IEC 61347-1

Edition 4.0 2024-06

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

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

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

IEC 61347-1:2024-06(en-fr)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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CONTROLGEAR FOR ELECTRIC LIGHT SOURCES – SAFETY –

Part 1: General requirements

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of 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, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). 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. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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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 60068-2-14:2009[1], *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.