

ICS 29.020
CCS J09



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

GB/T 22840-2008

**Electrical equipment of industrial machines - Test
specifications for surge immunity**

工业机械电气设备 浪涌抗扰度试验规范

Issued on: December 30, 2008

Implemented on: February 1, 2010

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China;
Standardization Administration of China**

Table of Contents

1 Scope	1
2 Normative references	1
4 Basic Principles	4
4.1 switching transients	4
4 Transient simulation 4.3.....	4
4.4 Test Level Selection claim 4 5. Test the first choice Level.....	4
5.1 Experimental preferred level range	4
5.2 by installation of the test level selection	5
5.3 Example of electronic equipment installed in different parts of 6 6 test purposes, test equipment and test configuration	7
6.1 Test Objective	7
6.2 Test generator.....	7
6.3 coupling/decoupling network	8
6.5 EUT power tests	13
6.8 shield configuration 13 trial	14
6.9 Configuring a potential difference is applied to the test Other configurations of the test	14
7 Test Procedure	14
7.1 Overview	14
7.2 laboratory conditions 14 7.3 14 applied to surge in the laboratory	15
8 Evaluation of test results 9 16 test reports For a description of Appendix A (informative) Test.....	17

Foreword

Appendix A of this standard is an informative annex. The standard proposed by China Machinery Industry Federation. The standard mechanical and electrical systems by the National Standardization Technical Committee (SAC/TC231) centralized. This standard was drafted. GSK CNC Equipment Co., Ltd., Beijing KND CNC Technology Co., Ltd., Shenyang high-precision CNC Technology Co., The company, a solid high-tech (Shenzhen) Co., Ltd. The main drafters. Zhang Yujie, Hemin Jia, Yang Hongli, Lee forbearance, Tong Yang Yong, Shao Guoan, Liu Wenfeng, Yin Zhenyu, Gong Xiaoyun.

The purpose of this standard is to establish a basic test specifications to assess industrial machinery and electrical equipment suffer from power lines and interconnect lines When

high-energy performance harassment. This standard electrical industrial machinery, electronic equipment and control systems by the transient overvoltage caused by lightning and switching unipolar waves Chung (impact) immunity test basic requirements, configuration and test equipment, test methods and procedures and with different environmental and installation conditions associated Test level. The reference to the standards GB 5226.1-2002/60204-1 IEC .2000 "Part

1 Safety of machinery - Electrical equipment Score. General technical conditions ", GB/T 21067-2007" industrial machinery and electrical equipment Electromagnetic compatibility - Generic immunity requirements "and other standards. Industrial machinery and electrical equipment Surge immunity test specification

1 Scope

GB/T 22840-2008 is the Chinese national standard on electrical equipment of industrial machines - test specifications for surge immunity, in the field of electrical engineering. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 30 December 2008 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 February 2010. Classification: ICS 29.020, CCS J09. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the electrical machinery industry, electronic equipment and systems (hereinafter referred to simply as "Device") to switch over from the lightning and electrical transients Pressure-induced unipolar surge (impact) Basic immunity test requirements, test equipment and configuration, test methods and procedures, test result evaluation And preparation of test reports, and also provides a different environment and installation conditions associated preference test level. This standard applies to rated voltage not exceeding AC1000V, DC1500V, does not exceed the rated frequency of 200Hz electrical industrial machinery Gas, electronic equipment and systems surge or electrical equipment and components of the system (impact) immunity tests. NOTE. This standard does not high voltage insulation capability of the test, do not consider direct mine. Immunity test is applicable to the device.

- R & D testing;
- Acceptance test;
- Production test.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 4365-2003 Electrotechnical terminology Electromagnetic Compatibility (idt IEC 60050 (161).1990)

GB/T 21067-2007 industrial machinery and electrical equipment Electromagnetic compatibility - Generic immunity requirements

3 Terms and Definitions

And the following terms and definitions GB/T 4365-2003 established apply to this standard.

3.1 Along the road or current, voltage or power transient wave transmission circuit, characterized by a gradual decrease to a rapid increase. [Modify GB/T 17626.5-2008, the definition 3.19]

Note 1. The time parameters of voltage surge.

- a) rise time is the rise from the peak of 10-90% rise time (10%/90% of the time);
- b) Duration It is between the rising and falling edges of the 50% peak wave duration (50%/50% duration).

Note 2. Surge (impact) can be referred to the surge.

3.2 Between two adjacent steady state changes the physical quantity or physical phenomena, the change time is less than the time scale of interest. [GB/T 4365-2003, the definition 161-02-01]

3.3 Apparatus, equipment or system is facing capacity without reducing electromagnetic disturbance operational performance. [GB/T 4365-2003, the definition 161-01-20]