AS/NZS 60929:2020

Australian/New Zealand Standard™

AC and/or DC-supplied electronic control gear for tubular fluorescent lamps — Performance requirements (IEC 60929:2011+AMD1:2015 CSV (ED.4.1) MOD)

STANDARDS Australia

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AS/NZS 60929:2020

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 20 February 2020 and by the New Zealand Standards Approval Board on 5 February 2020.

This Standard was published on 6 March 2020.

The following are represented on Committee EL-041:

Australian Industry Group
Consumer Electronics Suppliers Association
Consumers Federation of Australia
Department of the Environment and Energy (Australian Government)
Electrical Compliance Testing Association of Australia
Electrical Regulatory Authorities Council
Energy Efficiency and Conservation Authority of New Zealand
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Joint Accreditation System of Australia and New Zealand
Joint Accreditation System of Australia and New Zealand, New Zealand
Lighting Council Australia
Lighting Council New Zealand
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This Standard was issued in draft form for comment as DR AS/NZS 60929:2019.

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ISBN 978 1 76072 744 4

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AC and/or DC-supplied electronic control gear for tubular fluorescent lamps — Performance requirements (IEC 60929:2011+AMD1:2015 CSV (ED.4.1) MOD)

Originated as AS/NZS 60929:2000.
Previous edition 2005.
Third edition 2020.

Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-041, Lamps and Related Equipment, to supersede AS/NZS 60929:2005, *A.C. supplied electronic ballasts for tubular fluorescent lamps—Performance requirements*.

The objective of this Standard is to specify performance requirements for electronic control gear for use on a.c. at 50 Hz or 60 Hz and/or d.c. supplies, both up to 1 000 V, with operating frequencies deviating from the supply frequency, associated with fluorescent lamps as specified in AS/NZS 4782.1 and AS/NZS 60901, and other fluorescent lamps for high-frequency operation.

The essential change with respect to the previous edition is the extension to DC supplied control gear and the deletion of the requirements for digital signal control of electronic control gear.

This Standard is an adoption with national modifications, and has been reproduced from, IEC 60929:2011+AMD1:2015 CSV, *AC and/or DC-supplied electronic control gear for tubular fluorescent lamps — Performance requirements*. The modifications are additional requirements and are set out in Appendix ZZ, which has been added at the end of the source text.

Appendix ZZ lists the variations to IEC 60929:2011+AMD1:2015 CSV for the application of this Standard in Australia and New Zealand.

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AC and/or DC-SUPPLIED ELECTRONIC CONTROL GEAR FOR TUBULAR FLUORESCENT LAMPS – PERFORMANCE REQUIREMENTS

FOREWORD

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This Consolidated version of IEC 60929 bears the edition number 4.1. It consists of the fourth edition (2011-05) [documents 34C/963/FDIS and 34C/976/RVD] and its amendment 1 (2015-10) [documents 34C/1114/CDV and 34C/1157/RVC]. 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 amendments 1. A separate Redline version with all changes highlighted is available in this publication.

International Standard IEC 60929 has been prepared by subcommittee 34C: Auxiliaries for lamps, of IEC technical committee 34: Lamps and related equipment.

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

NOTE 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.

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.

The contents of the corrigendum of September 2011 have been included in this copy.

INTRODUCTION

This International Standard covers performance requirements for electronic control gear for use on a.c., at 50 Hz or 60 Hz, and/or d.c. supplies up to 1 000 V with operating frequencies deviating from the supply frequency, associated with tubular fluorescent lamps as specified in IEC 60081 and IEC 60901, and other tubular fluorescent lamps for high frequency operation, still to be standardised.

These control gear are intended to operate lamps at various frequencies including high frequencies and at various lamp powers. Attention is drawn to the fact that operating frequencies below 20 kHz may cause audio noise disturbance, whereas frequencies above 50 kHz may increase radio interference problems.

Some lamps may be specifically designed for high-frequency operation on high-frequency control gear. Two starting modes, preheat and non-preheat, are described.

NOTE Lamps, only specified for preheat starting may be operated on other types of circuits. The control gear manufacturer should provide test data which shows satisfactory starting and operation similar as the ones stated in Clause 6.

In order to obtain satisfactory performance of fluorescent lamps and electronic control gears, it is necessary that certain features of their design be properly coordinated. It is essential, therefore, that specifications for them be written in terms of measurement made against some common baseline of reference, permanent and reproducible.

These conditions may be fulfilled by reference ballasts. Moreover, the testing of control gear for fluorescent lamps will, in general, be made with reference lamps and, in particular, by comparing results obtained on such lamps with control gear to be tested and with reference ballast.

Whereas the reference ballast for frequencies of 50 Hz or 60 Hz is a self-inductive coil, the high-frequency reference ballast is a resistor because of its independence of frequency and the lack of influence of parasitic capacitance.

AC and/or DC-SUPPLIED ELECTRONIC CONTROL GEAR FOR TUBULAR FLUORESCENT LAMPS – PERFORMANCE REQUIREMENTS

1 Scope

This international Standard specifies performance requirements for electronic control gear for use on a.c. at 50 Hz or 60 Hz and/or d.c. supplies, both up to 1 000 V, with operating frequencies deviating from the supply frequency, associated with fluorescent lamps as specified in IEC 60081 and IEC 60901, and other fluorescent lamps for high-frequency operation.

NOTE 1 Tests in this standard are type tests. Requirements for testing individual control gear during production are not included.

NOTE 2 There are regional standards regarding the regulation of mains current harmonics and immunity for end-products like luminaires and independent control gear. In a luminaire, the control gear is dominant in this respect. Control gear, together with other components, should comply with these standards.

NOTE 3 Requirements for the digital addressable lighting interface of electronic control gear are given in IEC 62386.

2 Normative references

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

IEC 60081:1997, *Double-capped fluorescent lamps – Performance specifications*
Amendment 1(2000)
Amendment 2 (2003)
Amendment 3 (2005)
Amendment 4 (2010)

IEC 60901:1996, *Single-capped fluorescent lamps – Performance specifications*
Amendment 1(1997)
Amendment 2 (2000)
Amendment 3 (2004)
Amendment 4 (2007)

IEC 61347-1:2007, *Lamp controlgear – Part 1: General and safety requirements*
Amendment 1(2010)[1]

IEC 61347-2-3:2000, *Lamp controlgear – Part 2-3: Particular requirements for a.c. supplied electronic ballasts for fluorescent lamps*
Amendment 1(2004)
Amendment 2 (2006)

IEC 62386 (all parts), *Digital addressable lighting*

IEC TR 62750:2012, *Unified fluorescent lamp dimming standard calculations*

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1 There exists a consolidated edition 2.1 (2010) that comprises IEC 61347-1:2007 and its Amendment 1 (2010).