

Lamp controlgear

Part 2-12: Particular requirements for d.c. or a.c. supplied electronic ballasts for discharge lamps (excluding fluorescent lamps)

ICS 29.140.99

National foreword

This British Standard is the UK implementation of EN 61347-2-12:2005+A1:2010, incorporating corrigendum December 2010. It is identical with IEC 61347-2-12:2005. It supersedes BS EN 61347-2-12:2005, which will be withdrawn on 1 November 2013.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to IEC text carry the number of the amendment. For example, text altered by IEC amendment 1 is indicated in the text by A1 A1.

The UK participation in its preparation was entrusted by Technical Committee CPL/34, Lamps and related equipment, to Subcommittee CPL/34/3, Auxiliaries for lamps.

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

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 cannot confer immunity from legal obligations.

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Amendments/corrigenda issued since publication

Date	Comments
30 April 2011	Implementation of IEC amendment 1:2010 and its CENELEC endorsement A1:2010. Incorporation of CENELEC corrigendum December 2010; correction to EN foreword

Lamp controlgear
Part 2-12: Particular requirements for d.c. or a.c. supplied
electronic ballasts for discharge lamps
(excluding fluorescent lamps)
(IEC 61347-2-12:2005)

Appareillages de lampes
Partie 2-12: Exigences particulières
pour les ballasts électroniques alimentés
en courant continu ou alternatif
pour lampes à décharge
(à l'exclusion des lampes fluorescentes)
(CEI 61347-2-12:2005)

Geräte für Lampen
Teil 2-12: Besondere Anforderungen
an gleich- oder wechselstromversorgte
elektronische Vorschaltgeräte
für Entladungslampen
(ausgenommen Leuchtstofflampen)
(IEC 61347-2-12:2005)

This European Standard was approved by CENELEC on 2005-10-01. 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.

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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.

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CENELEC

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

Central Secretariat: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 34C/683/FDIS, future edition 1 of IEC 61347-2-12, prepared by SC 34C, Auxiliaries for lamps, of IEC TC 34, Lamps and related equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61347-2-12 on 2005-10-01.

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) 2006-07-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2008-10-01

A1 This standard shall be used in conjunction with EN 61347-1. **A1**

NOTE In this standard, the following print types are used:

- requirements proper: in roman type;
- *test specifications: in italic type;*
- notes: in small roman type.

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61347-2-12:2005 was approved by CENELEC as a European Standard without any modification.

Foreword to Amendment A1

The text of document 34C/898/CDV, future amendment 1 to IEC 61347-2-12:2005, prepared by SC 34C, Auxiliaries for lamps, of IEC TC 34, Lamps and related equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A1 to EN 61347-2-12:2005 on 2010-11-01.

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

The following dates were fixed:

- latest date by which the amendment has to be
implemented at national level by publication of
an identical national standard or by endorsement (dop) 2011-08-01
- latest date by which the national standards conflicting
with the amendment have to be withdrawn (dow) 2013-11-01

Endorsement notice

The text of amendment 1:2010 to the International Standard IEC 61347-2-12:2005 was approved by CENELEC as an amendment to the European Standard without any modification.

CONTENTS

INTRODUCTION	4
1 Scope	5
2 Normative references	5
3 Definitions	5
4 General requirements	6
5 General notes on tests	6
6 Classification	6
7 Marking	7
8 Terminals	7
9 Provisions for earthing	7
10 Protection against accidental contact with live parts	8
11 Moisture resistance and insulation	8
12 Electric strength	8
13 Thermal endurance test for windings	8
14 Fault conditions	8
15 Protection of associated components	8
16 Ignition voltage	8
17 Abnormal conditions	9
18 Construction	11
19 Creepage distances and clearances	11
20 Screws, current-carrying parts and connections	11
21 Resistance to heat, fire and tracking	11
22 Resistance to corrosion	11
Annex A (normative) Test to establish whether a conductive part is a live part which may cause an electric shock	12
Annex B (normative) Particular requirements for thermally protected lamp controlgear	13
Annex C (normative) Particular requirements for electronic lamp controlgear with means of protection against overheating	14
Annex D (normative) Information for carrying out the heating tests of thermally protected lamp controlgear	15
Annex E (normative) The use of constants S other than 4 500 in t_w tests	16
Annex F (normative) Draught-proof enclosure	17
Annex G (normative) Explanation of the derivation of the values of pulse voltages	18
Annex H (normative) Tests	19
Annex I (normative) Precautions to be observed when measuring with spherical spark gaps	20
Annex ZA (normative) Normative references to international publications with their corresponding European publications	22
Bibliography	21

