

Technical Specification

Electromagnetic compatibility (EMC)

Part 3.5: Limits—Limitation of voltage fluctuations and flicker in low-voltage power supply systems for equipment with rated current greater than 75 A



SA/SNZ TS IEC 61000.3.5:2013

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PREFACE

This Technical Specification was prepared by the Standards Australia Committee EL-034, Power Quality to supersede AS/NZS 61000.3.5:1998, *Electromagnetic compatibility (EMC)—Limits—Limitation of voltage fluctuations and flicker in low-voltage power supply systems for equipment with rated current greater than 16 A*.

The objective of this Technical Specification is to provide manufacturers and suppliers of electricity and users of electrical equipment intended for connection to an electrical network with limits for voltage disturbances and harmonics produced by that equipment and the methods for ascertaining compliance to them in order to maintain electromagnetic compatibility within the electrical network.

This Technical Specification is identical with, and has been reproduced from IEC/TS 61000-3-5, Ed.2.0 (2009), *Electromagnetic compatibility (EMC), Part 3-5: Limits—Limitation of voltage fluctuations and flicker in low-voltage power supply systems for equipment with rated current greater than 75 A*. This version of IEC/TS 61000-3-5 incorporates Corrigendum 1 (September 2009) and Corrigendum 2 (May 2010).

Attention is drawn to the fact that this publication is an adoption of an IEC Technical Specification. While the main task of IEC technical committees is to prepare International Standards, in exceptional circumstances, a technical committee may propose the publication of a technical specification when—

- (a) the required support cannot be obtained for the publication of an International Standard, despite repeated efforts; or when; and
- (b) the subject is still under technical development or where, for any other reason, there is the future but no immediate possibility of an agreement on an International Standard.

As this Technical Specification is reproduced from an International Technical Specification, the following applies:

- (i) In the source text ‘this part of IEC 61000’ should read ‘this Technical Specification’.
- (ii) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

<i>Reference to International Standard</i>		<i>Australian/New Zealand Standard</i>	
IEC		AS/NZS	
61000	Electromagnetic compatibility (EMC)	61000	Electromagnetic compatibility (EMC)
61000-3-2	Part 3-2: Limits—Limits for harmonic current emissions (equipment input current ≤16 A per phase)	61000.3.2	Part 3.2: Limits—Limits for harmonic current emissions (equipment input current ≤16 A per phase) (IEC 61000-3-2, Ed.3.0 (2005) MOD)
61000-3-3	Part 3-3: Limits—Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤16 A per phase and not subject to conditional connection	61000.3.3	Part 3.3: Limits—Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤16 A per phase and not subject to conditional connection

IEC

61000-3-11 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

AS/NZS

61000.3.11 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

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

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INTRODUCTION

IEC 61000 is published in separate parts according to the following structure:

Part 1: General

- General considerations (introduction, fundamental principles)
- Definitions, terminology

Part 2: Environment

- Description of the environment
- Classification of the environment
- Compatibility levels

Part 3: Limits

- Emission limits
- Immunity limits
(in so far as they do not fall under the responsibility of product immunity tests)

Part 4: Testing and measurement techniques

- Measurement techniques
- Testing techniques

Part 5: Installation and mitigation guidelines

- Installation guidelines
- Mitigation methods and devices

Part 6: Generic standards

Part 9: Miscellaneous

Each part is further subdivided into several parts published either as International Standards or as technical specifications or technical reports, some of which have already been published as sections. Others will be published with the part number followed by a dash and a second number identifying the subdivision (example: 61000-6-1).

IEC/TS 61000-3-5

This Technical Specification is presented as an informative document as it is already a requirement, in most countries, for equipment having a rated input current exceeding 75 A per phase to be subject to assessment and connection by the public supply network operator. Therefore, it is not intended, at the time of publication, to be converted into an International Standard.

TECHNICAL SPECIFICATION

Electromagnetic compatibility (EMC)

Part 3.5:

Limits—Limitation of voltage fluctuations and flicker in low-voltage power supply systems for equipment with rated current greater than 75 A

1 Scope

This part of IEC 61000 deals with emission of disturbances due to voltage fluctuations and flicker.

The recommendations in this Technical Specification are applicable to electrical and electronic equipment that has a rated input current exceeding 75 A per phase and is intended to be connected to a public low-voltage a.c. distribution system.

Recommendations that specify information enabling a supply authority, manufacturer, or consumer to assess equipment are given in Annex A.

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 60050(161), *International Electrotechnical Vocabulary – Chapter 161: Electromagnetic compatibility*

IEC 61000-3-2, *Electromagnetic compatibility (EMC) – Part 3-2: Limits – Limits for harmonic current emissions (equipment input current ≤16 A per phase)*

IEC 61000-3-3, *Electromagnetic compatibility (EMC) – Part 3-3: Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤16 A per phase and not subject to conditional connection*

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*

3 Terms and definitions

For the purposes of this document the terms and definitions of IEC 61000-3-2, IEC 61000-3-3, IEC 61000-3-11 and IEC 60050(161) apply.

4 Equipment assessment

4.1 General

Methods of flicker assessment for different types of voltage fluctuations are described in IEC 61000-3-3 and IEC 61000-3-11.