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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB 17625.2-2007

[GB/T 17625.2-2007] Electromagnetic compatibility (EMC) -- 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 conn

(English Translation)

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Foreword

All the technical contents of this Part are mandatory.

This Part is identical to IEC 61000-3-3:2005.

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 committees)

Part 4.Testing and measurement techniques

Measurement techniques

Testing techniques

Part 5.Installation and mitigation guidelines

Installation guidelines

Mitigation methods and devices

Part 9. Miscellaneous

Each part is further subdivided into sections which are to be published either as International Standards or as Technical Reports.

These standards and reports will be published in chronological order and numbered accordingly.

This Part is identical to IEC 61000-3-3:2005 "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". This Part is a Product Family Standard.

The limits in this Part relate to the voltage changes experienced by consumers connected at the interface between the public supply low-voltage network and the equipment user's installation. Consequently, if the actual impedance of the supply at the supply terminals of equipment connected within the equipment user's installation exceeds the test impedance, it is possible that supply disturbance exceeding the limits may occur.

"Electromagnetic compatibility (EMC) - Limits" consists of the following parts

- GB 17625.1-2003 Electromagnetic compatibility - Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)
- GB 17625.2-2007 Electromagnetic compatibility limits (EMC) - 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
- GB 17625.3-2000 Electromagnetic compatibility - Limits - Limitation of voltage fluctuations and flicker in low-voltage power supply systems for equipment with rated current greater than 16 A

This Part is Part 2 of "Electromagnetic compatibility (EMC) - Limits".

This Part replaces GB 17625.2-1999 "Electromagnetic compatibility limits - Limitation of voltage fluctuations and flicker in low-voltage supply systems for equipment with rated current ≤ 16 A" from the date of implementation.

Compared with GB 17625.2-1999, the main modifications are as follows.

- MODIFY the standard name, to be consistent with the standard name of IEC 61000-3-3;
- In clause 1 "Scope", MODIFY "This Part is applicable to electrical and electronic equipment having an input current not greater than 16 A per phase, intended to be connected to public low-voltage distribution systems of between 220 V and 250 V line to neutral at 50 Hz." TO "This Part is applicable to electrical and electronic equipment having an input current equal to or less than 16 A per phase, intended to be connected to public low-voltage distribution systems of between 220 V and 250 V line to neutral at 50 Hz, and not subject to conditional connection."

ADD "Equipment which does not comply with the limits of this Part when tested with the reference impedance Z_{ref} of 6.4, and which therefore cannot be declared compliant with this part, may be retested or evaluated to show conformity with IEC 61000-3-11. IEC 61000-3-11 is applicable to equipment with rated input current ≤ 75 A per phase and subject to conditional connection".

DELETE "For special equipment not widely used and designed and those does not meet the requirements (limits) of this Part, the consent of the power supply department shall be obtained before being connected to distribution systems. Guidance for the evaluation of such equipment is given in the Technical Report IEC 61000-3-5.1994." in the note.

- In clause 2 "Normative references", ADD GB 15579-1995 "Arc welding equipment - Part 1. Welding power sources"; GB 17625.1-2003

"Electromagnetic compatibility - Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)"; IEC 61000-3-11

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.

Because Amendment 1 (1990) to IEC 60868.1986 "Flickermeter - Functional and Design Specifications" is replaced by IEC 61000-4-15.2003, the original reference is replaced by IEC 61000-4-15.2003.

- In clause 3 "Definitions", ADD terms. r.m.s. voltage shape $U(t)$, voltage change characteristic $\Delta U(t)$, maximum voltage change characteristic ΔU_{max} , voltage fluctuation, flicker impression time t_f , conditional connection, interface point.

- MODIFY the heading of clause 4 TO "Assessment of voltage changes, voltage fluctuations and flicker", by adding "voltage fluctuations" in the original heading.

- In clause 5 "Limits", MAKE the following modifications.

"the relative steady-state voltage change, dc, shall not exceed 3 %" is modified to. the relative steady-state voltage change shall not exceed 3.3 %;

"the value of $d(t)$ during a voltage change shall not exceed 3 % for more than 200 ms" is modified to. the value of $d(t)$ during a voltage change shall not exceed 3.3 % for more than 500 ms; "the maximum relative voltage change d_{max} , shall not exceed 4 %" is modified to. the maximum relative voltage change d_{max} , shall not exceed 4 %, 6 %, 7 %, and specify the applicable conditions of different limits of d_{max} .

- In clause 6 "General", ADD the following contents.

"Tests need not be made on equipment which is unlikely to produce significant voltage fluctuations or flicker.