SLOVENSKI STANDARD

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Lamp controlgear – Part 1: General and safety requirements (IEC 61347-1:2000)

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English version

Lamp controlgear
Part 1: General and safety requirements
(IEC 61347-1:2000)

Appareillages de lampes
Partie 1: Prescriptions générales et prescriptions de sécurité
(CEI 61347-1:2000)

Geräte für Lampen
Teil 1: Allgemeine und Sicherheitsanforderungen
(IEC 61347-1:2000)

This European Standard was approved by CENELEC on 2000-11-01. 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

Ref. No. EN 61347-1:2001 E

Foreword

The text of document 34C/508/FDIS, future edition 1 of IEC 61347-1, 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 61347-1 on 2000-11-01.

This EN 61347-1, together with the parts 2-1 to 2-9 of EN 61347, supersedes EN 60920, EN 60922, EN 60924, EN 60926, EN 60928 and EN 61046.

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)	2001-08-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2003-11-01

This part 1 of EN 61347 is to be used in conjunction with the appropriate part 2, which contains clauses to supplement or modify the corresponding clauses in part 1 to provide the relevant requirements for each type of product.

NOTE In this standard, the following print types are used:
- requirements: in roman type;
- *test specifications: in italic type;*
- notes: in smaller roman type.

Annexes designated "normative" are part of the body of the standard.
In this standard, annexes A to H and ZA are normative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61347-1:2000 was approved by CENELEC as a European Standard without any modification.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

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

Publication	Year	Title	EN/HD	Year
IEC 60065 (mod)	1)	Audio, video and similar electronic apparatus - Safety requirements	EN 60065 + corr. June	1998 2) 1999
IEC 60081	1)	Double-capped fluorescent lamps - Performance specifications	EN 60081	1998 2)
IEC 60112	1)	Method for determining the comparative and the proof tracking indices of solid insulating materials under moist conditions	HD 214 S2	1980 2)
IEC 60249	Series	Base materials for printed circuits	EN 60249	Series
IEC 60249-1	1)	Base materials for printed circuits Part 1: Test methods	EN 60249-1	1993 2)
IEC 60317-0-1	1)	Specifications for particular types of winding wires Part 0-1: General requirements - Enamelled round copper wire	EN 60317-0-1	1994 2)
IEC 60417	Series	Graphical symbols for use on equipment	EN 60417	Series
IEC 60529	1)	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr. May	1991 2) 1993
IEC 60598-1 (mod)	1)	Luminaires Part 1: General requirements and tests	EN 60598-1 + A11	2000 2) 2000
IEC 60691	1)	Thermal-links - Requirements and application guide	EN 60691	1995 2)
IEC 60695-2-1/0	1)	Fire hazard testing Part 2: Test methods -- Section 1/sheet 0: Glow-wire test methods - General	EN 60695-2-1/0	1996 2)

1) undated reference.

2) valid edition at date of issue.

Publication	Year	Title	EN/HD	Year
IEC 60695-2-2	1)	Part 2: Test methods -- Section 2: Needle-flame test	EN 60695-2-2	1994 2)
IEC 60730-2-3 (mod)	1)	Automatic electrical controls for household and similar use Part 2-3: Particular requirements for thermal protectors for ballasts for tubular fluorescent lamps	EN 60730-2-3	1992 2)
IEC 60901	1)	Single-capped fluorescent lamps - Performance specifications	EN 60901	1996 2)
IEC 60921 (mod)	1)	Ballasts for tubular fluorescent lamps - Performance requirements	EN 60921	1991 2)
IEC 60923	1)	Auxiliaries for lamps - Ballasts for discharge lamps (excluding tubular fluorescent lamps) - Performance requirements	EN 60923	1996 2)
IEC 60929	1)	A.C. supplied electronic ballasts for tubular fluorescent lamps - Performance requirements	EN 60929	1992 2)
IEC 60990	1)	Methods of measurement of touch current and protective conductor current	EN 60990	1999 2)
IEC 61347-2-2	1)	Lamp controlgear Part 2-2: Particular requirements for d.c. or a.c. supplied electronic step-down convertors for filament lamps	EN 61347-2-2	2001 2)
IEC 61347-2-8	1)	Part 2-8: Particular requirements for ballasts for fluorescent lamps	EN 61347-2-8	2001 2)
IEC 61347-2-9	1)	Part 2-9: Particular requirements for ballasts for discharge lamps (excluding fluorescent lamps)	EN 61347-2-9	2001 2)
ISO 4046	1)	Paper, board, pulp and related terms - Vocabulary	-	-

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Appareillages de lampes –

Partie 1:
Prescriptions générales et prescriptions de sécurité

Lamp controlgear –

Part 1:
General and safety requirements

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Commission Electrotechnique Internationale
International Electrotechnical Commission
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For price, see current catalogue

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

LAMP CONTROLGEAR –

Part 1: General and safety requirements

FOREWORD

1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61347-1 has been prepared by subcommittee 34C: Auxiliaries for lamps, of IEC technical committee 34: Lamps and related equipment.

