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Controlgear for electric light sources - Safety - Part 1: General requirements

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 03/25

Týmto dokumentom sa nahrádza STN EN 61347-1 z októbra 2015, ktorá však zostáva v platnosti, kým sa nezrušia všetky časti 2, ktoré sa spolu s ňou používajú. Preto sa v tomto dokumente neuvádza žiadny dátum zrušenia (dow).

Obsahuje: EN IEC 61347-1:2024, IEC 61347-1:2024

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EN IEC 61347-1

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English Version

**Controlgear for electric light sources - Safety - Part 1: General
requirements
(IEC 61347-1:2024)**

Appareillages de commande pour les sources de lumière
électriques - Sécurité - Partie 1: Exigences générales
(IEC 61347-1:2024)

Geräte für elektrische Lichtquellen - Sicherheit - Teil 1:
Allgemeine Anforderungen
(IEC 61347-1:2024)

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EN IEC 61347-1:2024 (E)**European foreword**

The text of document 34C/1596/FDIS, future edition 4 of IEC 61347-1, prepared by SC 34C "Auxiliaries for lamps" of IEC/TC 34 "Lighting" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61347-1:2024.

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In the official version, for Bibliography, the following notes have to be added for the standard indicated:

IEC 60068-1:2013	NOTE Approved as EN 60068-1:2014 (not modified)
IEC 60068-2-2:2007	NOTE Approved as EN 60068-2-2:2007 (not modified)
IEC 60112:2020	NOTE Approved as EN IEC 60112:2020 (not modified)
IEC 60269-1:2006	NOTE Approved as EN 60269-1:2007 (not modified)
IEC 60269-1:2006/A1:2009	NOTE Approved as EN 60269-1:2007/A1:2009 (not modified)
IEC 60269-1:2006/A2:2014	NOTE Approved as EN 60269-1:2007/A2:2014 (not modified)
IEC 60269-2	NOTE Approved as HD 60269-2
IEC 60269-3	NOTE Approved as HD 60269-3
IEC 60364 (series)	NOTE Approved as HD 60364 (series)
IEC 60364-4-41:2005	NOTE Approved as HD 60364-4-41:2017 + A11:2017
IEC 60664-1:2020	NOTE Approved as EN IEC 60664-1:2020 (not modified)
IEC 60664-4:2005	NOTE Approved as EN 60664-4:2006 (not modified)

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IEC 60747-5-5:2020	NOTE Approved as EN IEC 60747-5-5:2020 (not modified)
IEC 60838-2-2	NOTE Approved as EN 60838-2-2
IEC 60929:2011	NOTE Approved as EN 60929:2011 (not modified)
IEC 60929:2011/A1:2015	NOTE Approved as EN 60929:2011/A1:2016 (not modified)
IEC 60947-7-4	NOTE Approved as EN IEC 60947-7-4
IEC 60998 (series)	NOTE Approved as EN 60998 (series)
IEC 61000-4-5	NOTE Approved as EN 61000-4-5
IEC 61047	NOTE Approved as EN 61047
IEC 61048	NOTE Approved as EN 61048
IEC 61140:2016	NOTE Approved as EN 61140:2016 (not modified)
IEC 61347-2-1	NOTE Approved as EN IEC 61347-2-1
IEC 61347-2-2	NOTE Approved as EN 61347-2-2
IEC 61347-2-3	NOTE Approved as EN 61347-2-3
IEC 61347-2-7	NOTE Approved as EN 61347-2-7
IEC 61347-2-8	NOTE Approved as EN 61347-2-8
IEC 61347-2-9	NOTE Approved as EN 61347-2-9
IEC 61347-2-10	NOTE Approved as EN 61347-2-10
IEC 61347-2-11	NOTE Approved as EN 61347-2-11
IEC 61347-2-12	NOTE Approved as EN 61347-2-12
IEC 61347-2-13	NOTE Approved as EN 61347-2-13
IEC 61347-2-14	NOTE Approved as EN IEC 61347-2-14
IEC 61558 (series)	NOTE Approved as EN 61558 (series)
IEC 62384	NOTE Approved as EN IEC 62384
IEC 62386-101	NOTE Approved as EN IEC 62386-101
IEC 62386-250	NOTE Approved as EN IEC 62386-250
IEC 62733	NOTE Approved as EN 62733
IEC 63128	NOTE Approved as EN IEC 63128

