

STN	Ovládacie zariadenia svetelných zdrojov Bezpečnosť Časť 2-3: Osobitné požiadavky Elektronické ovládacie zariadenia žiariviek napájané striedavým a/alebo jednosmerným prúdom	STN EN IEC 61347-2-3 36 0511
------------	---	--

Controlgear for electric light sources - Safety - Part 2-3: Particular requirements - AC or DC supplied electronic controlgear for fluorescent lamps

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

Obsahuje: EN IEC 61347-2-3:2024, IEC 61347-2-3:2024

Oznámením tejto normy sa od 31.12.2027 ruší
STN EN 61347-2-3 (36 0511) z mája 2012

140135

Úrad pre normalizáciu, metrológiu a skúšobníctvo Slovenskej republiky, 2025
Slovenská technická norma a technická normalizačná informácia je chránená zákonom č. 60/2018 Z. z. o technickej normalizácii
v znení neskorších predpisov.

EUROPEAN STANDARD

EN IEC 61347-2-3

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2024

ICS 29.140.99

Supersedes EN 61347-2-3:2011; EN 61347-2-3:2011/AC:2011; EN 61347-2-3:2011/A1:2017

English Version

**Controlgear for electric light sources - Safety - Part 2-3:
Particular requirements - AC or DC supplied electronic
controlgear for fluorescent lamps
(IEC 61347-2-3:2024)**

Appareillages de commande pour les sources de lumière
électriques - Sécurité - Partie 2-3: Exigences particulières -
Appareillages électroniques alimentés en courant alternatif
ou en courant continu pour lampes fluorescentes
(IEC 61347-2-3:2024)

Betriebsgeräte für elektrische Lichtquellen - Sicherheit -
Teil 2-3: Besondere Anforderungen - wechsel- oder
gleichstromversorgte elektronische Betriebsgeräte für
Leuchtstofflampen
(IEC 61347-2-3:2024)

This European Standard was approved by CENELEC on 2024-10-16. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.



European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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

EN IEC 61347-2-3:2024 (E)**European foreword**

The text of document 34C/1586/CDV, future edition 3 of IEC 61347-2-3, 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 61347-2-3:2024.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2025-12-31 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2027-12-31 document have to be withdrawn

This document supersedes EN 61347-2-3:2011 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.

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 61347-2-3:2024 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 60598-2-22	NOTE Approved as EN IEC 60598-2-22
IEC 61195:1999	NOTE Approved as EN 61195:1999 (not modified)
IEC 61195:1999/A1:2012	NOTE Approved as EN 61195:1999/A1:2013 (not modified)
IEC 61195:1999/A2:2014	NOTE Approved as EN 61195:1999/A2:2015 (not modified)
IEC 61199:2011	NOTE Approved as EN 61199:2011 (not modified)
IEC 61199:2011/A1:2012	NOTE Approved as EN 61199:2011/A1:2013 (not modified)
IEC 61199:2011/A2:2014	NOTE Approved as EN 61199:2011/A2:2015 (not modified)
IEC 61347-2-3:2011	NOTE Approved as EN 61347-2-3:2011 (not modified)
IEC 61347-2-3:2011/A1:2016	NOTE Approved as EN 61347-2-3:2011/A1:2017 (not modified)

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 60081	1997	Double-capped fluorescent lamps - Performance specifications	- EN 60081	1998
+ A1 (mod)	2000		+ A1	2002
+ A2	2003		+ A2	2003
+ A3	2005		+ A3	2005
+ A4	2010		+ A4	2010
+ A5	2013		+ A5	2013
+ A6 (mod)	2017		+ A6	2017
-	-		+ A11	2018
IEC 60901	1996	Single-capped fluorescent lamps - Performance specifications	EN 60901	1996
+ A1	1997		+ A1	1997
-	-		+ A1:1997/corrigendum Oct.	1997
+ A2	2000		+ A2	2000
+ A3	2004		+ A3	2004
+ A4	2007		+ A4	2008
+ A5	2011		+ A5	2012
+ A6 (mod)	2014		+ A6	2017
IEC 60929	2011	AC and/or DC-supplied electronic control gear for tubular fluorescent lamps - Performance requirements	EN 60929	2011
-	-		+ AC	2011
+ A1	2015		+ A1	2016
IEC 61347-1	2015	Lamp controlgear - Part 1: General and safety requirements	EN 61347-1	2015
+ A1	2017		+ A1	2021

EN IEC 61347-2-3:2024 (E)

