AS 61347.2.7:2026

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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 (ED. 3.2) MOD)



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This page explains the meaning of the language and structure of this Standard.

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Requirements

To conform to a Standard, all requirements in the Standard need to be met.

A requirement is any statement in the Standard which uses the word "shall".

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(c) "can" means that something is possible.

Structure of Standards

A Standard always has the following parts:

(i) The Preface states who developed the Standard, what the Standard is aiming to do, and how it relates to other documents.

(ii) The Scope states what the Standard is about, what it covers and what it does not cover.

(iii) The Normative references clause lists other documents that are referenced in the Standard as part of requirements.

(iv) The Terms and definitions clause defines important terms to help with understanding the Standard.

A Standard may also include other parts, such as the following:

(1) A normative appendix sets additional requirements that need to be conformed to.

(2) An informative appendix provides additional information or guidance. They usually do not contain requirements. If an informative appendix does contain requirements, the Standard will explain when those requirements apply.

(3) A Bibliography lists documents referenced in the Standard but not as part of requirements.

Many Standards include notes. Notes provide recommendations and/or guidance only. They never contain requirements.

This Standard is a modified adoption of an International Standard. It makes changes to the international text.

The changes to the international text are shown in boxes in the text. These boxes have the heading "National Variations".

To use this Standard in Australia/New Zealand, the changes in the national variation boxes need to be followed.

Preface

This Standard was prepared by the Australian members of Joint Standards Australia/Standards New Zealand Committee EL-041, Lighting, to supersede AS 61347.2.7:2019, *Lamp controlgear, Part 2.7: Particular requirements for battery supplied electronic controlgear for emergency lighting (self-contained) (IEC 61347-2-7:2017 (ED. 3.1) MOD)*.

AS 61347.2.7:2019 will remain current for 12 months after the date of publication of this document, and after this time it will be superseded by this document. Regulatory authorities that reference this document in regulation may apply these requirements at a different time. Users of this document should consult with these authorities to confirm their requirements.

The objective of this document is to specify minimum safety requirements for electric source for safety services (ESSS) supplied electronic controlgear for emergency lighting (self-contained), designed to be used with or incorporating electrical light sources on supply voltages not exceeding 250 V.

This document is an adoption with national modifications and has been reproduced from IEC 61347-2-7:2011 (ED. 3.2), *Lamp controlgear — Part 2-7: Particular requirements for electric source for safety services (ESSS) supplied electronic supplied electronic controlgear for emergency lighting (self-contained)*, which incorporates Amendment No. 1 (2017) and Amendment No. 2 (2021). The modifications are set out in national variations boxes which give instructions where the IEC text is to be modified for use in Australia. Due to IEC copyright policy it is not possible to directly modify the IEC content.

The modifications apply to the following:

(a) Clauses 1, 2, 4, 7.1, 15, 22, 22.1, 24 and 29.1.2.

(b) Bibliography.

For the purposes of the IECEE CB Scheme, these national variations will be published in the IECEE CB Bulletin.

This document is to be read in conjunction with AS/NZS 61347.1. This Part 2 supplements or modifies the corresponding clauses in AS/NZS 61347.1.

The essential safety requirements of AS/NZS 3820, Essential safety requirements for electrical equipment, which could be applicable to lighting products within the scope of AS 61347.2.7, are covered by AS 61347.2.7.

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

(i) In the source text “this part of IEC 61347” should read “this document”.

(ii) 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.

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The terms “normative” and “informative” are used in Standards 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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This consolidated version of the official IEC Standard and its amendments has been prepared for user convenience.

IEC 61347-2-7 edition 3.1 contains the third edition (2011-12) [documents 34C/995/FDIS and 34C/1002/RVD], its amendment 1 (2017-10) [documents 34C/1354/FDIS and 34C/1359/RVD] and its amendment 2 (2021-12) [documents 34C/1536/FDIS and 34C/1540/RVD].

This Final version does not show where the technical content is modified by amendments 1 and 2. A separate Redline version with all changes highlighted is available in this publication.

International Standard IEC 61347-2-7 has been prepared by subcommittee 34C: Auxiliaries for lamps, of IEC technical committee 34: Lamps and related equipment.

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This third edition constitutes a technical revision.

Significant changes introduced into this third edition include:

- modification of IEC 61347-2-7 to become a standard exclusively for d.c. battery supplied electronic controlgear for emergency lighting (self-contained). IEC 61347-2-3 Annex J is intended to cover centrally supplied emergency controlgear;
- update of Clause 22 – Recharging devices;
- modification of Clause 20 battery voltage characterisation to support EBLF measurement. This to simplify and increase reproducibility of testing;
- rationalisation of requirements between IEC 61347-2-7 and IEC 60598-2-22 requirements of IEC 60598-2-22 being transferred to IEC 61347-2-7.