EN IEC 61347-1:2024 (E)**Annex ZA**
(normative)**Normative references to international publications
with their corresponding European publications**

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cencenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-2-14	2009 ¹	Environmental testing - Part 2-14: Tests - Test N: Change of temperature	EN 60068-2-14	2009
IEC 60127	series	Miniature fuses	EN IEC 60127	series
IEC 60317-0-1	2013	Specifications for particular types of winding wires - Part 0-1: General requirements - Enamelled round copper wire	EN 60317-0-1	2014
+ A1	2019		+ A1	2019
IEC 60384-14	2023	Fixed capacitors for use in electronic equipment - Part 14: Sectional specification - Fixed capacitors for electromagnetic interference suppression and connection to the supply mains	EN IEC 60384-14	2023
IEC 60598	series	Luminaires	EN IEC 60598	series
IEC 60598-1	2020	Luminaires - Part 1: General requirements and tests	EN IEC 60598-1	2021
			+ A11	2022
IEC 60695-2-10	2021	Fire hazard testing - Part 2-10: Glowing/hot-wire based test methods - Glow-wire apparatus and common test procedure	EN IEC 60695-2-10	2021
IEC 60695-2-11	2021	Fire hazard testing - Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end products (GWEPT)	EN IEC 60695-2-11	2021
IEC 60695-11-5	2016	Fire hazard testing - Part 11-5: Test flames - Needle-flame test method - Apparatus, confirmatory test arrangement and guidance	EN 60695-11-5	2017
IEC 60691	2023	Thermal-links - Requirements and application guide	EN IEC 60691	2023

¹ Withdrawn.

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<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60990	2016	Methods of measurement of touch current and protective conductor current	EN 60990	2016
IEC 61032	1997	Protection of persons and equipment by enclosures - Probes for verification	EN 61032	1998
IEC 61180	2016	High-voltage test techniques for low-voltage equipment - Definitions, test and procedure requirements, test equipment	EN 61180	2016
IEC 61189-2	2006	Test methods for electrical materials, printed boards and other interconnection structures and assemblies - Part 2: Test methods for materials for interconnection structures	EN 61189-2	2006
IEC 61249-2	series	Materials for printed boards and other interconnecting structures - Part 2: Reinforced base materials, clad and unclad	EN 61249-2	series
IEC 61558-1	2017	Safety of transformers, reactors, power supply units and combinations thereof - Part 1: General requirements and tests	EN IEC 61558-1	2019
IEC 61558-2-1	-	Safety of transformers, reactors, power supply units and combinations thereof - Part 2-1: Particular requirements and tests for separating transformers and power supplies incorporating separating transformers for general applications	EN IEC 61558-2-1	-
IEC 61558-2-4	-	Safety of transformers, reactors, power supply units and combinations thereof - Part 2-4: Particular requirements and tests for isolating transformers and power supply units incorporating isolating transformers for general applications	EN 61558-2-4	-
IEC 61558-2-6	-	Safety of transformers, reactors, power supply units and combinations thereof - Part 2-6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers for general applications	EN 61558-2-6	-
IEC 61558-2-13	-	Safety of transformers, reactors, power supply units and combinations thereof - Part 2-13: Particular requirements and tests for auto-transformers and power supply units incorporating auto-transformers for general applications	EN IEC 61558-2-13	-
IEC 61558-2-16	2021	Safety of transformers, reactors, power supply units and combinations thereof - Part 2-16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units for general applications	-	-
IEC 61643-11 (mod)	2011	Low-voltage surge protective devices - Part 11: Surge protective devices connected to low-voltage power systems - Requirements and test methods	EN 61643-11	2012
-	-		+ A11	2018

