

Australian Standard®

Lamp controlgear

**Part 2.13: Particular requirements for
d.c. or a.c. supplied electronic
controlgear for LED modules
(IEC 61347-2-13:2016 (ED.2.1) MOD)**



This Australian Standard® was prepared by Committee EL-041, Lamps and Related Equipment. It was approved on behalf of the Council of Standards Australia on 9 August 2018.

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The following are represented on Committee EL-041:

- Australian Industry Group
- Consumers Federation of Australia
- Department of the Environment and Energy (Australian Government)
- Electrical Compliance Testing Association
- Electrical Regulatory Authorities Council
- IES: The Lighting Society
- Joint Accreditation System of Australia and New Zealand
- Lighting Council Australia
- Masters Electricians
- NSW Fair Trading

Additional Interests

- Australasian Fire and Emergency Service Authorities Council
 - Independent Pricing and Regulatory Tribunal
-

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Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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Part 2.13: Particular requirements for d.c. or a.c. supplied electronic controlgear for LED modules (IEC 61347-2-13:2016 (ED.2.1) MOD)

Originated as AS/NZS IEC 61347.2.13:2013.
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PREFACE

This Standard was prepared by the Australian members of Joint Standards Australia/Standards New Zealand Committee EL-041, Lamps and related equipment, to supersede AS/NZS IEC 61347.2.13:2013, *Lamp controlgear, Part 2.13: Particular requirements for d.c. or a.c. supplied electronic controlgear for LED modules (IEC 61347-2-13, Ed.1.0 (2006) MOD)*.

AS/NZS IEC 61347.2.13:2013 will also remain current for six months after the date of publication of this Standard and after this time it will be superseded by AS 61347.2.13:2018. Regulatory authorities that reference this Standard in regulation may apply these requirements at a different time. Users of this Standard should consult with these authorities to confirm their requirements.

After consultation with stakeholders, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

The objective of this Standard is to specify particular minimum safety requirements for d.c. or a.c. supplied electronic controlgear associated with LED modules.

This Standard is an adoption with national modifications and has been reproduced from IEC 61347-2-13:2014+AMD1:2016 (ED 2.1), *Lamp controlgear, Part 2-13: Particular requirements for d.c. or a.c. supplied electronic controlgear for LED modules*, and has been varied as indicated to take account of Australian conditions. The modifications are specified in Appendix ZZ.

This Standard is to be read in conjunction with AS/NZS 61347.1:2016, *Lamp controlgear, Part 1: General and safety requirements (IEC 61347-1:2015, MOD)*.

Significant technical changes to the IEC edition are listed in the IEC Foreword following the contents pages.

Variations made to IEC 61347-2-13:2016 form the Australian variations for the purpose of the IECEE CB Scheme for recognition of testing to standards for safety of electrical equipment (the CB Scheme). They are listed in Appendix ZZ.

This Standard is structured as follows:

- (a) Preface.
- (b) IEC 61347-2-13:2016 unedited from the list of contents to the Bibliography.
- (c) Appendix ZZ—(Australian) variations to the source document.

The variations listed in Appendix ZZ address issues including the following:

- (i) Clarifying requirements for controlgear with accessible outputs.
- (ii) Clarifying SELV limits.
- (iii) Specifying bridging capacitor requirements.
- (iv) Modifying compliance criteria for maximum working voltage in any load condition (Clause 21).

As this Standard is reproduced from an International Standard, the following applies:

- (A) In the source text ‘this part of IEC 61347’ should read ‘this Australian Standard’.
- (B) A full point substitutes for a comma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the annex or appendix to which they apply. A ‘normative’ annex or appendix is an integral part of a Standard, whereas an ‘informative’ annex or appendix is only for information and guidance.

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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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- 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.
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DISCLAIMER

This Consolidated version is not an official IEC Standard and has been prepared for user convenience. Only the current versions of the standard and its amendment(s) are to be considered the official documents.

This Consolidated version of IEC 61347-2-13 bears the edition number 2.1. It consists of the second edition (2014-09) [documents 34C/1092/FDIS and 34C/1106/RVD] and its amendment 1 (2016-07) [documents 34C/1199/FDIS and 34C/1211/RVD]. The technical content is identical to the base edition and its amendment.

This Final version does not show where the technical content is modified by amendment 1. A separate Redline version with all changes highlighted is available in this publication.

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 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.
- 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.

This standard shall be used in conjunction with IEC 61347-1. Where the requirements of any of the clauses of IEC 61347-1 are referred to in this standard by the phrase "The requirements of Clause n of IEC 61347-1, apply", this phrase is interpreted as meaning that all requirements of the clause in question of Part 1 apply, except any which are clearly inapplicable to the specific type of lamp controlgear covered by this particular part of IEC 61347-2.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

In this standard, the following print types are used:

- requirements: in roman type,
- *test specifications: in italic type,*
- notes: in small roman type.

A list of all parts in the IEC 61347, published under the general title *Lamp controlgear* can be found on the IEC website.

The committee has decided that the contents of the base publication and its amendment will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

This second edition of IEC 61347-2-13 is published in conjunction with IEC 61347-1. The formatting into separately published parts provides for ease of future amendments and revisions. Additional requirements will be added as and when a need for them is recognized.

This standard and the parts which make up IEC 61347-2, in referring to any of the clauses of IEC 61347-1 specify the extent to which such a clause is applicable and the order in which the tests are to be performed; they also include additional requirements as necessary. All parts which make up IEC 61347-2 are self-contained and therefore do not include references to each other.

INTRODUCTION TO AMENDMENT 1

This Amendment 1 to IEC 61347-2-13: 2014 has been developed by SC 34C to include the following significant technical changes:

- a) Dated reference to Part 1 has been deleted to allow the use of this Part 2 in conjunction with the latest updated version of IEC 61347-1.

This Part 2-13 is intended to be used in conjunction with the latest edition of IEC 61347-1 and its amendments.

- b) Clause 21 has been introduced to verify the U_{out} as the maximum output voltage in any load conditions. This clause has been circulated in SC 34C as Fragment 3 of 34C/1038/DC, but was not included in the 34C/1092/FDIS.

AUSTRALIAN STANDARD

Lamp controlgear

Part 2.13:

Particular requirements for d.c. or a.c. supplied electronic controlgear for LED modules (IEC 61347-2-13:2016 (ED.2.1) MOD)**1 Scope**

This part of IEC 61347 specifies particular safety requirements for electronic controlgear for use on d.c. or a.c. supplies up to 1 000 V (a.c. at 50 Hz or 60 Hz) and at an output frequency which can deviate from the supply frequency, associated with LED modules.

Controlgear for LED modules specified in this standard are designed to provide constant voltage or current at SELV or higher voltages. Deviations from the pure voltage and current types do not exclude the gear from this standard.

The annexes of IEC 61347-1 which are applicable according to this Part 2-13 and using the word "lamp" are understood to also comprise LED modules.

Particular requirements for SELV controlgear are given in Annex I.

Performance requirements are covered by IEC 62384.

Plug-in controlgear, being part of the luminaire, are covered as for built-in controlgear by the additional requirements of the luminaire standard.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

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

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

IEC 61558 (all parts), *Safety of power transformers, power supplies, reactors and similar products*

IEC 61558-2-6:2009, *Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V – Part 2-6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers*

IEC 61558-2-16:2009, *Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V – Part 2-16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units*

IEC 62384:2006, *DC or AC supplied electronic controlgear for LED modules – Performance requirements*