991)

Gleich- oder wechselstromversorgte
elektronische Konverter für Glühlampen –
Allgemeine und Sicherheits-Anforderungen
(IEC 1046 : 1991/A1 : 1991)

This amendment A1 modifies the European Standard EN 61046 : 1992. It was approved by CENELEC on 1992-09-15. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 amendment 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

At the request of the CENELEC Technical Committee TC 34Z, Luminaires and associated equipment, the amendment 1 : 1991 to IEC 1046 : 1991 was submitted to the CENELEC Unique Acceptance Procedure (UAP) in December 1991 for acceptance as a European Standard.

The text of the amendment to the European Standard was approved by CENELEC as amendment A1 to EN 61046 on 15 September 1992.

The following dates were fixed:

- latest date of publication of an identical national standard (dop) 1993-09-01
- latest date of withdrawal of conflicting national standards (dow) 1993-09-01

For products which have complied with EN 61046 : 1992 before 1993-09-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 1998-09-01.

Annexes designated 'normative' are part of the body of the standard. In this standard, annex ZA is normative.

CONTENTS

Insert after clause 13 a new clause 14 "Transformer heating".

Renumber clause 14 as 15, 15 as 16, 16 as 17, 17 as 18 and 18 as 19.

1.2.1 IEC Standards

Add the following standards to the existing list:

IEC 85: 1984, *Thermal evaluation and classification of electrical insulation.*

IEC 1047: 1991, *D.C. or a.c. supplied electronic step-down convertors for filament lamps – Performance requirements.*

10 Creepage distances and clearances

First and third paragraphs, renumber clause 15 as 16.

14 Abnormal conditions

Renumber this clause as 15.

Insert a new clause 14 as follows:

14 Transformer heating

In SELV-equivalent convertors, windings of separating transformers shall be tested according to 7.1 of IEC 65.

14.1 Normal operation

For normal operation the values in column I of table III shall apply.

14.2 Abnormal operation

For operation under abnormal conditions according to clause 15 and fault conditions according to clause 16 of this standard, the values in column II of table III of IEC 65 shall apply.

The values of the temperature rise in table III columns I and II are based on a maximum ambient temperature of 35 °C. Because the test will be made with the case temperature at t_c , the relevant ambient temperature is to be measured and the values in table III changed respectively. If these temperature rises are higher than those allowed by the class of the relevant insulating material, the nature of the material is the governing factor. The permissible temperature rises are based on the recommendations in IEC 85. The materials quoted in table III of IEC 65 are shown only as examples. If materials other than those listed in IEC 85 are used, the maximum temperatures should not exceed those which have proved to be satisfactory.

Tests shall be made under conditions such that the convertor is brought to t_c as reached under normal operation.

NOTE - Test can be made that the convertor is operated at thermal equilibrium under normal conditions in the test enclosure described in appendix E of IEC 920, in an ambient temperature such that a case temperature of $t_{c+5}^{\pm 0}$ °C is obtained.

For moulded-in transformers specially prepared samples provided with thermo-couples need be submitted for testing.

Renumber existing clause 15 as clause 16, and all subclauses accordingly.

15.1

First paragraph, renumber 15.1 as 16.1 and 15.4 as 16.4.

15.5

First and second paragraphs, renumber 15.1 as 16.1 and 15.4 as 16.4.

Clause 16, renumber as clause 17.

Clause 17, renumber as clause 18 and all subclauses accordingly.

17.2

Second paragraph renumber 17.3 as 18.3 and 17.4 as 18.4.

Clause 18, renumber as clause 19.

Annex B

First dash, renumber 15.1 as 16.1 and 15.4 as 16.4.

Annex ZA
(normative)

Other international publications quoted in this standard with the references of the relevant European publications

When the international publication has been modified by CENELEC common modifications, indicated by (mod), the relevant EN/HD applies.

Add the following standards to the existing list in annex ZA to EN 61046 : 1992

IEC Publication	Date	Title	EN/HD	Date
85	1984	Thermal evaluation and classification of electrical insulation	HD 566 S1	1990
1047	1991	D.C. or a.c. supplied electronic step-down convertors for filament lamps Performance requirements	EN 61047	1992

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National foreword

This British Standard has been prepared under the direction of the Electrical Illuminations Standards Policy Committee and is the English language version of EN 61046 : 1992 *D.C. or a.c. electronic step-down converters for filament lamps. General and safety requirements*, published by the European Committee for Electrotechnical Standardization (CENELEC). It is identical with IEC 1046 : 1991 published by the International Electrotechnical Commission (IEC).

Amendment No. 1 : 1991 to IEC 1046 : 1991 should be referenced when using this standard as it corrects certain errors in the text which have not been corrected in the EN text.

In this standard, the following print types are used:

- requirements proper: in roman type
- *test specifications: in italic type*
- explanatory matter: in smaller roman type

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

