Controlgear for electric light sources - Safety - Part 2-1: Particular requirements for starting devices (other than glow starters)

EESTI STANDARDIMIS- JA AKREDITEERIMISKESKUS
ESTONIAN CENTRE FOR STANDARDISATION AND ACCREDITATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 61347-2-1:2024 sisaldab Euroopa standardi EN IEC 61347-2-1:2024 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 61347-2-1:2024 consists of the English text of the European standard EN IEC 61347-2-1:2024.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 28.06.2024.	Date of Availability of the European standard is 28.06.2024.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 29.140.99

EUROPEAN STANDARD

NORME EUROPÉENNE

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EN 61347-2-1:2001/corrigendum Dec. 2010;
EN 61347-2-1:2001/A2:2014

English Version

Controlgear for electric light sources - Safety - Part 2-1: Particular requirements - Starting devices (other than glow starters) (IEC 61347-2-1:2024)

Appareillages de commande pour les sources de lumière électriques - Sécurité - Partie 2-1: Exigences particulières - Dispositifs d'amorçage (autres que starters à lueur) (IEC 61347-2-1:2024)

Betriebsgeräte für elektrische Lichtquellen - Sicherheit - Teil 2-1: Besondere Anforderungen - Startgeräte (andere als Glimmstarter) (IEC 61347-2-1:2024)

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Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 34C/1582/CDV, future edition 2 of IEC 61347-2-1, 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 61347-2-1:2024.

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) 2025-03-18
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2027-06-18

This document supersedes EN 61347-2-1:2001 and all of its amendments and corrigenda (if any).

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

This document is read in conjunction with EN 61347-1:2015 and EN 61347-1:2015/A1:2021.

This document has been prepared under a standardization request addressed to CENELEC by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 61347-2-1:2024 was approved by CENELEC as a European Standard without any modification.

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

IEC 60188	NOTE	Approved as EN 60188
IEC 60192	NOTE	Approved as EN 60192
IEC 60662	NOTE	Approved as EN 60662
IEC 60927	NOTE	Approved as EN 60927
IEC 61167	NOTE	Approved as EN 61167
IEC 61195	NOTE	Approved as EN 61195
IEC 61199	NOTE	Approved as EN 61199
IEC 61347-2-1:2000	NOTE	Approved as EN 61347-2-1:2001 (not modified)
IEC 61347-2-1:2000/A1:2005	NOTE	Approved as EN 61347-2-1:2001/A1:2006 (not modified)
IEC 61347-2-1:2000/A2:2013	NOTE	Approved as EN 61347-2-1:2001/A2:2014 (not modified)
IEC 61347-2-8	NOTE	Approved as EN 61347-2-8
IEC 61347-2-9	NOTE	Approved as EN 61347-2-9

IEC 61347-2-1

Edition 2.0 2024-05

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Controlgear for electric light sources – Safety – Part 2-1: Particular requirements – Starting devices (other than glow starters)

Appareillages de commande pour les sources de lumière électriques – Sécurité – Partie 2-1: Exigences particulières – Dispositifs d'amorçage (autres que starters à lueur)

IEC 61347-2-1:2024-05(en-fr)

IEC Secretariat
3, rue de Varembé
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

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IEC 61347-2-1

Edition 2.0 2024-05

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Controlgear for electric light sources – Safety – Part 2-1: Particular requirements – Starting devices (other than glow starters)

Appareillages de commande pour les sources de lumière électriques – Sécurité – Partie 2-1: Exigences particulières – Dispositifs d'amorçage (autres que starters à lueur)

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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CONTROLGEAR FOR ELECTRIC LIGHT SOURCES – SAFETY –

Part 2-1: Particular requirements – Starting devices (other than glow starters)

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 61347-2-1 has been prepared by subcommittee 34C: Auxiliaries for lamps, of IEC technical committee 34: Lighting. It is an International Standard.

This second edition cancels and replaces the first edition published in 2000, Amendment 1:2005 and Amendment 2:2013. This edition constitutes a technical revision.

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

a) update of normative references, introducing dated references where appropriate;
b) clarification of sample item numbers;
c) alignment of clause numbers with those of IEC 61347-1;
d) renumbering of Clause 15 and Clause 16.

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

Draft	Report on voting
34C/1582/CDV	34C/1590/RVC

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 intended to be used in conjunction with IEC 61347-1:2015 and IEC 61347-1:2015/AMD1:2017. Where the requirements of any of the clauses of IEC 61347-1:2015 and IEC 61347-1:2015/AMD1:2017 are referred to in this document by the phrase "IEC 61347-1:2015, Clause n and IEC 61347-1:2015/AMD1:2017, Clause n apply", this phrase is interpreted as meaning that all the requirements of the clause in question of IEC 61347-1:2015 and IEC 61347-1:2015/AMD1:2017 apply, except any which are clearly inapplicable to the specific type of controlgear covered by this document.

