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**Stikalne naprave za sijalke - 1. del: Splošne in varnostne zahteve**

Lamp controlgear - Part 1: General and safety requirements

Geräte für Lampen - Teil 1: Allgemeine und Sicherheitsanforderungen

Appareillages de lampes - Partie 1: Exigences générales et exigences de sécurité

**Ta slovenski standard je istoveten z: EN 61347-1:2008/A2:2013**[SIST EN 61347-1:2008/A2:2013](https://standards.iteh.ai/catalog/standards/sist/4a610b4c-8ea7-4da9-88fd-58797fe1c287/sist-en-61347-1-2008-a2-2013)<https://standards.iteh.ai/catalog/standards/sist/4a610b4c-8ea7-4da9-88fd-58797fe1c287/sist-en-61347-1-2008-a2-2013>**ICS:**

29.130.01	Stikalne in krmilne naprave na splošno	Switchgear and controlgear in general
29.140.99	Drugi standardi v zvezi z žarnicami	Other standards related to lamps

**SIST EN 61347-1:2008/A2:2013****en**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
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**EN 61347-1/A2**

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English version

**Lamp controlgear -  
Part 1: General and safety requirements  
(IEC 61347-1:2007/A2:2012)**

Appareillages de lampes -  
Partie 1: Exigences générales  
et exigences de sécurité  
(CEI 61347-1:2007/A2:2012)

Geräte für Lampen -  
Teil 1: Allgemeine und  
Sicherheitsanforderungen  
(IEC 61347-1:2007/A2:2012)

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This amendment A2 modifies the European Standard EN 61347-1:2008; it was approved by CENELEC on 2013-01-01. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre 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

**Management Centre: Avenue Marnix 17, B - 1000 Brussels**

## Foreword

The text of document 34C/1023/FDIS, future amendment 2 to edition 2 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 approved by CENELEC as EN 61347-1:2008/A2:2013.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2013-10-01
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2016-01-01

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

This standard covers the Principle Elements of the Safety Objectives for Electrical Equipment Designed for Use within Certain Voltage Limits (LVD - 2006/95/EC).

## Endorsement notice

The text of the International Standard IEC 61347-1:2007/A2:2012 was approved by CENELEC as a European Standard without any modification.

In the Bibliography of EN 61347-1:2008, the following notes have to be **deleted** for the standards indicated:

IEC 60216-1:2001	NOTE	Harmonised as EN 60216-1:2001 (not modified).
IEC 60664-1:1992 + A1:2000 + A2:2002	NOTE	Harmonised as EN 60664-1:2003 (not modified).
IEC 60664-4:2005	NOTE	Harmonised as EN 60664-4:2006 (not modified).
IEC 60664-5:2003	NOTE	Harmonised as EN 60664-5:2003 (not modified).

In the Bibliography of EN 61347-1:2008, **replace** the existing references by the following new references:

IEC 61347-2-1	NOTE	Harmonised as EN 61347-2-1.
IEC 61347-2-2:2011	NOTE	Harmonised as EN 61347-2-2:2012 (not modified)

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

#### ***Addition and replacement in Annex ZA of EN 61347-1:2008:***

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
<b><i>Add to Annex ZA of EN 61347-1:2008 the following new references:</i></b>				
IEC 60065 (mod) + corr. August	2001 2002	Audio, video and similar electronic apparatus - Safety requirements	EN 60065 + corr. August + A11 + A12	2002 2007 2008 2011
IEC 60085	1984	Thermal evaluation and classification of electrical insulation	HD 566 S1 <sup>1)</sup>	1990
IEC 60216	Series	Electrical insulating materials - Thermal endurance properties	EN 60216	Series
IEC 60598-2	Series	Luminaires - Part 2: Particular requirements	EN 60598-2	Series
IEC 60664-1	2007	Insulation coordination for equipment within low-voltage systems - Part 1: Principles, requirements and tests	EN 60664-1	2007
IEC 60884-2-4	-	Plugs and socket-outlets for household and similar purposes - Part 2-4: Particular requirements for plugs and socket-outlets for SELV	-	-
IEC 60906-3	-	IEC System of plugs and socket-outlets for household and similar purposes - Part 3: SELV plugs and socket-outlets, 16 A 6V, 12 V, 24 V, 48 V, a.c. and d.c.	-	-
IEC 60950-1	-	Information technology equipment - Safety - Part 1: General requirements	EN 60950-1	-
IEC 61558-1 + corr. March + corr. March + corr. April	2005 2010 2008 2011	Safety of power transformers, power supplies, reactors and similar products - Part 1: General requirements and tests	EN 61558-1 + corr. August	2005 2006
IEC 61558-2-6	2009	Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V - Part 2-6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers	EN 61558-2-6	2009

<sup>1)</sup> HD 566 S1 is superseded by EN 60085:2004, which is based on IEC 60085:2004.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61558-2-16	2009	Safety of transformers, reactors, power supply units and similar products for voltages up to 1 100 V - Part 2-16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units	EN 61558-2-16	2009