This first edition of IEC 61347-1, together with parts 1 to 9 of IEC 61347-2, cancels and replaces IEC 60920, IEC 60922, IEC 60924, IEC 60926, IEC 60928 and IEC 61046, and constitute a minor revision.

The relationship between the parts that make up IEC 61347-2 and the IEC standards they replace is detailed as follows:

IEC 61347-2-1 replaces IEC 60926

IEC 61347-2-2 replaces IEC 61046

IEC 61347-2-3 replaces IEC 60928

IEC 61347-2-4 replaces IEC 60924, Section 3

IEC 61347-2-5 replaces IEC 60924, Section 4

IEC 61347-2-6 replaces IEC 60924, Section 5

IEC 61347-2-7 replaces IEC 60924, Section 6

IEC 61347-2-8 replaces IEC 60920

IEC 61347-2-9 replaces IEC 60922

The text of this standard is based on the following documents:

FDIS	Report on voting
34C/508/FDIS	34C/522/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 3.

This part 1 is to be used in conjunction with the appropriate part 2, which contains clauses to supplement or modify the corresponding clauses in part 1, to provide the relevant requirements for each type of product.

NOTE 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.

Annexes A, B, C, D, E, F, G and H form an integral part of this standard.

IEC 61347, consists of the following parts under the general title *Lamp controlgear:*

- Part 1: General and safety requirements
- Part 2-1: Particular requirements for starting devices (other than glow starters)
- Part 2-2: Particular requirements for d.c. or a.c. supplied electronic step-down convertors for filament lamps
- Part 2-3: Particular requirements for a.c. supplied electronic ballasts for fluorescent lamps
- Part 2-4: Particular requirements for d.c. electronic ballasts for general lighting
- Part 2-5: Particular requirements for d.c. supplied electronic ballasts for public transport lighting
- Part 2-6: Particular requirements for d.c. supplied electronic ballasts for aircraft lighting
- Part 2-7: Particular requirements for d.c. supplied electronic ballasts for emergency lighting
- Part 2-8: Particular requirements for ballasts for fluorescent lamps
- Part 2-9: Particular requirements for ballasts for discharge lamps (excluding fluorescent lamps)
- Part 2-10: Particular requirements for electronic invertors and convertors for high-frequency operation of cold start tubular discharge lamps (neon tubes)
- Part 2-11: Particular requirements for miscellaneous electronic circuits used with luminaires [1)]

[1)] To be published.

The committee has decided that the contents of this publication will remain unchanged until 2003. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

INTRODUCTION

This first edition of IEC 61347-1, published in conjunction with parts 2-1 to 2-9, represents an editorial review IEC 60926, IEC 61046, IEC 60928, IEC 60924, IEC 60920 and IEC 60922. The formatting into separately published parts provides for ease of future amendments and revisions. Additional requirements will be added as and when a need for them is recognized.

The different parts which make up IEC 61347-2 are technically equivalent to the original IEC standards on which they are based. As such, products which have been shown to comply with IEC 60920, IEC 60922, IEC 60924, IEC 60926, IEC 60928 and IEC 61046 can be considered as complying with the requirements of the part 2 of IEC 61347 which replaces them. Similarly, where other standards call for compliance with IEC 60920, IEC 60922, IEC 60924, IEC 60926, IEC 60928 and IEC 61046, conformity with the equivalent part 2 of IEC 61347 is considered to meet this requirement.

This part of IEC 61347 provides a set of general and safety requirements and tests which are considered to be generally applicable to most types of lamp controlgear and which can be called up as required by the different parts that make up IEC 61347-2. This part 1 is thus not to be regarded as a specification in itself for any type of lamp controlgear, and its provisions apply only to particular types of lamp controlgear, to the extent determined by the appropriate part 2 of IEC 61347.

The parts which make up IEC 61347-2, in referring to any of the clauses of this part, 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. The order in which the clauses of this part are numbered has no particular significance, as the order in which their provisions apply is determined for each type of lamp controlgear by the appropriate part 2 of IEC 61347-2 series. All such parts are self-contained and therefore do not contain references to each other.