EN IEC 61347-1:2024 (E)

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 62368-1	2023	Audio/video, information and communication technology equipment - Part 1: Safety requirements	EN IEC 62368-1	2024
			+ A11	2024
ISO 8820	series	Road vehicles - Fuse-links	-	-



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**Controlgear for electric light sources – Safety –
Part 1: General requirements**

**Appareillages de commande pour les sources de lumière électriques – Sécurité –
Partie 1: Exigences générales**

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INTERNATIONAL STANDARD

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**Controlgear for electric light sources – Safety –
Part 1: General requirements**

**Appareillages de commande pour les sources de lumière électriques – Sécurité –
Partie 1: Exigences générales**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**CONTROLGEAR FOR ELECTRIC LIGHT SOURCES –
SAFETY –****Part 1: General requirements****FOREWORD**

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IEC 61347-1 has been prepared by subcommittee 34C: Auxiliaries for lamps, of IEC technical committee 34: Lighting. It is an International Standard.

This fourth edition cancels and replaces the third edition published in 2015 and Amendment 1:2017. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) complete review of document structure, including but not limited to what is individually described under items b) to s);
- b) removal of requirements for electromagnetic controlgear;

- c) addition of more specific requirements for control circuit insulation and corresponding marking;
- d) merging of thermal test requirements for transformers into a new Clause 16;
- e) clarification of specifications for the moisture resistance test;
- f) update of the normative reference to standards of the transformer series IEC 61558;
- g) correction of the normative reference for PCB testing with respect to flames and fire;
- h) update of further normative references where appropriate;
- i) allowance of an alternative DC electric strength test;
- j) addition of specific provisions for the use of bridging capacitors;
- k) update of fire hazard testing requirements;
- l) introduction of requirements for PELV applications;
- m) clearance distances now generally based on peak instead of RMS voltage values;
- n) introduction of a new type of protected emergency lighting controlgear;
- o) review and clarification of touch current and voltage requirements;
- p) clarification of the test sequence for independent controlgear with respect to the application of the IEC 60598 series versus the IEC 61347 series;
- q) introduction of reduced touch voltages and currents for interrupted DC voltage applications or pulse width modulation (PWM);
- r) changes concerning the recommendations for electric strength routine testing;
- s) merging of requirements for safety isolating controlgear from former Annex L into the main body of the document;
- t) introduction of Annex N intended to address touch current measurement;
- u) introduction of Annex O intended to provide information on document reorganization.

The text of this International Standard is based on the following documents:

Draft	Report on voting
34C/1596/FDIS	34C/1604/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

This document is to be used in conjunction with the appropriate part of the IEC 61347-2 series.

NOTE In this document, the following print type is used:

– *compliance statements: in italic type.*

A list of all parts in the IEC 61347 series, published under the general title *Controlgear for electric light sources – Safety*, can be found on the IEC website.

Future documents in this series will carry the new general title as cited above. Titles of existing documents in this series will be updated at the time of the next edition.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

IMPORTANT – The "colour inside" logo on the cover page of this document indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

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 controlgear for light sources and which can be called up as required by the different parts that make up the IEC 61347-2 series. This document is not a specification in itself for any type of controlgear, and its provisions apply only to particular types of controlgear, to the extent determined by the appropriate part of the IEC 61347-2 series. The various parts of the IEC 61347-2 series refer to the clauses of this document to the extent to which such a clause is applicable and the order in which the tests are performed; they also include additional requirements as necessary. The order in which the clauses of this document are numbered has no particular significance, as the order in which their provisions apply is determined for each type of controlgear by the appropriate part of the IEC 61347-2 series. All such parts of the IEC 61347-2 series 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 the IEC 61347-2 series by the phrase "IEC 61347-1, Clause N applies", this phrase will be interpreted as meaning that all the requirements of the clause in question of this document apply, except any which are clearly inapplicable to the particular type of controlgear for light sources covered by the part of the IEC 61347-2 series concerned.

