Not equivalent to IEC 928:1990

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Interim Australian Standard®

Approval and test specification—a.c. supplied electronic ballasts for tubular fluorescent lamps

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STANDARDS AUSTRALIA

This Australian Standard was prepared by Committee LG/3, Auxiliaries for Discharge Lamps. It was approved on behalf of the Council of Standards Australia on 28 June 1991 and published on 16 September 1991.

The following interests are represented on Committee LG/3:

Association of Consulting Engineers Australia
Australian Electrical and Electronic Manufacturers Association
Confederation of Australian Industry
Electrical regulatory authorities
Electricity Supply Association of Australia
Illuminating Engineering Societies of Australia
Ministry of Housing and Construction, Vic.
Public Works Department, N.S.W.
Railways of Australia Committee

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PREFACE

This Interim Standard was prepared by the Standards Australia Committee on Auxiliaries for Discharge Lamps following requests from industry and regulatory authorities. It is intended to establish safety requirements for a.c. supplied electronic ballasts for tubular fluorescent lamps.

This Interim Standard is technically equivalent to IEC 928, *A.C. supplied electronic ballasts for tubular fluorescent lamps—General and safety requirements*; however some of the requirements have been modified to take account of local conditions.

The harmonic requirements detailed in this Interim Standard are based on IEC document 77A(Secretariat)60, which is the latest draft for the revision of IEC Publication 555-2—*Disturbances in supply systems caused by household appliances and similar equipment*, Part 2: *Harmonics*.

Standards Australia invites comment on this Interim Standard from persons and organizations concerned with this subject. The date of expiry for comment is two years after publication, at which time this Interim Australian Standard will be endorsed as a normal Australian Standard, revised in the light of comment received, or withdrawn.

During the life of this Interim Standard, the Committee will monitor both local and international developments and provide input during the revision of IEC 555-2, as well as monitoring all comment received.

Attention is drawn to the fact that this document is an Interim Australian Standard and should be regarded as a developmental Standard and liable to future alteration.

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a.c. supplied electronic ballasts for tubular fluorescent lamps

This Specification shall be read in conjunction with AS 3100 (see also Clause 4 below).

1 SCOPE This Specification prescribes safety requirements for electronic ballasts designed for use on a.c. supplies up to 1000 V at 50 Hz, associated with tubular fluorescent lamps having rated wattages, dimensions and characteristics as specified in either AS 1201, IEC 901, or by the ballast manufacturer and operated with or without a starter switch.

This specification does not apply to the following:

(a) Ballasts of the reactive type, requirements for which are specified in AS 3168.

(b) Ballasts designed for use with cold-cathode fluorescent lamps, requirements for which are specified in AS 3143.

(c) Ballasts of the integral type which form a non-replaceable part of a lamp and which cannot be tested separately.

(d) Capacitors which are incorporated in starters.

(e) Ballasts of the resistive type.

NOTE: It is emphasized that only safety matters and closely allied conditions are specified herein. Attention is drawn to AS 3963 which contains requirements intended to ensure the satisfactory performance of electronic ballasts in fluorescent lamp circuits.

2 REFERENCED DOCUMENTS The following documents are referred to in this Specification:

STANDARDS

AS
1044 Electromagnetic interference—Household electrical appliances, portable tools and similar electric equipment—Limits and methods of measurement (IEC/CISPR 14)

1201 Tubular fluorescent lamps for general lighting service

1931 High voltage testing techniques
1931.1 Part 1: General definitions, test requirements, test procedures and measuring devices

2420 Fire test methods for solid insulating materials and non-metallic enclosures used in electrical equipment

3963 a.c. supplied electronic ballasts for tubular fluorescent lamps—Performance requirements

2644 Capacitors for use in discharge lamp circuits

APPROVAL AND TEST SPECIFICATIONS

AS
3100 General requirements for electrical equipment

3143 Approval and test specifications for transformers for cold-cathode electric discharge lamps and lighting systems

3145 Approval and test specifications for radio interference suppression devices

3168 Fluorescent lamp ballasts

3191 Approval and test specifications for electric flexible cords

IEC
249 Base materials for printed circuits
249-2 Part 2: Specifications

901 Single-capped fluorescent lamps—Safety and performance requirements

3 DEFINITIONS For the purpose of this Specification, the definitions below apply.

3.1 Ballast—unit connected between the supply and one or more fluorescent lamps, which serves mainly to control the lamp current to the required value. The unit may consist of one or more separate components.

It may also include means for transforming from the supply voltage and arrangements which help to provide starting voltage and preheating current, prevent cold starting, reduce stroboscopic effects, correct the power factor, or suppress radio interference.