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

**GB/T 30843.2-2024**

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**Variable-frequency drive above 1 kV and not exceeding 35 kV -  
Part 2: Test methods**

1 kV以上不超过35 kV的通用变频调速设备 第2部分：试验方法

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## Table of Contents

|                                               |    |
|-----------------------------------------------|----|
| 1 Scope .....                                 | 1  |
| 2 Normative references .....                  | 1  |
| 3 Terms and Definitions .....                 | 1  |
| 4 Test requirements .....                     | 2  |
| 4.1 Normal test environment conditions .....  | 2  |
| 4.2 Normal test electrical conditions .....   | 2  |
| 4.3 Other requirements .....                  | 3  |
| 4.4 Test safety .....                         | 3  |
| 5 Test items and methods .....                | 3  |
| 5.1 Appearance and structure inspection ..... | 3  |
| 5.2 Safety performance test .....             | 3  |
| 5.3 Functional test .....                     | 8  |
| 5.4 Performance test .....                    | 9  |
| 5.5 Protection function test .....            | 12 |
| 5.6 Environmental adaptability test .....     | 12 |
| 5.7 Protection level test .....               | 16 |
| 5.8 Electromagnetic compatibility test .....  | 16 |
| 20 Reference .....                            | 23 |

## 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 2 of GB/T 30843 "General-purpose variable frequency speed regulating equipment above 1 kV and not exceeding 35 kV". GB/T 30843 The following parts have been published.

1. Technical requirements;

3. Safety regulations. This document replaces GB/T 30843.2-2014 "General frequency conversion speed regulation equipment above 1kV and not exceeding 35kV Part

2. Test Compared with GB/T 30843.2-2014, in addition to structural adjustments and editorial changes, the main technical changes are as follows:

- a) The provisions related to "normal test environment conditions" have been changed (see 4.1, 4.1 of the.2014 edition);
- b) The provisions related to "normal test electrical conditions" have been changed (see 4.2, 4.2 of the.2014 edition);
- c) Deleted the provisions related to "power on and preset" (see 5.2 of the.2014 edition);
- d) The provisions related to "test voltage" have been changed (see 5.2.1.3.2, 5.3.3.2 of the.2014 edition);
- e) The relevant provisions on "application of test voltage" have been changed (see 5.2.1.3.3,

## 1 Scope

China's national test methods for general purpose medium voltage variable frequency drives, and the current edition of GB/T 30843.2, replacing the 2014 edition. It is Part 2 of GB/T 30843 and specifies the test requirements and the test items and methods for variable frequency speed regulating equipment operating above 1 kV and up to and including 35 kV. The test items follow the requirements of Part 1 one for one: appearance and structure inspection, safety performance, functional tests, performance tests, protective function tests, environmental adaptability, degree of protection, electromagnetic compatibility, and high and low voltage ride-through. Testing a machine of this size is a discipline in itself, and the standard says so before it says anything else: clause 4 covers the normal test environment and electrical conditions, other requirements, and the safety of the test itself. That last is not a formality. Verifying a multi-megawatt converter means energising it at medium voltage, loading it, and deliberately provoking the conditions its protection is meant to detect, in a test bay with people in it. The 2024 revision reworks the test voltages and the way they are applied, revises the duration for which a voltage is applied and the criterion for passing, and revises the clearance and creepage measurement, the earthing continuity measurement and the noise test. Two normative annexes carry what cannot be left to judgement: Annex A gives the altitude correction for insulation clearance, with correction factors for altitudes between 2000 m and 20000 m and the test voltages used to verify clearances at different altitudes; Annex B gives the general provisions for time response, defining response time, rise time, settling time and the load impact speed deviation area. Issued on 31 December 2024 and in force since 1 July 2025.

This document describes the test methods for general purpose variable frequency speed regulating equipment (hereinafter referred to as "speed regulating equipment") above 1 kV

and not exceeding 35 kV. This document is applicable to the rated input voltage between 1kV and 35kV AC, the rated input frequency is 50Hz or 60Hz, and the output voltage is Inspection and acceptance of speed regulating equipment with voltage not exceeding 35kV and output frequency not exceeding 120Hz.

## 2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 2423.1-2008 Environmental testing for electric and electronic products Part

## 3 Terms and definitions

The terms and definitions defined in GB/T 30843.1-2024 and the following apply to this document.