*In Annex ZA of EN 61347-1:2008 **replace** the references to IEC 60317-0-1:1997 and IEC 60598-1:2003 by the following:*

IEC 60317-0-1	2008	Specifications for particular types of winding wires - Part 0-1: General requirements - Enamelled round copper wire	EN 60317-0-1	2008
IEC 60598-1 (mod) + corr. October + corr. December	2008 2011 2011	Luminaires - Part 1: General requirements and tests	EN 60598-1 + A11	2008 2009

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IEC 61347-1

Edition 2.0 2012-11

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

AMENDMENT 2  
AMENDEMENT 2

Lamp controlgear –  
Part 1: General and safety requirements

**STANDARD PREVIEW**  
(standards.iteh.ai)

Appareillages de lampes –  
Partie 1: Exigences générales et exigences de sécurité

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## FOREWORD

This amendment has been prepared by subcommittee 34C: Auxiliaries for lamps, of IEC technical committee 34: Lamps and related equipment.

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

FDIS	Report on voting
34C/1023/FDIS	34C/1029/RVD

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

The committee has decided that the contents of this amendment and the base publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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

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[SIST EN 61347-1:2008/A2:2013](https://standards.iteh.ai/catalog/standards/sist/4a610b4c-8ca7-4da9-88fd-58797e1c287/sist-en-61347-1-2008-a2-2013)

*Add, after the Foreword, the following new text:*

## Introduction

Work is currently underway to modify creepage distances and clearances requirements regarding:

- working voltages with operating frequencies up to 30 kHz and with higher operating frequencies then 30 kHz;
- impulse and resonance ignition;
- basic, supplementary and reinforced insulation;
- insulation between circuits;
- coated or potted controlgear.

This information is expected to be incorporated into the future Edition 3 of IEC 61347-1.

## 1 Scope

*Replace the fifth, sixth and seventh paragraphs by the following new paragraph:*

Particular requirements for controlgears providing safety extra low voltage (from now on SELV) are given in Annex L.



## 2 Normative references

Add the following new references:

IEC 60065:2001, *Audio, video and similar electronic apparatus – Safety requirements*

IEC 60085:1987, *Electrical insulation – Thermal classification and designation*

IEC 60216 (all parts), *Electrical insulating materials – Properties of thermal endurance*

IEC 60598-2 (all Parts 2), *Luminaires – Part 2: Particular requirements.*

IEC 60664-1:2007, *Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests*

IEC 60884-2-4, *Plugs and socket-outlets for household and similar purposes – Part 2-4: Particular requirements for plugs and socket outlets for SELV*

IEC 60906-3, *IEC System of plugs and socket-outlets for household and similar purposes – Part 3: SELV plugs and socket-outlets, 16 A 6 V, 12 V, 24 V, 48 V, a.c. and d.c.*

IEC 60950-1, *Information technology equipment – Safety – Part 1: General requirements*

IEC 61558-1:2005, *Safety of power transformers, power supplies, reactors and similar products – Part 1: General requirements and tests*

IEC 61558-2-6:2009, *Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V – Part 2-6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers*

IEC 61558-2-16:2009, *Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V – Part 2-16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units*

Replace the references to IEC 60317-0-1:1997 and IEC 60598-1:2003 by the following:

IEC 60317-0-1:2008, *Specifications for particular types of windings wires – Part 0-1: General requirements – Enamelled round copper wire*

IEC 60598-1:2008, *Luminaires – Part 1: General requirements and tests*

## 3 Terms and definitions

### 3.23

#### functional earthing (ground)

Replace the existing Notes 1 and 2 of the existing definition by the following Note to entry:

Note 1 to entry: In some cases, functional earthing may be necessary to facilitate starting and/or to avoid radio interference.

Add, after Definition 3.26, the following new definitions:

**3.27****extra-low voltage****ELV**

voltage which does not exceed 50 V a.c. or 120 V ripple free d.c. between conductors, or between any conductor and earth (voltage band 1 of IEC 60449:1973)

Note 1 to entry: "Ripple free" is conventionally defined for sinusoidal ripple voltage as a ripple content of not more than 10 % r.m.s. The maximum peak value does not exceed 140 V for a nominal 120 V ripple-free d.c. system.

**3.28****safety extra low voltage****SELV**

ELV in a circuit which is isolated from the mains supply by insulation not less than that between the primary and secondary circuits of a safety isolating transformer according to IEC 61558-2-6

Note 1 to entry: Maximum voltage lower than 50 V a.c. r.m.s. or 120 V ripple free d.c. may be specified in particular requirements, especially when direct contact with current-carrying parts is allowed.

Note 2 to entry: The voltage limit should not be exceeded at any load between full loads and no-load when the source is a safety isolation transformer.

Note 3 to entry: "Ripple free" is conventionally an r.m.s. ripple voltage not more than 10 % of the d.c. component: the maximum peak value does not exceed 140 V for a nominal 120 V ripple free d.c. system and 70 V for a nominal 60 V ripple free system.