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.

INTRODUCTION

The technical requirements in this document compared to IEC 61347-2-1:2000, IEC 61347-2-1:2000/AMD1:2005 and IEC 61347-2-1:2000/AMD2:2013 are essentially unchanged. Nevertheless, a new edition of this document could not be avoided, as without the introduction of dated references to IEC 61347-1:2015 and IEC 61347-1:2015/AMD1:2017, the fourth edition of IEC 61347-1:—[1] would have been implicitly applicable due to the undated nature of the references to IEC 61347-1 in IEC 61347-2-1:2000, IEC 61347-2-1:2000/AMD1:2005 and IEC 61347-2-1:2000/AMD2:2013.

This document, in referring to any of the clauses of IEC 61347-1:2015 and IEC 61347-1:2015/AMD1:2017, specifies the extent to which such a clause is applicable. Additional requirements are also included, as necessary.

[1] Fourth edition under preparation. Stage at the time of publication IEC FDIS 61347-1:2024.

CONTROLGEAR FOR ELECTRIC LIGHT SOURCES – SAFETY –

Part 2-1: Particular requirements – Starting devices (other than glow starters)

1 Scope

This part of IEC 61347 specifies safety requirements for starting devices (starters other than glow starters and ignitors) for fluorescent and other discharge lamps for use on AC supplies up to 1 000 V at 50 Hz or 60 Hz which produce starting pulses not greater than 100 kV and which are used in combination with lamps and controlgear covered in IEC 60081, IEC 60188, IEC 60192, IEC 60662, IEC 60901, IEC 61167, IEC 61195, IEC 61199, IEC 61347-2-8 and IEC 61347-2-9.

This document does not apply to glow starters or starting devices which are incorporated in discharge lamps or which are manually operated.

NOTE 1 Glow starters are dealt with in IEC 60155.

NOTE 2 Performance requirements are given in IEC 60927.

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

IEC 60068-2-75:2014, *Environmental testing – Part 2-75: Tests – Test Eh: Hammer tests*

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

IEC 60155:1993, *Glow-starters for fluorescent lamps*
IEC 60155:1993/AMD1:1995
IEC 60155:1993/AMD2:2006

IEC 60255-8:1990[2], *Electrical relays – Part 8: Thermal electrical relays*

IEC 60598 (all parts), *Luminaires*

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

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

IEC 61347-1:2015, *Lamp controlgear – Part 1: General and safety requirements*
IEC 61347-1:2015/AMD1:2017

2 Withdrawn.

ISO 3864 (all parts), *Graphical symbols – Safety colours and safety signs*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 61347-1 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- IEC Electropedia: available at https://www.electropedia.org/
- ISO Online browsing platform: available at https://www.iso.org/obp

3.1
starting device
ignitor
device designed to provide the appropriate electrical conditions to start a discharge lamp by itself or in combination with other components in the circuit

[SOURCE: IEC 60500-845:2020, 845-28-041, modified – The admitted term "ignitor" has been added.]

3.2
starter
device, usually for fluorescent lamps, which is used for the purpose of starting the discharge lamp by providing the necessary preheating of the cathode and, in combination with the series inductance of the ballast, causes a voltage surge applied to the discharge lamp

Note 1 to entry: The starter element that releases the starting voltage pulse can be either triggered or non-triggered.

[SOURCE: IEC 60500-845:2020, 845-28-042]

3.3
starting device with operating time limitation
starting device which prevents prolonged attempts to start lamps which refuse to start, for example, lamps with deactivated electrodes

Note 1 to entry: Prevention of starting attempts means that in the case of starters, the starting-current circuit is switched off or the current in the starting circuit is limited to a value equal to or smaller than the rated lamp current.

In the case of ignitors, prevention of starting attempts means that pulse generation has ceased, or voltage pulses are significantly reduced in amplitude.

3.4
peak voltage
highest value of the voltage pulses generated by an ignitor at the output terminals

3.5
spherical spark gap
two metal spheres of the same diameter arranged at a specified distance and used under specified conditions for the measurement of peak voltages in excess of 15 kV

3.6
maximum case temperature under abnormal conditions
(t_c + X)
maximum allowable case temperature of the starting devices and ignitors under abnormal conditions with metal halide lamps

Note 1 to entry: The value of (t_c + X) is declared by the manufacturer.