

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Lamp controlgear –
Part 2-13: Particular requirements for d.c. or a.c. supplied electronic controlgear
for LED modules**

**Appareillage de lampes –
Partie 2-13: Exigences particulières pour les appareillages électroniques
alimentés en courant continu ou alternatif pour les modules de LED**



THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2014 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 Central Office
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00
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 corrigenda or an amendment might have been published.

IEC Catalogue - webstore.iec.ch/catalogue

The stand-alone application for consulting the entire bibliographical information on IEC International Standards, Technical Specifications, Technical Reports and other documents. Available for PC, Mac OS, Android Tablets and iPad.

IEC publications search - www.iec.ch/searchpub

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 also once a month by email.

Electropedia - www.electropedia.org

The world's leading online dictionary of electronic and electrical terms containing more than 30 000 terms and definitions in English and French, with equivalent terms in 14 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC Glossary - std.iec.ch/glossary

More than 55 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

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: csc@iec.ch.

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.

Catalogue IEC - webstore.iec.ch/catalogue

Application autonome pour consulter tous les renseignements bibliographiques sur les Normes internationales, Spécifications techniques, Rapports techniques et autres documents de l'IEC. Disponible pour PC, Mac OS, tablettes Android et iPad.

Recherche de publications IEC - www.iec.ch/searchpub

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 aussi une fois par mois par email.

Electropedia - www.electropedia.org

Le premier dictionnaire en ligne de termes électroniques et électriques. Il contient plus de 30 000 termes et définitions en anglais et en français, ainsi que les termes équivalents dans 14 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

Glossaire IEC - std.iec.ch/glossary

Plus de 55 000 entrées terminologiques électrotechniques, en anglais et en français, extraites des articles Termes et Définitions des publications IEC parues depuis 2002. Plus certaines entrées antérieures extraites des publications des CE 37, 77, 86 et CISPR de l'IEC.

Service Clients - webstore.iec.ch/csc

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



IEC 61347-2-13

Edition 2.0 2014-09

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Lamp controlgear –

Part 2-13: Particular requirements for d.c. or a.c. supplied electronic controlgear for LED modules

Appareillage de lampes –

Partie 2-13: Exigences particulières pour les appareillages électroniques alimentés en courant continu ou alternatif pour les modules de LED

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

PRICE CODE
CODE PRIX

T

ICS 29.140.99

ISBN 978-2-8322-1849-5

**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	10
6 Classification.....	10
7 Marking	10
7.1 Mandatory marking	10
7.2 Information to be provided if applicable.....	10
8 Protection against accidental contact with live parts	10
9 Terminals	10
10 Provisions for protective earthing.....	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 Transformer heating	11
15.1 General.....	11
15.2 Normal operation	11
15.3 Abnormal operation.....	11
16 Construction.....	12
17 Creepage distances and clearances	12
18 Screws, current-carrying parts and connections.....	12
19 Resistance to heat, fire and tracking.....	12
20 Resistance to corrosion	12
Annex A (normative) Test to establish whether a conductive part is a live part which may cause an electric shock	13
Annex B (normative) Particular requirements for thermally protected lamp controlgear	14
Annex C (normative) Particular requirements for electronic lamp controlgear with means of protection against overheating.....	15
Annex D (normative) Requirements for carrying out the heating tests of thermally protected lamp controlgear	16
Annex E (normative) Use of constant S other than 4 500 in t_w tests.....	17
Annex F (normative) Draught-proof enclosure.....	18
Annex G (normative) Explanation of the derivation of the values of pulse voltages	19
Annex H (normative) Tests.....	20
Annex I (normative) Particular additional requirements for SELV d.c. or a.c. supplied electronic controlgear for LED modules.....	21
Annex J (normative) Particular additional safety requirements for a.c., a.c./d.c. or d.c. supplied electronic controlgear for emergency lighting	22
J.1 General.....	22

- J.2 Marking..... 22
 - J.2.1 Mandatory markings 22
 - J.2.2 Information to be provided if applicable 22
- J.3 General notes on tests 22
- J.4 Starting conditions 23
- J.5 Operating condition..... 23
- J.6 Emergency supply current..... 23
- J.7 EMC immunity..... 23
- J.8 Pulse voltage from central battery systems 23
- J.9 Tests for abnormal conditions 24
- J.10 Temperature cycling test and endurance test 24
- J.11 Functional safety (EOF_x) 24
- Bibliography..... 25
- Table J.1 – Pulse voltages 23

INTERNATIONAL ELECTROTECHNICAL COMMISSION

LAMP CONTROLGEAR –

**Part 2-13: Particular requirements for d.c. or
a.c. supplied electronic controlgear for LED modules**

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

International Standard IEC 61347-2-13 has been prepared by subcommittee 34C: Auxiliaries for lamps, of IEC technical committee 34: Lamps and related equipment.

This second edition cancels and replaces the first edition published in 2006. This edition constitutes a technical revision.

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

- a) Replacement of the SELV-equivalent requirements by SELV requirements and reference to the SELV requirements of Annex L in IEC 61347-1:2007/AMD2:2012.
- b) Reference to IEC 61347-1 for the protection against accidental contact with live parts, moisture resistance and insulation and electric strength.
- c) New Annex J for emergency lighting requirements.