**3.29****body**

term used in this standard as a general term which includes all accessible metal parts, shafts, handles, knobs, grips and the like, accessible metal fixing screws and metal foil applied on accessible surfaces of insulating material and does not include non-accessible metal parts

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**3.30****impulse withstand category**

DEPRECATED: overvoltage category

numeral defining a transient overvoltage condition

Note 1 to entry: Impulse withstand categories I, II, III and IV are used. For detailed information, see IEC 60664-1 and IEC 60598-1.

**3.31****class I lamp controlgear**

independent controlgear in which protection against electric shock does not rely on basic insulation only, but which includes an additional safety precaution in such a way that means are provided for the connection of accessible conductive parts to the protective (earthing) conductor in the fixed wiring of the installation in such a way that accessible conductive parts cannot become live in the event of a failure of the basic insulation

Note 1 to entry: Class I lamp independent controlgear may have parts with double or reinforced insulation.

Note 2 to entry: Class I lamp independent controlgear may have parts in which protection against shock relies on operation at safety extra-low voltage (SELV)

**3.32****class II lamp controlgear**

independent controlgear in which protection against electric shock does not rely on basic insulation only, but in which additional safety precautions such as double insulation or reinforced insulation are provided, there being no provision for protective earthing or reliance upon installation conditions

**3.33****class III lamp controlgear**

independent controlgear in which protection against electric shock relies on supply at safety extra-low voltage (SELV) and in which voltages higher than those of SELV are not generated

**3.34****protective impedance device**

component or assembly of components the impedance and construction of which are such as to ensure that steady state touch current and charge are limited to a non-hazardous level

**3.35****maximum working voltage**

$U_{out}$

maximum occurring working voltage (r.m.s.) between the output terminals or between the output terminals and earth, during normal or abnormal operating condition

Note 1 to entry: Transients and ignition voltages have to be neglected.

**3.36****basic insulation**

insulation of parts which provide protection against electrical shock under fault-free conditions

**3.37****double insulation**

insulation of parts with two layers of insulation which provide protection against electrical shock under single fault condition

**3.38****reinforced insulation**

Insulation of parts which provide a degree of protection as double insulation

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**4 General requirements**

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Add, after the second paragraph, the following new paragraph:

Requirements for insulation materials used for double or reinforced insulation of controlgear are specified in Annex N of this standard.

Add, after the third paragraph, the following new paragraph:

Built-in electronic controlgear with double or reinforced insulation shall comply additionally with the requirements of Annex O.

Add, at the end of Clause 4, the following new paragraph:

Controlgears providing SELV shall comply with the additional requirements given in Annex L. This includes especially insulation resistance, electric strength, creepage distances and clearances between the primary and secondary circuit.

**5 General notes on tests**

Add, at the end of Subclause 5.3, the following new paragraph:



If the tests of 14.3 or 15.5 of IEC 61558-1:2005 have to be made, three additional samples are needed. These samples are used only for the test of 14.3 or 15.5 of IEC 61558-1:2005, respectively.

## 7.1 Items to be marked

Add, after the first paragraph of Subclause 7.1, but before the alphabetical list, the following new paragraph:

For controlgear without an enclosure, and classified as built-in (e.g. open printed circuit board assembly), only items a) and b) are to be considered mandatory for marking on the controlgear. Other mandatory markings required by the IEC 61347-2 part shall be provided as information to be given either on the controlgear or made available in the manufacturer's catalogue or similar.

Replace the existing point f) by the following new point f):

- f) The earthing terminals (if any) shall be identified by the symbol  or .

These symbols shall not be placed on screws or other easily removable parts.

If the lamp control gear is market with an earthing symbol, the manufacturer's instruction shall contain the information whether it is permitted to use the control gear also without connection to earth.

NOTE For the use of symbols, see IEC 60417.

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Add, at the end of Subclause 7.1, the following new items, table and text:

- s) Symbol indicating the kind of controlgear providing SELV.  
t) The earthing terminals of an independent controlgear used for the connection of lamp compartments (if any) shall be marked with the symbol:



This symbol shall not be placed on screws or other easily removable parts. The symbol size of the earthing terminals of an independent controlgear used for the connection of lamp compartments shall be at least 5 mm (over all, including letters).

- u) Declaration of the maximum working voltage  $U_{out}$  (r.m.s.) between
- output terminals, or
  - any output terminal and earth (if applicable)
- in steps as described in Table 5.

**Table 5 – Working voltage and  $U_{out}$  steps**

Working voltage	< 50 V	< 500 V	> 500 V
$U_{out}$ in steps of	1 V	10 V	50 V

The highest of the specified voltage values shall be marked on the controlgear as “Output working voltage = ...V” or “U-OUT = ...V” or “ $U_{out}$  = ...V”.

NOTE 5 Item u) is not applicable to terminals with SELV-circuits as defined in IEC 61558-1.