SLOVENSKI STANDARD
SIST EN 60929:2011

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Izmenično napajane elektronske predstikalne naprave za cevaste fluorescenčne svetilke - Tehnične zahteve

AC and/or DC-supplied electronic control gear for tubular fluorescent lamps - Performance requirements

Wechsel- und/oder gleichstromversorgte elektronische Betriebsgeräte für röhrenförmige Leuchtstofflampen - Anforderungen an die Arbeitsweise

Appareillages électroniques alimentés en courant alternatif et/ou continu pour lampes tubulaires à fluorescence - Exigences de performances

Ta slovenski standard je istoveten z: **EN 60929:2011**

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Supersedes EN 60929:2006 + corr. Dec.2006

English version

AC and/or DC-supplied electronic control gear for tubular fluorescent lamps - Performance requirements

(IEC 60929:2011)

Appareillages électroniques alimentés en courant alternatif et/ou continu pour lampes tubulaires à fluorescence - Exigences de performances
(CEI 60929:2011)

Wechsel- und/oder gleichstromversorgte elektronische Betriebsgeräte für röhrenförmige Leuchtstofflampen - Anforderungen an die Arbeitsweise
(IEC 60929:2011)

This European Standard was approved by CENELEC on 2011-06-23. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Management Centre: Avenue Marnix 17, B - 1000 Brussels

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Foreword

The text of document 34C/963/FDIS, future edition 4 of IEC 60929, prepared by SC 34C, Auxiliaries for lamps, of IEC TC 34, Lamps and related equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60929 on 2011-06-23.

This European Standard supersedes EN 60929:2006 + corr. Dec.2006.

The essential change with respect to EN 60929:2006 + corr. Dec.2006 is the extension to DC supplied control gear and the deletion of the requirements for digital signal control of electronic control gear.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

The following dates were fixed:

– latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2012-03-23
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2014-06-23

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.

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60929:2011 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 61000-3-2	NOTE	Harmonized as EN 61000-3-2.
IEC 61000-4-30	NOTE	Harmonized as EN 61000-4-30.
IEC 61547	NOTE	Harmonized as EN 61547

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 60081	1997	Double-capped fluorescent lamps -	EN 60081	1998
+ A1 (mod)	2000	Performance specifications	+ A1	2002
+ A2	2003		+ A2	2003
+ A3	2005		+ A3	2005
+ A4	2010		+ A4	2010
IEC 60901	1996	Single-capped fluorescent lamps -	EN 60901	1996
+ A1	1997	Performance specifications	+ A1	1997
+ A2	2000		+ corr. October	1997
+ A3	2004		+ A2	2000
+ A4	2007		+ A3	2004
			+ A4	2008
IEC 61347-1 (mod)	2007	Lamp controlgear - Part 1: General and safety requirements	EN 61347-1	2008
IEC 61347-2-3	2000	Lamp controlgear -	EN 61347-2-3	2001
+ A1	2004	Part 2-3: Particular requirements for a.c.	+ corr. July	2003
+ A2	2006	supplied electronic ballasts for fluorescent	+ corr. December	2010
		lamps	+ A1	2004
			+ A2	2006
IEC 62386	Series	Digital addressable lighting interface	EN 62386	Series

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AC and/or DC-supplied electronic control gear for tubular fluorescent lamps – Performance requirements

Appareillages électroniques alimentés en courant alternatif et/ou continu pour lampes tubulaires à fluorescence – Exigences de performances

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

FOREWORD

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

This fourth edition cancels and replaces the third edition published in 2006, IEC 60925 published in 1989, its Amendment 1 (1996) and its Amendment 2 (2001). This fourth edition constitutes a technical revision. The essential change with respect to the third edition is the extension to DC supplied control gear and the deletion of the requirements for digital signal control of electronic control gear.

The text of this standard is based on the following documents:

FDIS	Report on voting
34C/963/FDIS	34C/976/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

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 this publication 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 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 co-ordinated. 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.

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*

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