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

GB/T 7251.10-2025

Replacing GB/T 7251.10-2014

**Low-voltage switchgear and controlgear assemblies - Part 10:
Guidance to specifying assemblies
(English Translation)**

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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 for standardization documents" Drafting.

This document is Part 10 of GB/T 7251 "Low-voltage switchgear and controlgear assemblies". GB/T 7251 has been published as follows part.

--- Part 1: General provisions;

- Part 2: Complete power switchgear and control equipment;
- Part 3: Distribution board operated by general personnel (DBO);
- Part 4: Particular requirements for construction site complete equipment (ACS);
- Part 5: Complete equipment for power distribution in public grids;
- Part 6: Busbar trunk system (bus duct);
- Part 7: Complete sets of equipment for specific applications such as docks, campsites, market squares, and electric vehicle charging stations;
- Part 8: General technical requirements for intelligent complete equipment;
- Part 10: Guidance for specifying complete equipment.

This document replaces GB/T 7251.10-2014 "Low-voltage switchgear and controlgear Part 10: Specification of complete sets of equipment" Compared with GB/T 7251.10-2014, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

- Added the description of short-circuit withstand capability when the complete set of equipment is connected to multiple input power supplies (see 6.8);
- Added the description of solar irradiance in radiation resistance (see 8.5.2);
- Added a description of the pollution level under special conditions of use (see 8.12.7);
- Added detailed description of the basic principles of internal isolation (see 12.8.1);
- Added new content on current rating data (see Chapter 13).

This document is equivalent to IEC TR61439-0:2022 "Low-voltage switchgear and controlgear Part 0: Specification of complete sets of equipment Guidelines for the implementation of the WTO's the following minimal editorial changes have been made to this document.

- In order to coordinate with the existing standards, the name of the standard is changed to "Low-voltage complete switchgear and control equipment Part 10: Specification of complete equipment Guide for the preparation of

Introduction

GB/T 7251 series standards adopt IEC international standards as equivalent, making my country's low voltage complete switchgear and control equipment standards consistent with the international to be consistent with international standards to meet the needs of international trade, technical and economic exchanges.

Low voltage equipment sets are an essential component of most power distribution

networks. In use, they mainly undertake two major functions.

---Safe control and distribution of electrical energy; and

---Cabinet unit for safe isolation of faulty power grid.

While these two functions place distinct demands on the equipment, the equipment must be able to perform these functions over its expected service life.

The second function, fault management, is to control and distribute electrical energy to the equipment in a properly managed and maintained manner.

Some equipment will never be called upon to handle a fault, but if one does occur, it can respond instantly.

The ASSEMBLY is subject to significant thermal and mechanical stresses. Any aging or degradation of the ASSEMBLY should be limited to ensure that its safety functions are not compromised.

damage.

Due to the nature of the application, if there are defects in the design or application of the complete equipment, they may not be discovered until several years after the complete equipment is installed.

To avoid potential problems and ensure that the equipment is suitable for its application, they will strictly follow the requirements defined in the GB/T 7251 series of standards.

However, since the GB/T 7251 series covers a wide range and some applications may be partially beyond the scope of the standard, it is equally important to correctly specify the complete set of equipment. When options are provided in the GB/T 7251 series, the option most suitable for the application will be selected; if required Detailed requirements are beyond the scope of this standard and are to be agreed between the specifier and the manufacturer.

This document indicates the significance of each characteristic to be considered when specifying an ASSEMBLY and provides the specifier with a means of defining the appropriate Guidance on complete equipment.

For the purposes of this document, a specifier is the party that specifies or selects the characteristics of an ASSEMBLY. A specifier may be the party that uses and operates the ASSEMBLY.

The purpose of this document is to provide guidance to specifiers on what specifications should be provided to obtain Complete equipment with the required performance at the optimal cost.

In this document, the term "assembly" refers to a low-voltage switchgear and controlgear assembly. Unless expressly stated otherwise, the term "manufacturer" Refers to the

manufacturer of complete equipment.

The term "line conductor" is used in many places in this document. The previous term was phase conductor.

The focus of this document is on the specifier, that is, the person or organization that provides the specifications for the assembly. The specifier is assumed to be acting on behalf of the user.

The GB/T 7251 series of standards aims to better coordinate all general principles and requirements applicable to complete sets of equipment.

Strive to achieve consistency in the requirements of the complete set of equipment and consistency in the verification of the complete set of equipment, and avoid using other standards for verification.

All these requirements, which can be taken as general, combined with the performance and application specific issues for various types of equipment, have been collected in the general provisions of GB/T 7251.1, such as temperature rise, short circuit, and dielectric properties, all types of complete equipment must determine their requirements and corresponding verification methods.

Two main criteria are required.

- a) General principles of the basic standard GB/T 7251.1; and
- b) Product-specific parts of the GB/T 7251 series, hereinafter referred to as relevant product parts of the GB/T 7251 series.

The GB/T 7251 series of standards covers a wide range of applications for complete sets of equipment, some of which have specific requirements based on their specific applications.

In order to clearly define these specific requirements, relevant product parts of the GB/T 7251 series for specific application types have been (or are being) developed.

Including GB/T 7251.2, GB/T 7251.3, etc. Each GB/T 7251 series related product part about GB/T 7251.1 is the characteristics and performance required of complete sets of equipment within their specified application range are specified to varying degrees.

This part contains the appendix "Agreement between the manufacturer and user of complete equipment" template to facilitate the specification of complete equipment.

This document considers the general characteristics of all types of equipment. Detailed information applicable to each type of equipment can be found in it is determined by the specification tables of the relevant product parts of the GB/T 7251 series.

GB/T 7251 is intended to consist of nine parts.

--- Part 1: General. Aims to specify the general requirements of various types of complete