

|            |  |                                 |
|------------|--|---------------------------------|
| <b>STN</b> | <b>Ovládacie zariadenia svetelných zdrojov<br/>Bezpečnosť<br/>Časť 2-1: Osobitné požiadavky<br/>Zapaľovacie zariadenia (iné než tlejivkové<br/>štartéry)</b> | <b>STN<br/>EN IEC 61347-2-1</b> |
|            |  | 36 0511                         |

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

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. 09/24

Obsahuje: EN IEC 61347-2-1:2024, IEC 61347-2-1:2024

Oznámením tejto normy sa od 18.06.2027 ruší

STN EN 61347-2-1 (36 0511) z novembra 2002

**139117**

---

Úrad pre normalizáciu, metrológiu a skúšobníctvo Slovenskej republiky, 2024

Slovenská technická norma a technická normalizačná informácia je chránená zákonom č. 60/2018 Z. z. o technickej normalizácii v znení neskorších predpisov.

EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN IEC 61347-2-1**

June 2024

ICS 29.140.99

Supersedes EN 61347-2-1:2001;  
EN 61347-2-1:2001/corrigendum Jul. 2003;  
EN 61347-2-1:2001/A1:2006;  
EN 61347-2-1:2001/A1:2006/corrigendum Nov. 2006;  
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)

This European Standard was approved by CENELEC on 2024-06-18. 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 61347-2-1:2024 (E)****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                             |

## 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](http://www.cencenelec.eu).

| <u>Publication</u>       | <u>Year</u> | <u>Title</u>   | <u>EN/HD</u>            | <u>Year</u> |
|--------------------------|-------------|--|-------------------------|-------------|
| IEC 60052                | 2002        | Voltage measurement by means of standard air gaps                | EN 60052                | 2002        |
| IEC 60068-2-75           | 2014        | Environmental testing - Part 2-75: Tests - Test Eh: Hammer tests | EN 60068-2-75           | 2014        |
| IEC 60081                | -           | Double-capped fluorescent lamps - Performance specifications     | EN 60081                | -           |
| IEC 60155                | 1993        | Glow-starters for fluorescent lamps                              | EN 60155                | 1995        |
| + A1                     | 1995        |  | + A1                    | 1995        |
| + A2                     | 2006        |  | + A2                    | 2007        |
| IEC 60255-8 <sup>1</sup> | 1990        | Electrical relays -- Part 8: Thermal electrical relays           | EN 60255-8 <sup>1</sup> | 1998        |
| IEC 60598                | series      | Luminaires   | EN IEC 60598            | series      |
| IEC 60598-1              | 2020        | Luminaires - Part 1: General requirements and tests              | EN IEC 60598-1          | 2021        |
| IEC 60901                | -           | Single-capped fluorescent lamps - Performance specifications     | EN 60901                | -           |
| IEC 61347-1              | 2015        | Lamp controlgear - Part 1: General and safety requirements       | EN 61347-1              | 2015        |
| + A1                     | 2017        |  | + A1                    | 2021        |
| ISO 3864                 | series      | Graphical symbols - Safety colours and safety signs              | -                       | series      |

<sup>1</sup> Withdrawn.



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)**





## 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 Varembé  
CH-1211 Geneva 20  
Switzerland

Tel.: +41 22 919 02 11  
[info@iec.ch](mailto:info@iec.ch)  
[www.iec.ch](http://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](http://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](http://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](http://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](mailto:sales@iec.ch).

#### IEC Products & Services Portal - [products.iec.ch](http://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](http://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](http://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](http://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](http://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](mailto:sales@iec.ch).

#### IEC Products & Services Portal - [products.iec.ch](http://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](http://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.



# 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

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

ICS 29.140.99

ISBN 978-2-8322-8840-5

**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 .....   | 9  |
| 6 Classification .....   | 9  |
| 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 .....  | 10 |
| 8 Terminals .....  | 10 |
| 9 Earthing.....  | 10 |
| 10 Protection against accidental contact with live parts .....                         | 10 |
| 11 Moisture resistance and insulation.....   | 11 |
| 12 Electric strength .....   | 11 |
| 13 Thermal endurance test for windings of ballasts .....                               | 11 |
| 14 Fault conditions .....  | 11 |
| 15 Pulse voltage of ignitors .....   | 12 |
| 16 Heating of built-in and independent starting devices .....                          | 14 |
| 16.1 General.....  | 14 |
| 16.2 Normal operation .....  | 14 |
| 16.2.1 General .....   | 14 |
| 16.2.2 Normal operation of built-in starting devices .....                             | 14 |
| 16.2.3 Normal operation of independent starting devices.....                           | 15 |
| 16.3 Abnormal operation.....   | 15 |
| 16.3.1 Abnormal operation of built-in ignitors.....                                    | 15 |
| 16.3.2 Abnormal operation of built-in starters .....                                   | 16 |
| 16.3.3 Abnormal operation of independent starting devices .....                        | 16 |
| 17 Mechanical strength .....   | 17 |
| 18 Construction .....  | 18 |
| 19 Creepage distances and clearances .....   | 18 |
| 20 Screws, current-carrying parts and connections.....                                 | 18 |
| 21 Resistance to heat, fire and tracking.....  | 19 |
| 22 Resistance to corrosion .....   | 19 |
| 23 Applicable annexes of IEC 61347-1 .....   | 19 |
| Annex A (normative) Mechanical strength testing.....                                   | 20 |
| A.1 Replaceable starting devices and accessible components over 100 g .....            | 20 |
| A.2 Replaceable starting devices and accessible components up to 100 g .....           | 20 |
| Annex B (informative) Precautions to be observed when measuring with sphere-gaps ..... | 22 |
| B.1 General.....   | 22 |
| B.2 Sphere-gap .....   | 22 |

|  |   |    |
|--|---|----|
| B.3  | Breakdown gap distance .....                | 22 |
| B.4  | Duty cycle of the ignitor .....             | 22 |
| B.5  | End of test .....                           | 22 |
| Annex C (informative)                                      | Schedule of more onerous requirements ..... | 23 |
| Bibliography.....  |   | 24 |
| Figure 1 – Starting voltage measurement for ignitors ..... |   | 13 |
| Figure A.1 – Tumbling barrel.....                          |   | 21 |

# INTERNATIONAL ELECTROTECHNICAL COMMISSION

## 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.
- 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 61347-2-1 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](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/publications](http://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](http://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:<sup>—1</sup> 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.

---

<sup>1</sup> 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<sup>2</sup>, *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

---

<sup>2</sup> Withdrawn.

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

koniec náhľadu – text d'alej pokračuje v platenej verzii STN