Performance requirements for controlgear for electric light sources are the subject of the appropriate performance standard, for example IEC 61047 and IEC 62384 as appropriate for the type of controlgear.

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.

CONTROLGEAR FOR ELECTRIC LIGHT SOURCES – SAFETY –

Part 1: General requirements

1 Scope

This part of IEC 61347 specifies general safety requirements for controlgear for electric light sources for use on DC supplies up to 1 500 V or AC supplies up to 1 000 V at 50 Hz or 60 Hz.

NOTE 1 In the remainder of this document "light source" is used instead of "electric light source".

This document is only applicable in conjunction with the relevant part(s) of the IEC 61347-2 series.

NOTE 2 As far as covered in the scope of the relevant part of the IEC 61347-2 series, this document is also applicable to controlgear used for electric sources producing optical radiation with the same technology used for purposes different than illumination and producing radiation other than visible spectrum.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60068-2-14:2009¹, *Environmental testing – Part 2-14: Tests – Test N: Change of temperature*

IEC 60127 (all parts), *Miniature fuses*

IEC 60317-0-1:2013, *Specifications for particular types of winding wires – Part 0-1: General requirements – Enamelled round copper wire*
IEC 60317-0-1:2013/AMD1:2019

IEC 60384-14:2023, *Fixed capacitors for use in electronic equipment – Part 14: Sectional specification – Fixed capacitors for electromagnetic interference suppression and connection to the supply mains*

IEC 60598 (all parts), *Luminaires*

IEC 60598-1:2020, *Luminaires – Part 1: General requirements and tests*

IEC 60695-2-10:2021, *Fire hazard testing – Part 2-10: Glowing/hot-wire based test methods – Glow-wire apparatus and common test procedure*

IEC 60695-2-11:2021, *Fire hazard testing – Part 2-11: Glowing/hot-wire based test methods – Glow-wire flammability test method for end-products (GWEPT)*

¹ Withdrawn.

IEC 60695-11-5:2016, *Fire hazard testing – Part 11-5: Test flames – Needle-flame test method – Apparatus, confirmatory test arrangement and guidance*

IEC 60691:2023, *Thermal-links – Requirements and application guide*

IEC 60990:2016, *Methods of measurement of touch current and protective conductor current*

IEC 61032:1997, *Protection of persons and equipment by enclosures – Probes for verification*

IEC 61180:2016, *High-voltage test techniques for low-voltage equipment – Definitions, test and procedure requirements, test equipment*

IEC 61189-2:2006, *Test methods for electrical materials, printed boards and other interconnection structures and assemblies – Part 2: Test methods for materials for interconnection structures*

IEC 61249-2 (all parts), *Materials for printed boards and other interconnecting structures – Part 2: Reinforced base materials, clad and unclad*

IEC 61558-1:2017, *Safety of transformers, reactors, power supply units and combinations thereof – Part 1: General requirements and tests*

IEC 61558-2-1, *Safety of transformers, reactors, power supply units and combinations thereof – Part 2-1: Particular requirements and tests for separating transformers and power supply units incorporating separating transformers for general applications*

IEC 61558-2-4, *Safety of transformers, reactors, power supply units and combinations thereof – Part 2-4: Particular requirements and tests for isolating transformers and power supply units incorporating isolating transformers for general applications*

IEC 61558-2-6, *Safety of transformers, reactors, power supply units and combinations thereof – Part 2-6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers for general applications*

IEC 61558-2-13, *Safety of transformers, reactors, power supply units and combinations thereof – Part 2-13: Particular requirements and tests for auto-transformers and power supply units incorporating auto-transformers for general applications*

IEC 61558-2-16:2021, *Safety of transformers, reactors, power supply units and combinations thereof – Part 2-16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units for general applications*

IEC 61643-11:2011, *Low-voltage surge protective devices – Part 11: Surge protective devices connected to low-voltage power systems – Requirements and test methods*

IEC 62368-1:2023, *Audio/video, information and communication technology equipment – Part 1: Safety requirements*

ISO 8820 (all parts), *Road vehicles – Fuse-links*

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