AS/NZS 61347.1:2016
(Incorporating Amendment No. 1)

Australian/New Zealand Standard™

Lamp controlgear

Part 1: General and safety requirements (IEC 61347-1:2015, MOD)

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-041, Lamps and Related Equipment. It was approved on behalf of the Council of Standards Australia on 19 November 2015 and on behalf of the Council of Standards New Zealand on 12 February 2016.
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(Incorporating Amendment No. 1)

Australian/New Zealand Standard™

Lamp controlgear

Part 1: General and safety requirements (IEC 61347-1:2015, MOD)

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-041, Lamps and Related Equipment to supersede AS/NZS 61347.1:2002, *Lamp controlgear*, Part 1: *General and safety requirements (IEC 61347-1:2000, MOD)* six months after publication. Until that time, both editions of the Standard will operate in parallel. It is anticipated that the 2002 edition will then be withdrawn. This revision relates to rated voltage requirements, flammability and reference document changes.

The Standard incorporates Amendment No. 1 (March 2018). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

The objective of this Standard is to specify general requirements for controlgear intended for use with luminaires, for operation on d.c. supplies up to 250 V and/or a.c. supplies up to 1 000 V at 50 Hz or 60 Hz. The requirements and related tests of this Standard cover: classification, marking, mechanical construction and electrical construction.

A1 This Standard is an adoption with national modifications as shown in Appendix ZZ and has been reproduced from IEC 61347-1, Ed.3.0 (2015), *Lamp controlgear*, Part 1: *General and safety requirements*, and has been varied as indicated to take account of Australian/New Zealand conditions.

Amendment 1 to this Standard adds requirements for lamp controlgear to address safety issues identified where lamp controlgear is used in close proximity to or under building thermal insulation.

These requirements take into account requirements from AS/NZS 60598.2.2, *Luminaires*, Part 2.2: *Particular requirements—Recessed luminaires (IEC 60598-2-2, Ed. 3.0 (2011) MOD)*, which apply to recessed luminaires when used in conjunction with building thermal insulation.

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

(a) Additional marking requirements.

(b) Additional requirements for creepage distances and clearances for—

  (i) working voltages with operating frequencies up to 30 kHz;

  (ii) working voltages with higher operating frequencies than 30 kHz;

  (iii) impulse and resonance voltages ignition;

  (iv) basic, supplementary and reinforced insulation;

  (v) insulation between circuits; and

  (vi) coated or potted controlgear.

(c) Modification of definition of ELV and FELV.

(d) Modification of schematic drawing, showing the different controlgear classification and insulation requirements.

(e) Scope extension.

(f) New Annex A—test to establish whether a conductive part is a live part which may cause an electric shock.

(g) New Annex M—creepage distances and clearances for controlgear where a higher degree of availability (impulse withstand category III) may be requested.

(h) New Annex Q—example for Up calculation.

(i) New Annex P—creepage distances and clearances and distance through isolation (DTI) for lamp controlgear which are protected against pollution by the use of coating or potting.

(j) New Annex R—concept of creepage distances and clearances.

A1 [**Text deleted**.]

This Standard is structured as follows:

(A) Preface.

(B) IEC 61347-1, Ed.3.0 (2015) unedited from the first clause to Bibliography.

(C) Appendix ZZ—(Australian/New Zealand) variations to the source document.

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

(1) Supply voltage.

(2) Capacitor ratings.

(3) Requirements for FELV connections.

(4) Resistance to flame and ignition.

In this Standard, the following print types are used:

– Requirements proper: in roman type.

– *Test specifications: in italic type.*

– Explanatory matter: in smaller roman type.

A1 Amendment 1 adds additional requirements and test procedures for lamp controlgear used in close proximity to or under building thermal insulation. These are shown in—

(a) Appendix ZZ; and

(b) Appendix ZA.

The variations listed in Appendix ZZ and Appendix ZA include the following:

(i) Classifications and definitions of independent lamp controlgear for use near, or being covered with, building elements or thermal insulation, or both.

(ii) Tests, including ingress protection tests and thermal tests for normal and abnormal operating conditions, and marking and instructional requirements for the different classifications, with standardized test box, temperature limits, and requirements for any thermal protection.

AS/NZS 61347.1:2016 in its unamended form will also remain current for 12 months. After this time it will be superseded by AS/NZS 61347.1:2016 incorporating Amendment 1. 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.

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

(aa) In the source text ‘this part of IEC 61347’ should read ‘this Australian/New Zealand Standard’.

(bb) A full point substitutes for a comma when referring to a decimal marker.

