AS/NZS 61000.3.11:2002
IEC 61000-3-11:2000

Australian/New Zealand Standard™

Electromagnetic compatibility (EMC)

Part 3.11: Limits—Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems—Equipment with rated current less than or equal to 75 A and subject to conditional connection

Standards Australia

STANDARDS NEW ZEALAND
Paerewa Aotearoa

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-034, Power Quality. It was approved on behalf of the Council of Standards Australia on 27 August 2002 and on behalf of the Council of Standards New Zealand on 20 August 2002. It was published on 18 September 2002.

The following are represented on Committee EL-034:

Australasian Railway Association
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Australian Consumers Association
Australian Electrical and Electronic Manufacturers Association
Australian Institute of Petroleum
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Detailed information about joint Australian/New Zealand Standards can be found by visiting the Standards Australia web site at www.standards.com.au or Standards New Zealand web site at www.standards.co.nz and looking up the relevant Standard in the on-line catalogue.

Alternatively, both organizations publish an annual printed Catalogue with full details of all current Standards. For more frequent listings or notification of revisions, amendments and withdrawals, Standards Australia and Standards New Zealand offer a number of update options. For information about these services, users should contact their respective national Standards organization.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia International or Standards New Zealand at the address shown on the back cover.

This Standard was issued in draft form for comment as DR 02110.

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Part 3.11: Limits—Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems—Equipment with rated current less than or equal to 75 A and subject to conditional connection

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-034, Power Quality.

This objective of this Standard is to specify the limits of voltage changes, voltage fluctuations and flicker produced by electrical and electronic equipment having a rated input current from 16 A up to and including 75 A which is intended to be connected to public low-voltage distribution systems.

This Standard is identical with and has been reproduced from IEC 61000-3-11:2000, *Electromagnetic compatibility (EMC)*, Part 3-11: *Limits—Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems—Equipment with rated current ≤75 A and subject to conditional connection.*

This Standard is Part 3.11 of a series, which, when complete, will consist of the following:

AS/NZS
61000 Electromagnetic compatibility (EMC)

- Part 1.1: General—Application and interpretation of fundamental definitions and terms
- Part 2.2: Environment—Compatibility levels for low-frequency conducted disturbances and signalling in public low-voltage power supply systems
- Part 2.3: Environment—Description of the environment—Radiated and non-network-frequency-related conducted phenomena
- Part 2.5: Environment—Classification of electromagnetic environments
- Part 2.12: Environment—Compatibility levels for low-frequency conducted disturbances and signalling in public medium-voltage power supply systems
- Part 3.2: Limits—Limits for harmonic current emissions (equipment input current less than or equal to 16 A per phase)
- Part 3.3: Limits—Limitation of voltage fluctuations and flicker in low-voltage supply systems for equipment with rated current less than or equal to 16 A
- Part 3.5: Limits—Limitation of voltage fluctuations and flicker in low-voltage power supply systems for equipment with rated current greater than 16 A
- Part 3.6: Limits—Assessment of emission limits for distorting loads in MV and HV power systems
- Part 3.7: Limits—Assessment of emission limits for fluctuating loads in MV and HV power systems
- Part 3.11: Limits—Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems—Equipment with rated current less than or equal to 75 A and subject to conditional connection (this Standard)
- Part 3.12: Limits—Limitation of emission of harmonic currents in low-voltage power supply systems for equipment with rated current greater than 16 A
- Part 4.1: Testing and measurement techniques—Overview of immunity tests
- Part 4.2: Testing and measurement techniques—Electrostatic discharge immunity test
- Part 4.3: Testing and measurement techniques—Radiated radio-frequency electromagnetic field immunity test
- Part 4.5: Testing and measurement techniques—Surge immunity test
- Part 4.6: Testing and measurement techniques—Immunity to conducted disturbances, induced by radio-frequency fields
- Part 4.7: Testing and measurement techniques—General guide on harmonics and interharmonics measurements and instrumentation, for power supply systems and equipment connected thereto
- Part 4.8: Testing and measurement techniques—Power frequency magnetic field immunity test

Part 4.16: Testing and measurement techniques—Test for immunity to conducted common mode disturbances in the frequency range 0 Hz to 150 Hz
Part 6.2: Generic standards—Immunity for industrial environments

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.

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.

The term ‘informative’ has been used in this Standard to define the application of the annex to which it applies. An ‘informative’ annex is only for information and guidance.

CONTENTS

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard

Electromagnetic compatibility (EMC)

Part 3.11: Limits—Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems—Equipment with rated current less than or equal to 75 A and subject to conditional connection

1 Scope and object

This part of AS/NZS 61000 is concerned with the emission of voltage changes, voltage fluctuations and flicker produced by equipment and impressed on the public low-voltage supply system.

It specifies the limits of voltage changes produced by equipment tested under specified conditions.

This part of AS/NZS 61000 is primarily applicable to electrical and electronic equipment having a rated input current from 16 A up to and including 75 A, which is intended to be connected to public low-voltage distribution systems having nominal system voltages of between 220 V and 250 V, line-to-neutral at 50 Hz, and which is subject to conditional connection.

This part of AS/NZS 61000 is also applicable to equipment within the scope of IEC 61000-3-3 that does not meet the limits when tested or evaluated with reference impedance Z_{ref} and is therefore subject to conditional connection. Equipment which meets the requirements of IEC 61000-3-3, is excluded from this part of AS/NZS 61000.

Equipment tests made in accordance with this part of AS/NZS 61000 are type tests.

NOTE The flicker limits specified in this part, being the same as those in IEC 61000-3-3, are based on the subjective severity of the flicker imposed on the light from 230 V/60 W coiled-coil filament lamps when subjected to fluctuations of the supply voltage. For systems with nominal voltages less than 220 V, line-to-neutral and/or frequency of 60 Hz, the limits and reference circuit values are under consideration.

2 Normative references

References to International Standards that are struck through in this Clause are replaced by references to equivalent Australian or Australian/New Zealand Standards that are listed immediately thereafter and identified by shading. Any Australian or Australian/New Zealand Standard that is identical to the International Standard it replaces is appropriately identified.

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of AS/NZS 61000. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However parties to agreements based on this part of AS/NZS 61000 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

IEC 60050(161), *International Electrotechnical Vocabulary (IEV)* – Chapter 161: *Electromagnetic Compatibility*