NEGARA BRUNEI DARUSSALAM

BRUNEI DARUSSALAM STANDARD
PIAWAI BRUNEI DARUSSALAM

PBD IEC 60929:2008
IEC 60929:2008
Edition 3.0

AC-SUPPLIED ELECTRONICS BALLASTS FOR TUBULAR FLURORESCENT LAMPS - PERFORMANCE SPECIFIATIONS

ENERGY DIVISION, PRIME MINISTER'S OFFICE
IN COLLABORATION WITH MINISTRY OF DEVELOPMENT
NEGARA BRUNEI DARUSSALAM

FOREWORD

This Brunei Darussalam Electrical Standard was prepared by the Technical Committee on Electrical Standards [TECO (Electrical)], Energy Division at Prime Minister's Office in collaboration with the authority of the standards committee, Construction Planning and Research Unit (CPRU), Ministry of Development, Brunei Darussalam with the objective of developing the National Electrical Standards for electrical products, systems, equipment and facilities for the local industries and consumers with reference to international standards, guidelines and procedures. In developing the national electrical standards, the aim is to promote quality, technical integrity, health, safety and environmental standards for the local industries and consumers.

This Brunei Darussalam Electrical Standard is an adoption of the International Electro technical Commission IEC 60929:2008 (Edition 3.0) standard and implements it as the Brunei Darussalam National Standard.

Attention is drawn to the fact that this Brunei Darussalam Electrical Standard does not confer any immunity from legal obligations in any contract for compliance to the Standard.

The National Electrical Standards are subject to periodical review according to the current needs of the local industries and consumers to keep abreast of progress in the industries and consumers concerned. Suggestions of amendments will be recorded and in due course brought to the notice of the committees concerned.

COMMITTEE MEMBERS

The Technical Committee on Electrical Standards [TECO (Electrical)] was tasked by the Energy Division at the Prime Minister's Office in collaboration with Construction Planning and Research Unit (CPRU), Ministry of Development, Brunei Darussalam for the preparation of this Brunei Darussalam Electrical Standard. The members of the Technical Committee are as follows:

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CEI
IEC
60929

INTERNATIONAL STANDARD

Third edition
2006-01

AC-supplied electronic ballasts for tubular fluorescent lamps – Performance requirements

Reference number
CEI/IEC 60929:2006

PBD IEC 60929:2008 (Published by IEC in 2006)
This IEC International Standard has been adopted by CPRU, Ministry of Development, Negara Brunei Darussalam as a national standard under the IEC Affiliate Country Programme

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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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 third edition cancels and replaces the second edition published in 2003 and constitutes a technical revision. The essential change with respect to the second edition is the introduction of the principle of preheat energy. The main impact of this is on clause 7 and annex D.

In this edition, references to IEC 60928 have been replaced by references to IEC 61347-2-3 which, in conjunction with IEC 61347-1, replaces IEC 60928.

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

FDIS	Report on voting
34C/700/FDIS	34C/711/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.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result 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.

PBD IEC 60929:2008 (Published by IEC in 2006)

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INTRODUCTION

This International Standard covers performance requirements for electronic ballasts for use on a.c. supplies up to 1 000 V at 50 Hz or 60 Hz 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 ballasts 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 ballasts. 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 ballast 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 ballasts, 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 ballasts for fluorescent lamps will, in general, be made with reference lamps and, in particular, by comparing results obtained on such lamps with ballasts to be tested and with a 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.

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AC-SUPPLIED ELECTRONIC BALLASTS FOR TUBULAR FLUORESCENT LAMPS – PERFORMANCE REQUIREMENTS

1 Scope

This International Standard specifies performance requirements for electronic ballasts for use on a.c. supplies up to 1 000 V at 50 Hz or 60 Hz 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.

NOTE 1 Tests in this standard are type tests. Requirements for testing individual ballasts 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 controlgear. In a luminaire, the controlgear is dominant in this respect. Controlgear, 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, *Double-capped fluorescent lamps – Performance specifications*

IEC 60669-2-1, *Switches for household and similar fixed electrical installations – Part 2-1: Particular requirements – Electronic switches*

IEC 60901, *Single-capped fluorescent lamps – Performance specifications*

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

IEC 61347-2-3, *Lamp controlgear – Part 2-3: Particular requirements for a.c. supplied electronic ballasts for fluorescent lamps*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply:

3.1
starting aid
a conductive strip affixed to the outer surface of a lamp, or a conductive plate which is spaced within an appropriate distance from the lamp. A starting aid is usually connected to earth potential, and can only be effective when it has an adequate potential difference from one end of the lamp

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