AS/NZS 61347.2.5:2002
IEC 61347-2-5:2000

Australian/New Zealand Standard™

Lamp controlgear

Part 2.5: Particular requirements for d.c. supplied electronic ballasts for public transport

Standards Australia

STANDARDS NEW ZEALAND
Paerewa Aotearoa

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 10 September 2002 and on behalf of the Council of Standards New Zealand on 3 September 2002. It was published on 7 November 2002.

The following are represented on Committee EL-041:

Association of Consulting Engineers, Australia
Australian Chamber of Commerce and Industry
Australian Electrical and Electronic Manufacturers Association
Electrical Compliance Testing Association of Australia
Electrical Regulatory Authorities Council (Australia)
Energy Efficiency and Conservation Authority of New Zealand
Illuminating Engineering Society of Australia and New Zealand
International accreditation of NZ (IANZ)
Ministry of Economic Development, New Zealand

Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about joint Australian/New Zealand Standards can be found by visiting the Standards Australia web site at www.standards.com.au or Standards New Zealand web site at www.standards.co.nz and looking up the relevant Standard in the on-line catalogue.

Alternatively, both organizations publish an annual printed Catalogue with full details of all current Standards. For more frequent listings or notification of revisions, amendments and withdrawals, Standards Australia and Standards New Zealand offer a number of update options. For information about these services, users should contact their respective national Standards organization.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia International or Standards New Zealand at the address shown on the back cover.

This Standard was issued in draft form for comment as DR 01352.

Australian/New Zealand Standard™

Lamp controlgear

Part 2.5: Particular requirements for d.c. supplied electronic ballasts for public transport

First published as AS/NZS 61347.2.5:2002.

Jointly published by Standards Australia International Ltd, GPO Box 5420, Sydney, NSW 2001 and Standards New Zealand, Private Bag 2439, Wellington 6020

ISBN 0 7337 4863 5

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-041, Lamps and related equipment.

The objective of this Standard is to provide the lighting industry with particular electrical safety requirements for road and railway vehicles, tram cars and craft used for public transport.

This Standard is identical with and has been reproduced from IEC 61347-2-5:2000, *Lamp controlgear—Part* 2.5: *Particular requirements for d.c. supplied electronic ballasts for public transport*.

This Standard is a section of Part 2 of a series dealing with Lamp controlgear. Currently this series consists of the following Parts; additional Parts will be added from time to time:

AS/NZS	
61347	Lamp controlgear
61347.1	Part 1: General and safety requirements
61347.2.1	Part 2.1: Particular requirements for starting devices (other than glow starters)
61347.2.4	Part 2.4: Particular requirements for d.c supplied electronic ballasts for general lighting
61347.2.5	Part 2.5: Particular requirements for d.c. supplied electronic ballasts for public transport lighting (this Standard)
61347.2.6	Part 2.6: Particular requirements for d.c. supplied electronic ballasts for aircraft lighting

Each Standard in Part 2 is intended to be used in conjunction with Part 1 in order to provide a complete Standard for that specific type of Lamp controlgear.

It is to be noted that AS/NZS 61347.1, to which this Standard refers for some of its requirements, differs in some respects from IEC 61347-1.

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

(a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.

(b) A full point should be substituted for a comma when referring to a decimal marker.

In this Standard, the following print types are used:

– requirements proper: in arial type;

– *test specifications: in italic type;*

– explanatory matter: in smaller arial type.

The term ‘normative’ has been used in this Standard to define the application of the annex to which it applies. A ‘normative’ annex is an integral part of a Standard.

CONTENTS

Page

Introduction iv
1 Scope 1
2 Normative references 1
3 Definitions 1
4 General requirements 1
5 General notes on tests 1
6 Classification 1
7 Marking 2
7.1 Mandatory marking 2
7.2 Information to be provided, if applicable 2
8 Protection against accidental contact with live parts 2
9 Terminals 2
10 Provisions for earthing 2
11 Moisture resistance and insulation 2
12 Electric strength 2
13 Thermal endurance test for windings 2
14 Pulse voltages 2
15 Abnormal conditions 3
16 Fault conditions 4
17 Construction 4
18 Creepage distances and clearances 4
19 Screws, current-carrying parts and connections 4
20 Resistance to heat, fire and tracking 5
21 Resistance to corrosion 5
Annex A (normative) Test to establish whether a conductive part is a live part which may cause an electric shock 8
Annex B (normative) Particular requirements for thermally protected lamp controlgear 8
Annex C (normative) Particular requirements for electronic lamp controlgear with means of protection against overheating 8
Annex D (normative) Requirements for carrying out the heating tests of thermally protected lamp controlgear 8
Annex E (normative) Use of constant *S* other than 4 500 in t_w tests 8
Annex F (normative) Draught-proof enclosure 9
Annex G (normative) Explanation of the derivation of the values of pulse voltages 9
Annex H (normative) Tests 9
Table 1 – Long-duration pulse voltages 3
Table 2 – Short-duration pulse voltage (10 μs or less) 3
Figure 1 – Suitable circuit for producing and applying long-duration pulses 6
Figure 2 – Circuit for testing rectifying effect 7

INTRODUCTION

This first edition of ~~IEC 61347-2-5~~ AS/NZS 61347.2.5, published in conjunction with ~~IEC 61347-1~~ AS/NZS 61347.1, represents an editorial review of section four of IEC 60924. 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~~ AS/NZS 61347.2 in referring to any of the clauses of ~~IEC 61347-1~~ AS/NZS 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~~ AS/NZS 61347.2 are self-contained and, therefore, do not include references to each other.

Where the requirements of any of the clauses of ~~IEC 61347-1~~ AS/NZS 61347.1 are referred to in this standard by the phrase "The requirements of clause n of ~~IEC 61347-1~~ AS/NZS 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~~ AS/NZS 61347.2.

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

_____

Australian/New Zealand Standard

Lamp controlgear
Part 2.5: Particular requirements for d.c. supplied electronic ballasts for public transport

_____

1 Scope

This part of ~~IEC 61347~~ AS/NZS 61347 specifies particular safety requirements for d.c. supplied electronic ballasts intended for operation from power sources likely to have attendant transients and surges, for example, for road and railway vehicles, tramcars, and craft used for public transport.

Performance requirements are the subject of IEC 60925.

2 Normative references

For the purpose of this part of ~~IEC 61347~~ AS/NZS 61347, the normative references given in clause 2 of ~~IEC 61347-1~~ AS/NZS 61347.1 which are mentioned in this standard apply, together with the following normative references.

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

AS/NZS 61347.1, *Lamp controlgear* – Part 1: *General and safety requirements*

IEC 60925*, D.C. supplied electronic ballasts for tubular fluorescent lamps – Performance requirements*

3 Definitions

For the purpose of this part of ~~IEC 61347~~ AS/NZS 61347, the definitions of clause 3 of ~~IEC 61347-1~~ AS/NZS 61347.1 apply.

4 General requirements

The requirements of clause 4 of ~~IEC 61347-1~~ AS/NZS 61347.1 apply.

5 General notes on tests

The requirements of clause 5 of ~~IEC 61347-1~~ AS/NZS 61347.1 apply.

6 Classification

The requirements of clause 6 of ~~IEC 61347-1~~ AS/NZS 61347.1 are not applicable.