INTRODUCTION

This standard, and the parts which make up IEC 61347-1, in referring to any of the clauses of IEC 61347-1 specify the extent to which such a clause is applicable and the order in which the tests are to be performed; they also include additional requirements as necessary. All parts which make up IEC 61347-2 are self-contained and therefore do not include references to each other.

Where the requirements of any of the clauses of IEC 61347-1 are referred to in this standard by the phrase “The requirements of Clause n of IEC 61347-1 apply, this phrase is interpreted as meaning that all requirements of the clause in question of Part 1 apply, except any which are clearly inapplicable to the specific type of lamp controlgear covered by this particular part of IEC 61347-2.

LAMP CONTROLGEAR –

Part 2-12: Particular requirements for d.c. or a.c. supplied electronic ballasts for discharge lamps (excluding fluorescent lamps)

1 Scope

This part of IEC 61347 specifies particular general and safety requirements for d.c. or a.c. supplied electronic ballasts. The supply comprises a.c. voltages up to 1000 V at 50 Hz/60 Hz. The type of ballast is an convertor that may contain igniting and stabilising elements for operation of a discharge lamp at d.c. or at a frequency that can deviate from the supply frequency. The lamps associated with the ballast are specified in IEC 60188 (High pressure mercury vapour lamps), IEC 60192 (Low pressure sodium vapour lamps), IEC 60662 (High pressure sodium vapour lamps), IEC 61167 (Metal halide lamps) and else for general purpose lighting. Ballasts for fluorescent lamps and for lamps for special applications like for theatre and for vehicles are excluded.

2 Normative references

For the purpose of this part of IEC 61347, the normative references given in Clause 2 of IEC 61347-1 apply together with the following:

IEC 60052:2002, *Voltage measurement by means of standard air gaps*

IEC 60417-DB¹⁾, *Graphical symbols for use on equipment*

IEC 61347-1, *Lamp controlgear – Part 1: General and safety requirements*

3 Definitions

For the purpose of this part of IEC 61347, the definitions given in Cause 3 of IEC 61347-1 apply together with the following:

3.1

output power

value of the mean power intended to be provided by an electronic ballast

3.2

output terminals

ballast terminals, intended to be connected to the HID lamp

NOTE This terminal is not understood as a terminal allowing for intermediate operation of e.g. tungsten halogen lamps.

¹⁾ “DB” refers to the IEC on-line database.

3.3

ignition voltage

U_p

highest value of the voltage generated between the output terminals

NOTE 1 Basically, the following types of pulses are comprised:

- a) continuous r.m.s. working voltage with superimposed non-sinusoidal single pulse;
- b) continuous sinusoidal pulse voltage;
- c) continuous sinusoidal pulse voltage with superimposed non-sinusoidal single pulse;
- d) continuous square wave voltage with ringing sinusoidal voltage at each transition.

NOTE 2 The term 'pulse' is to be distinguished from the term 'surge' which refers to transients occurring in electrical equipment or networks in service.

3.4

spherical spark gap

two metal spheres of the same nominal diameter arranged at a specified distance and used under specified conditions for the measurement of peak voltages in excess of 15 kV

4 General requirements

The requirements of Clause 4 of IEC 61347-1 apply.

5 General notes on tests

The requirements of Clause 5 of IEC 61347-1 apply together with the following additional requirements:

5.1 Number of specimens

The following number of specimens shall be submitted for testing:

- one unit for the tests of Clauses 6 to 12 and 15 to 22;
- one unit for the tests of Clause 14: fault conditions (additional units or components, where necessary, may be required in consultation with the manufacturer).

5.2 Void.

6 Classification

The requirements of Clause 6 of IEC 61347-1 apply together with the following additional requirement:

6.1 Ignition voltage

Ballasts are classified according to ignition voltage:

- up to and including 5 kV;
- greater than 5 kV, and up to and including 10 kV;
- greater than 10 kV, and up to and including 100 kV.

6.2 Void.