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61347-2-7	2011	Lamp controlgear - Part 2-7: Particular requirements for battery supplied electronic controlgear for emergency lighting (self-contained)	EN 61347-2-7	2012
+ A1	2017		+ A1	2019
+ A2	2021		-	-
IEC 61547	-	Equipment for general lighting purposes - EMC immunity requirements	EN IEC 61547	-



IEC 61347-2-3

Edition 3.0 2024-05

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Controlgear for electric light sources – Safety –
Part 2-3: Particular requirements – AC or DC supplied electronic controlgear for
fluorescent lamps**

**Appareillages de commande pour les sources de lumière électriques – Sécurité –
Partie 2-3: Exigences particulières – Appareillages électroniques alimentés en
courant alternatif ou en courant continu pour lampes fluorescentes**



THIS PUBLICATION IS COPYRIGHT PROTECTED
Copyright © 2024 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

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

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

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigendum or an amendment might have been published.

IEC publications search - webstore.iec.ch/advsearchform

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee, ...). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and once a month by email.

IEC Customer Service Centre - webstore.iec.ch/csc

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: sales@iec.ch.

IEC Products & Services Portal - products.iec.ch

Discover our powerful search engine and read freely all the publications previews, graphical symbols and the glossary. With a subscription you will always have access to up to date content tailored to your needs.

Electropedia - www.electropedia.org

The world's leading online dictionary on electrotechnology, containing more than 22 500 terminological entries in English and French, with equivalent terms in 25 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

A propos de l'IEC

La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications IEC

Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

Recherche de publications IEC -

webstore.iec.ch/advsearchform

La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études, ...). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

IEC Just Published - webstore.iec.ch/justpublished

Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et une fois par mois par email.

Service Clients - webstore.iec.ch/csc

Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: sales@iec.ch.

IEC Products & Services Portal - products.iec.ch

Découvrez notre puissant moteur de recherche et consultez gratuitement tous les aperçus des publications, symboles graphiques et le glossaire. Avec un abonnement, vous aurez toujours accès à un contenu à jour adapté à vos besoins.

Electropedia - www.electropedia.org

Le premier dictionnaire d'électrotechnologie en ligne au monde, avec plus de 22 500 articles terminologiques en anglais et en français, ainsi que les termes équivalents dans 25 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.



IEC 61347-2-3

Edition 3.0 2024-05

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Controlgear for electric light sources – Safety –
Part 2-3: Particular requirements – AC or DC supplied electronic controlgear for
fluorescent lamps**

**Appareillages de commande pour les sources de lumière électriques – Sécurité –
Partie 2-3: Exigences particulières – Appareillages électroniques alimentés en
courant alternatif ou en courant continu pour lampes fluorescentes**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 29.140.99

ISBN 978-2-8322-8847-4

**Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.**

CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references	7
3 Terms and definitions	8
4 General requirements	9
5 General notes on tests	10
6 Classification.....	10
7 Marking	10
7.1 Marking and information.....	10
7.1.1 Mandatory marking	10
7.1.2 Information to be provided	10
7.2 Durability and legibility of markings.....	10
7.3 Built-in controlgear.....	10
8 Terminals	11
9 Earthing.....	11
10 Protection against accidental contact with live parts	11
11 Moisture resistance and insulation.....	11
12 Electric strength	11
13 Thermal endurance test for windings of ballasts	11
14 Fault conditions	11
15 Protection of associated components.....	11
15.1 Maximum allowed peak voltage under normal operation conditions	11
15.2 Maximum working voltage under normal and abnormal operating conditions	12
15.3 Maximum working voltage and rectifying effect	12
15.4 Output voltage and abnormal conditions	12
15.5 Isolation of input terminals of controllable electronic controlgear.....	12
16 Abnormal conditions	13
16.1 Abnormal conditions for AC and DC controlgear	13
16.2 Additional abnormal conditions for DC supplied electronic controlgear	13
17 Behaviour of the controlgear at end of lamp life	14
17.1 End of lamp life effects	14
17.2 Asymmetric pulse test.....	14
17.3 Asymmetric power test.....	16
17.4 Open filament test.....	18
17.4.1 Selection	18
17.4.2 Measurements to be carried out prior to test procedure A.....	18
17.4.3 Test procedure A	19
17.4.4 Test procedure B	19
18 Construction.....	21
19 Creepage distances and clearances	21
20 Screws, current-carrying parts and connections.....	21
21 Resistance to heat, fire and tracking.....	21
22 Resistance to corrosion	21