Where the requirements of any of the clauses of this part of IEC 61347 are referred to in the various parts that make up IEC 61347-2 by the phrase "The requirements of clause n of IEC 61347-1 apply", this phrase will be interpreted as meaning that all requirements of the clause in question of part 1 apply, except any which are clearly inapplicable to the particular type of lamp controlgear covered by the part 2 concerned.

Lamp controlgear which complies with the text of this standard will not necessarily be judged to comply with the safety principles of the standard if, when examined and tested, it is found to have other features which impair the level of safety covered by these requirements.

Lamp controlgear employing materials or having forms of construction differing from those detailed in the requirements of this standard may be examined and tested according to the intent of the requirement and, if found to be substantially equivalent, may be judged to comply with the safety principles of the standard.

Performance requirements for lamp controlgear are the subject of IEC 60921, IEC 60923, IEC 60925, IEC 60927, IEC 60929 and IEC 61047 as appropriate for the type of lamp controlgear.

NOTE Safety requirements ensure that electrical equipment constructed in accordance with these requirements does not endanger the safety of persons, domestic animals or property when properly installed and maintained and used in applications for which it was intended.

Requirements for electronic lamp controlgear for other types of lamps will be the subject of a separate standard, as the need arises.

LAMP CONTROLGEAR –

Part 1: General and safety requirements

1 Scope

This part of IEC 61347 specifies general and safety requirements for lamp controlgear for use on d.c. supplies up to 250 V and/or a.c. supplies up to 1 000 V at 50 Hz or 60 Hz.

This standard also covers lamp controlgear for lamps which are not yet standardized.

Tests dealt with in this standard are type tests. Requirements for testing individual lamp controlgear during production are not included.

Requirements for semi-luminaires are given in IEC 60598.

In addition to the requirements given in this standard, annex B sets out general and safety requirements applicable to thermally protected lamp controlgear.

Annex C sets out additional general and safety requirements as they apply to electronic lamp controlgear with means of protection against overheating.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 61347. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of IEC 61347 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60065, *Audio, video and similar electronic apparatus – Safety requirements*

IEC 60081, *Double-capped fluorescent lamps – Performance specifications*

IEC 60112, *Method for determining the comparative and the proof tracking indices of solid insulating materials under moist conditions*

IEC 60249 (all parts), *Base materials for printed circuits*

IEC 60249-1, *Base materials for printed circuits – Part 1: Test methods*

IEC 60317-0-1, *Specifications for particular types of winding wires – Part 0: General requirements – Section 1: Enamelled round copper wire*

IEC 60417 (all parts), *Graphical symbols for use on equipment*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

IEC 60598-1, *Luminaires – Part 1: General requirements and tests*

IEC 60691, *Thermal-links – Requirements and application guide*

IEC 60695-2-1/0, *Fire hazard testing – Part 2: Test methods – Section 1/sheet 0: Glow-wire test methods – General*

IEC 60695-2-2, *Fire hazard testing – Part 2: Test methods – Section 2: Needle-flame test*

IEC 60730-2-3, *Automatic electrical controls for household and similar use – Part 2: Particular requirements for thermal protectors for ballasts for tubular fluorescent lamps*

IEC 60901, *Single-capped fluorescent lamps – Performance specifications*

IEC 60921, *Ballasts for tubular fluorescent lamps – Performance requirements*

IEC 60923, *Auxiliaries for lamps – Ballasts for discharge lamps (excluding tubular fluorescent lamps) – Performance requirements*

IEC 60929, *AC supplied electronic ballasts for tubular fluorescent lamps – Performance requirements*

IEC 60990, *Methods of measurement of touch-current and protective conductor current*

IEC 61347-2-2, *Lamp controlgear – Part 2-2: Particular requirements for d.c. or a.c. supplied electronic step-down convertors for filament lamps* [1)]

IEC 61347-2-8, *Lamp controlgear – Part 2-8: Particular requirements for ballasts for fluorescent lamps* [1)]

IEC 61347-2-9, *Lamp controlgear – Part 2-9: Particular requirements for ballasts for discharge lamps (excluding fluorescent lamps)* [1)]

ISO 4046:1978, *Paper, board, pulp and related terms – Vocabulary*

3 Definitions

For the purpose of this part of IEC 61347, the following definitions apply.

3.1
lamp controlgear
one or more components between the supply and one or more lamps which may serve to transform the supply voltage, limit the current of the lamp(s) to the required value, provide starting voltage and preheating current, prevent cold starting, correct power factor or reduce radio interference.

3.1.1
built-in lamp controlgear
lamp controlgear generally designed to be built into a luminaire, a box, an enclosure or the like and not intended to be mounted outside a luminaire, etc. without special precautions. The controlgear compartment in the base of a road lighting column is considered to be an enclosure

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[1)] To be published.