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References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard		*Australian/New Zealand Standard*	
IEC		AS/NZS	
60065	Audio, video and similar electronics apparatus—Safety requirements	60065	Audio, video and similar electronic apparatus—Safety requirements (IEC 60065, Ed.7.2 (2011) MOD)
		4782	Double-capped fluorescent lamps—Performance specifications
60081	Double capped fluorescent lamps—Performance specifications	4782.1	Part 1: General (IEC 60081:2000, MOD)
60598	Luminaires	60598	Luminaires
60598-1	Part 1: General requirements and tests	60598.1	Part 1: General requirements and tests (IEC 60598-1, Ed. 7.0 (2008) MOD)
60695	Fire hazard testing	60695	Fire hazard testing
60695-2-10	Part 2-10: Glowing/hot wire based test methods—Glow-wire apparatus and common test procedure	60695.2.10	Part 2.10: Glowing/hot wire based test methods—Glow-wire apparatus and common test procedure
60695-2-11	Part 2-11: Glowing/hot-wire based test methods—Glow-wire flammability test method for end-products (GWEPT)	60695.2.11	Part 2.11: Glowing/hot wire based test methods—Glow-wire flammability test method for end-products
60695-11-5	Part 11-5: Test flames—Needle-flame test method—Apparatus, confirmatory test arrangement and guidance	60695.11.5	Part 11.5: Test flames—Needle-flame test method—Apparatus, confirmatory test arrangement and guidance
IEC		AS/NZS	
60695-11-10	Part 11-10: Test flames—50 W horizontal and vertical flame test methods	60695.11.10	Part 11.10: Test flames—50 W horizontal and vertical flame test methods

Only normative references that have been adopted as Australian or Australian/New Zealand Standard have been listed.

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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INTRODUCTION

This part of IEC 61347 provides a set of general and safety requirements and tests which are considered to be generally applicable to most types of lamp controlgear and which can be called up as required by the different parts that make up IEC 61347-2. This Part 1 is thus not to be regarded as a specification in itself for any type of lamp controlgear, and its provisions apply only to particular types of lamp controlgear, to the extent determined by the appropriate Part 2 of IEC 61347.

The parts which make up IEC 61347-2, in referring to any of the clauses of this part, 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. The order in which the clauses of this part are numbered has no particular significance, as the order in which their provisions apply is determined for each type of lamp controlgear by the appropriate Part 2 of the IEC 61347-2 series. All such parts are self-contained and therefore do not contain references to each other.

Where the requirements of any of the clauses of this part of IEC 61347 are referred to in the various parts that make up IEC 61347-2 by the phrase "The requirements of clause n of IEC 61347-1 apply", this phrase will be interpreted as meaning that all requirements of the clause in question of Part 1 apply, except any which are clearly inapplicable to the particular type of lamp controlgear covered by the Part 2 concerned.

Lamp controlgear which complies with the text of this standard will not necessarily be judged to comply with the safety principles of the standard if, when examined and tested, it is found to have other features which impair the level of safety covered by these requirements.

Lamp controlgear employing materials or having forms of construction differing from those detailed in the requirements of this standard may be examined and tested according to the intent of the requirement and, if found to be substantially equivalent, may be judged to comply with the safety principles of the standard.

Performance requirements for lamp controlgear are the subject of IEC 60921, IEC 60923, IEC 60925, IEC 60927, IEC 60929, IEC 61047 and IEC 62384 as appropriate for the type of lamp controlgear.

Safety requirements ensure that electrical equipment constructed in accordance with these requirements does not endanger the safety of persons, domestic animals or property when properly installed and maintained and used in applications for which it was intended.

Requirements for electronic lamp controlgear for other types of lamps will be the subject of a separate standard, as the need arises.

Controlgear can consist of a printed circuit board and may incorporate the following:

– controlgear;
– lampholder(s);
– switch(es);
– supply terminals.

The lamp controlgear should comply with this standard.

The lampholders(s), switch(es) and supply terminals should comply with their own standards.

AUSTRALIAN/NEW ZEALAND STANDARD

Lamp controlgear

Part 1:
General and safety requirements (IEC 61347-1:2015, MOD)

1 Scope

This part of IEC 61347 specifies general and safety requirements for lamp controlgear for use on d.c. supplies up to 250 V and/or a.c. supplies up to 1 000 V at 50 Hz or 60 Hz.

This standard also covers lamp controlgear for lamps which are not yet standardized.

Tests dealt with in this standard are type tests. Requirements for testing individual lamp controlgear during production are not included.

Requirements for semi-luminaires are given in IEC 60598-1:2014 (see definition 1.2.60).

Particular requirements for controlgears providing safety extra low voltage (from now on SELV) are given in Annex L.

It can be expected that lamp control gear which comply with this standard will not compromise safety between 90 % and 110 % of their rated supply voltage in independent use and when operated in luminaires complying with the safety standard IEC 60598-1 and the relevant part IEC 60598-2-xx and with lamps complying with the relevant lamp standards. Performance requirements may require tighter limits.

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 60065:2001[1], *Audio, video and similar electronic apparatus – Safety requirements*

IEC 60068-2-14:2009, *Environmental testing – Part 2-14: Tests – Test N: Change of temperature*

IEC 60081, *Double-capped fluorescent lamps – Performance specifications*

IEC 60085:2007, *Electrical insulation – Thermal classification and designation*

IEC 60112:2003, *Method for the determination of the proof and the comparative tracking indices of solid insulating materials*
IEC 60112:2003/AMD1:2009

IEC 60216 (all parts), *Electrical insulating materials – Thermal endurance properties*

IEC 60317-0-1:2013, *Specifications for particular types of windings wires – Part 0-1: General requirements – Enamelled round copper wire*

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1 Seventh edition. This edition has been replaced in 2014 by IEC 60065:2014.