23	Applicable annexes of IEC 61347-1	22
	Annex A (normative) Measurement of high-frequency leakage current	27
	Annex B (normative) Additional requirements for centrally supplied controlgear for emergency lighting.....	31
	B.1 Marking.....	31
	B.1.1 Mandatory markings	31
	B.1.2 Information to be provided if applicable	31
	B.2 General statement	31
	B.3 Starting conditions	31
	B.4 Operating conditions	32
	B.5 Current	32
	B.6 Maximum current in any lead to a cathode	32
	B.7 Lamp operating current waveform	32
	B.8 EMC immunity.....	32
	B.9 Pulse voltage from central battery systems	32
	B.10 Tests for abnormal conditions	33
	B.11 Temperature cycling test and endurance test.....	33
	B.12 Functional safety (EBLF).....	33
	Annex C (informative) Components used in the asymmetric pulse test circuit.....	34
	Annex D (informative) Schedule of more onerous requirements	35
	Bibliography.....	36
	Figure 1 – Asymmetric pulse test circuit.....	16
	Figure 2 – Asymmetric power detection circuit	18
	Figure 3 – Open filament test circuits.....	21
	Figure 4 – Circuit for testing rectifying effect.....	23
	Figure 5 – Nomographs for the capacitive leakage current limits of HF-operated fluorescent lamps.....	26
	Figure A.1 – Leakage current test arrangement for various fluorescent lamps.....	30
	Table 1 – Relation between RMS working voltage and maximum allowed peak voltage.....	12
	Table B.1 – Pulse voltages	32
	Table C.1 – Material specification	34
	Table C.2 – Transformer specification.....	34

INTERNATIONAL ELECTROTECHNICAL COMMISSION

CONTROLGEAR FOR ELECTRIC LIGHT SOURCES – SAFETY –**Part 2-3: Particular requirements – AC or DC
supplied electronic controlgear for fluorescent lamps**

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.
- 2) The formal decisions or agreements of 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 IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at <https://patents.iec.ch>. IEC shall not be held responsible for identifying any or all such patent rights.

IEC 61347-2-3 has been prepared by subcommittee 34C: Auxiliaries for lamps, of IEC technical committee 34: Lighting. It is an International Standard.

This third edition cancels and replaces the second edition published in 2011 and Amendment 1:2016. This edition constitutes a technical revision.

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

- a) introduction of dated references where appropriate;
- b) clarification of sample item numbers;
- c) alignment of clause numbers with those of IEC 61347-1.

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

Draft	Report on voting
34C/1586/CDV	34C/1594/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.

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

The technical requirements in this document compared to IEC 61347-2-3:2011 and IEC 61347-2-3:2011/AMD1:2016 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 61347-2-3:2011 and IEC 61347-2-3:2011/AMD1:2016.

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 2-3: Particular requirements – AC or DC supplied electronic controlgear for fluorescent lamps

1 Scope

This part of IEC 61347 specifies safety requirements for electronic controlgear for use on AC supplies at 50 Hz or 60 Hz up to 1 000 V or on DC supplies up to 1 000 V with lamp operating frequencies deviating from the supply frequency, associated with fluorescent lamps as specified in IEC 60081 and IEC 60901, low-pressure UV lamps, and other fluorescent lamps for high-frequency operation.

NOTE 1 Requirements for centrally supplied controlgear for emergency lighting are given in Annex B. This also includes performance requirements as far as they are considered to be safety-related with respect to reliable emergency operation.

NOTE 2 Requirements for emergency lighting controlgear operating from non-centralised power supplies are given in IEC 61347-2-7.

NOTE 3 Performance requirements are the subject of IEC 60929.

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 60081:1997, *Double-capped fluorescent lamps – Performance specifications*

IEC 60081:1997/AMD1:2000

IEC 60081:1997/AMD2:2003

IEC 60081:1997/AMD3:2005

IEC 60081:1997/AMD4:2010

IEC 60081:1997/AMD5:2013

IEC 60081:1997/AMD6:2017

IEC 60901:1997, *Single-capped fluorescent lamps – Performance specifications*

IEC 60901:1997/AMD1:1997

IEC 60901:1997/AMD2:2000

IEC 60901:1997/AMD3:2004

IEC 60901:1997/AMD4:2007

IEC 60901:1997/AMD5:2011

IEC 60901:1997/AMD6:2014

IEC 60929:2011, *AC and/or DC-supplied electronic control gear for tubular fluorescent lamps – Performance requirements*

IEC 60929:2011/AMD1:2015

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

IEC 61347-1:2015/AMD1:2017

IEC 61347-2-7:2011, *Lamp controlgear – Part 2-7: Particular requirements for electric source for safety services (ESSS) supplied electronic controlgear for emergency lighting (self-contained)*

IEC 61347-2-7:2011 /AMD1:2017

IEC 61347-2-7:2011 /AMD2:2021

IEC 61547, *Equipment for general lighting purposes – EMC immunity requirements*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN