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

GB/Z 41909-2022

**Low-voltage switchgear and controlgear - Electromagnetic
compatibility assessment for switchgear and controlgear and
their assemblies**

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foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part 1. Structure and Drafting Rules of Standardization Documents"

Drafting.

This document is identical to IEC TR63216.2019 "Low-voltage switchgear and controlgear Switchgear and controlgear and their complete sets"

EMC Evaluation of Equipment". The document type is adjusted from IEC technical report to my country's national standardization guiding technical document.

The following minimal editorial changes have been made to this document.

--- Adjust IEC 60364-5-53, which is only cited in the informative appendix, from normative references to references;

--- Adjust the content of the nominal frequency of 60Hz power grid in Europe mentioned in 4.4.3 to Note, and change EN50160 from the normative reference document

Adjusted to references;

--- Added footnotes to the performance criteria in Table 2 to enhance the legibility of the standard.

Please note that some content of this document may be patented. The issuing agency of this document assumes no responsibility for identifying patents.

Introduction

Equipment complying with the standards for low-voltage switchgear and control equipment and their complete sets (hereinafter referred to as "equipment") is installed in accordance with the manufacturer's instructions.

It has good noise immunity when installed and used, and will not cause interference under normal operation or reasonably foreseeable fault conditions.

The purpose of this document is to explain the electromagnetic compatibility requirements and compatibility measures contained in IEC 60947 (all parts).

The EMC environment in industrial applications determines the level of electromagnetic compatibility that equipment needs to achieve.

This document defines a specific EMC environment, which is derived from the generic environment of IEC 61000 (all parts). These environments are also

The areas defined by IEC 61131-2 are consistent.

This document is a guiding technical document for standardization work that is still in the process of technological development (such as a rapidly changing technical field).

Guidelines or information, documents formulated for the reference and use of relevant personnel in scientific research, design, production, use and management.

Low voltage switchgear and controlgear switchgear and

EMC assessment of control equipment and its complete equipment

1 Scope

The purpose of this document is to define the classification of the electromagnetic environment to harmonize as far as possible all low-voltage switchgear, controlgear with built-in electronic circuits

And EMC principles and requirements for complete sets of equipment.

This document also covers EMC requirements related to radiocommunication functions.

Typical application environments for such devices include power distribution in infrastructure, commercial and industrial buildings, and machines including motor drive systems.

mechanical control system.

The purpose of the EMC requirements is to ensure the safe and reliable operation of equipment and to ensure that radio communication equipment is in its intended use environment.

communication efficiency in the environment.

2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, dated citations

documents, only the version corresponding to that date applies to this document; for undated references, the latest edition (including all amendments) applies to

this document.

GB/T 7251.1-2013 Low-voltage switchgear and control equipment - Part 1.General (IEC 61439-1.2011, IDT)

GB/T 17626.2-2018 Electromagnetic Compatibility Test and Measurement Technology Electrostatic Discharge Immunity Test (IEC 61000-4-2.2008, IDT)

GB/T 18039.4-2017 Compatibility Level of Low-Frequency Conducted Disturbance in Factory for Electromagnetic Compatibility Environment (IEC 61000-2-4.2002, IDT)

IEC 60050-161.1990/AMD1.1997 International Electrotechnical Vocabulary Part 161.Electromagnetic Compatibility Amendment 1

IEC 60050-161.1990/AMD2.1998 International Electrotechnical Vocabulary Part 161.Electromagnetic Compatibility Amendment 2

IEC 60050-161.1990/AMD3.2014 International Electrotechnical Vocabulary Part 161.Electromagnetic Compatibility Amendment 3

IEC 60050-161.1990/AMD4.2014 International Electrotechnical Vocabulary Part 161.Electromagnetic Compatibility Amendment 4

IEC 60050-161.1990/AMD5.2015 International Electrotechnical Vocabulary Part 161.Electromagnetic Compatibility Amendment 5

IEC 60050-161.1990/AMD6.2016 International Electrotechnical Vocabulary Part 161.Electromagnetic Compatibility Amendment 6

IEC 60050-161.1990/AMD7.2017 International Electrotechnical Vocabulary Part 161.Electromagnetic Compatibility Amendment 7

IEC 60050-161.1990/AMD8.2018 International Electrotechnical Vocabulary Part 161.Electromagnetic Compatibility Amendment 8

Note. GB/T 4365-2003 Electrotechnical Terminology Electromagnetic Compatibility (IEC 60050-161.1990 AMD2, IDT)

Note. GB/T 15166.1-2019 High Voltage AC Fuses Part 1.Terminology (IEC 60050-441.1984, MOD)

IEC 60364-4-44 Low-voltage electrical installations - Part 4-44.Protection against voltage disturbances and electromagnetic disturbances (Low-