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

This standard shall be used in conjunction with IEC 61347-1. This part 2 supplements or modifies the corresponding clauses in IEC 61347-1.

NOTE 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 of the IEC 61347 series, 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 amendments 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.

IMPORTANT **The 'colour inside' logo on the cover page of this publication 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.**

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INTRODUCTION

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 reference to each other.

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.

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INTRODUCTION to Amendment 1

EBLF is the ratio of the light output of a light source in emergency mode to the rated light output under normal conditions. EBLF is controlled by the output characteristics (current, voltage, power) of the controlgear with which the light source is operated.

For conventional lamps like fluorescent lamps, the EBLF is defined by the light output ratio of the lamp operated at 100 % and in emergency mode.

$$\text{EBLF} = \phi_{\text{emergency}}/\phi_{100}\ \%$$

For this measurement no special lamp is required, it is expected that all lamps of the same type show a very similar light output ratio independent of its manufacturer. The measurement is done at an ambient temperature of 25 °C. Due to the same dimensions and the identical cooling system (free air) the thermal conditions are identical for all lamps. The result is fully reproducible without any additional condition.

Special requirements for LED light sources

The light output of LED light sources depends also on the temperature at which they are operated. Typically the temperature is controlled by a heat sink on which it is mounted (e.g. luminaire surface).

This amendment describes a test method to evaluate the EBLF via an output factor (EOF_X) taking into account that the ratio of the forward current of the LED controlgear is directly proportional to the LED light output. Any non-linearity due to the increased efficacy at lower operation temperature leads to an increased tolerance of the light output in the emergency mode but always positive.

Controlgear, which operates the LED light source in normal operation as well as in emergency operation can be marked directly with the output factor. Controlgear, operating the LED module in emergency mode only needs to be marked with the output value, for example the forward current $I_{\text{emergency}}$.

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Introduction to Amendment 2

The following significant technical changes have been introduced in this Amendment 2:

a) clarification of rest mode and inhibiting mode requirements;

b) introduction of requirements for controlgear using lithium batteries;

c) introduction of requirements for controlgear using electric double-layer capacitors (EDLCs);

d) introduction of the term "electric source for safety services (ESSS)" to cover both batteries and EDLCs;

e) clarification of changeover operation requirements.

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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 (ED. 3.2) MOD)

1 Scope

NATIONAL VARIATION

In the Scope, *delete* the existing note and *add* the following:

NOTE The following annexes apply for a.c., a.c./d.c. or d.c. supplied electronic control gear for connection to centralized emergency power supply systems that are also intended for emergency lighting operations from a.c./d.c. supplies. Annex B of IEC 61347-2-3:2024 for controlgear for fluorescent light sources and Annex A of IEC 61347-2-13:2024 for controlgear for LED light sources.

This part of IEC 61347 specifies particular safety requirements for electric source for safety services (ESSS) supplied electronic controlgear for maintained and non-maintained emergency lighting purposes.

It includes specific requirements for electronic controlgear and control units for self-contained luminaires for emergency lighting as specified in IEC 60598–2–22.

It is intended for controlgear for fluorescent lamps and other lamp types for example incandescent lamps, high pressure discharge lamps and LEDs.

This document covers the emergency mode operation of a controlgear. For controlgear with a combination of normal and emergency lighting operation, the normal lighting operation aspects are covered by the appropriate Part 2 of the IEC 61347 series.

DC supplied electronic controlgear for emergency lighting can (or not) include the electric source for safety services (ESSS).

This document does not apply to d.c. supplied electronic controlgear for emergency lighting, which are intended for connection to a centralized emergency power supply system. A centralized emergency power system could be a central battery system.

NOTE Annex J of IEC 61347–2–3:2011/AMD1:2016 applies to a.c., a.c./d.c. or d.c. supplied electronic controlgear for connection to centralized emergency power supply systems that are also intended for emergency lighting operations from a.c./d.c. supplies.

2 Normative references

For the purpose of this part of IEC 61347, the normative references given in Clause 2 of IEC 61347-1, which are mentioned in this standard, apply, together with the following normative references.

NATIONAL VARIATIONS

1. In Clause 2, after first paragraph, *add* the following:

The Australian or Australian/New Zealand Standards listed below are modified adoptions of, or not equivalent to, IEC normative references and are required for the application of this document in Australian/New Zealand conditions. All references in the source text to those IEC normative

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