AS/NZS 60921:2002
IEC 60921:1988
IEC 60921:1988/Amd 1:1990
IEC 60921:1988/Amd 2:1994
Reconfirmed 2019

Australian/New Zealand Standard™

Ballasts for tubular fluorescent lamps—Performance requirements

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 2 October 2001 and on behalf of the Council of Standards New Zealand on 12 October 2001. It was published on 2 May 2002.

The following interests are represented on Committee EL–041:

Australian Chamber of Commerce and Industry
Australian Electrical and Electronic Manufacturers Association
Electrical Compliance Testing Association of Australia
Energy Efficiency and Conservation Authority of New Zealand
Illuminating Engineering Society of Australia and New Zealand
Ministry of Economic Development, New Zealand
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This Standard was issued in draft form for comment as DR 01180.

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

RECONFIRMATION

OF
AS/NZS 60921:2002
Ballasts for tubular fluorescent lamps—Performance requirements

RECONFIRMATION NOTICE

Technical Committee EL-041 has reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

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Approved for reconfirmation in accordance with Standards Australia procedures for reconfirmation on 19 October 2018.

Approved for reconfirmation in New Zealand on behalf of the New Zealand Standards Approval Board on 8 March 2019.

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NOTES

Australian/New Zealand Standard™

Ballasts for tubular fluorescent lamps—Performance requirements

Originated as AS 2643—1991.
Jointly revised and redesignated as AS/NZS 60921:2002.

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 4168 1

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL–041, Lamps and Related Equipment to supersede AS 2643—1991, *Fluorescent lamp ballasts of reactive type—Performance requirements.* In Australia this Standard will co-exist with AS 2643—1991 until 30 June 2003, on which date AS 2643 will be withdrawn.

The objective of this Standard is to provide manufacturers, consumers and regulators with performance requirements for ballasts for tubular fluorescent lamps. This Standard is to be read in conjunction with IEC 61347-2-8 which specifies the general and safety requirements with which all ballasts covered by this Standard shall comply.

This Standard is reproduced from IEC 60921:1988, *Ballasts for tubular fluorescent lamps* and includes IEC Amendment 1:1990 and Amendment 2:1994. These amendments are identified by numbered marginal bars on the right hand side of the affected clause, text or table.

Variations to IEC 60921:1988 and its amendments are indicated at the appropriate places throughout this Standard. Strikethrough (~~example~~) identifies IEC tables, figures and passages of text which, for the purposes of this Australian/New Zealand Standard, are deleted. Where Australian/New Zealand tables, figures or passages of text are added, each is set in its proper place and identified by shading (example). Added figures are not themselves shaded, but are identified by a shaded border.

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) In the source text ‘this standard’ should read ‘this Australian/New Zealand Standard’.

(c) 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

INTRODUCTION

This Standard covers performance requirements for ballasts for tubular fluorescent lamps. It should be read in conjunction with ~~IEC Publication 60920~~ IEC 61347-2-8, with which all ballasts covered by the present standard should comply.

Unless otherwise stated on the lamp data sheet mentioned in IEC Publication 60081 and 60901, it may be expected that ballasts which comply with this standard, when associated with lamps complying with IEC Publication 60081 or 60901, and, where appropriate, operated with a starter complying with ~~IEC Publication 60155~~ AS/NZS 60155 or starting devices complying with IEC Publication 60927,will ensure satisfactory starting of the lamps at an air temperature immediately around the lamps between 10°C and 35°C and for voltages between 92% and 106% of rated supply voltage, and also proper operation between 10°C and 50°C at rated supply voltage. IEC 1

The compatibility of lamps and ballasts is evaluated with the use of special inductive ballasts called “referenced ballasts” having particular characteristics which are stable and reproducible. These ballasts are used when testing of ballasts presents particular difficulties which require a proper definition of testing methods. Such tests will generally be made with reference lamps and, in particular, by comparing the results obtained when such lamps are operated on a reference ballast with the results obtained when the same lamps are operated on the ballast being tested.

NOTE - Requirements are also included for all those features of reference ballast construction and performance which are necessary to ensure accurate and reproducible results when testing ballasts, particularly with regard to the selection of reference lamps

For checking the lamp power and current of lamps operated without starter, this standard specifies a measurement in a reference ballast circuit that makes no provision for separate power sources to heat the cathodes during lamp operation. Although the influence on the ballast specification is small, it has nevertheless been deemed useful for some pre-heated low-voltage cathode lamps, operated without a starter, to include provision for two alternative methods of measurement of lamp power and current:

(a) measurement of lamp power and current without additional cathode heating;

(b) measurement of lamp power and current with additional cathode heating.

The test method to be adopted for appraisal should be stated by the manufacturer.

Two alternative circuits are specified for the measurement of impedance at audio-frequencies. The less complex circuit could be used when there is no doubt about the inductive character of the impedance. If there is any doubt, the other circuit shall be used.

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Australian/New Zealand Standard

Ballasts for tubular fluorescent lamps—Performance requirements

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1 General

1.1 Scope

This standard specifies performance requirements for ballasts excluding resistance types for use on a.c. supplies up to 1000 v at 50 Hz or 60 Hz, associated with tubular fluorescent lamps with pre-heated cathodes operated with or without a starter or starting device and having rated wattages, dimensions and characteristics as specified in IEC Publications 60081 and 60901. It applies to complete ballasts and their component parts such as resistors, transformer and capacitors.

This standard should be read in conjunction with ~~IEC Publication 60920~~ IEC 61347-2-8. This Standard excludes A.C. supplied electronic ballasts for tubular fluorescent lamps for high frequency operation specified in ~~IEC Publication 60928~~ AS/NZS 60928.

1.2 Normative references

The following Publications are quoted in this Standard:

Publication Nos.:

AS/NZS	60155	(1983):	Starters for tubular fluorescent lamps	
AS/NZS	60928	(2000)	A.C. supplied electronic ballasts for tubular fluorescent lamps — General and safety equipment	
IEC	60081	(1984):	Tubular fluorescent lamps for general lighting services	
IEC	60410	(1973):	Sampling plans and procedures for inspection by attributes	
IEC	61000-3-2	(2000):	Electromagnetic compatibility (EMC)–Part 3-2: Limits—Limits for harmonic current emissions (Equipment input current ≤16A per phase)	IEC 1
IEC	60901	(1978):	Single-capped fluorescent lamps – Safety and performance requirements	
IEC	60927	(—):	Starting devices (other than glow starters) — Performance requirements	
IEC	61347-1	(2000)	Lamp controlgear – Part 1: General & safety requirements	
IEC	61347-2-8	(2000)	Lamp controlgear – Part 2-8: Particular requirements for ballasts for fluorescent lamps	