

Translated English of Chinese Standard: GB7251.12-2013

www.ChineseStandard.net → Buy True-PDF → Auto-delivery.

Sales@ChineseStandard.net

GB

NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA

ICS 29.130.20

K 31

GB 7251.12-2013 / IEC 61439-2:2011

Low-voltage switchgear and controlgear assemblies - Part 2:

Power switchgear and controlgear assemblies

低压成套开关设备和控制设备

第 2 部分:成套电力开关和控制设备

(IEC 61439-2:2011, IDT)

Issued on: December 31, 2013

Implemented on: January 13, 2015

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of PRC;
Standardization Administration of PRC.**

Table of Contents

Foreword	3
Introduction	5
1 Scope	6
2 Normative references	7
3 Terms and definitions	7
4 Symbols and abbreviations	9
5 Interface characteristics	10
6 Information	10
7 Service conditions	10
8 Constructional requirements	10
9 Performance requirements	14
10 Design verification	14
11 Routine verification	15
Appendixes	19
Appendix AA (informative) Forms of internal separation (see 8.101)	20
Appendix BB (informative) Items subject to agreement between the ASSEMBLY manufacturer and the user	23
References	30
Figure AA.1 -- Symbols used in Figures AA.2 and AA.3	20
Figure AA.2 -- Forms 1 and 2	21
Figure AA.3 -- Forms 3 and 4	22
Table 101 -- Values of assumed loading	16
Table 102 -- Test voltages across the open contacts of equipment suitable for isolation	16
Table 103 -- Electrical conditions for the different positions of withdrawable parts	17
Table 104 -- Forms of internal separation	18
Table BB.1 -- Items subject to agreement between the ASSEMBLY manufacturer and the user	23

Foreword

All technical content of this part is mandatory.

GB 7251 *Low-voltage switchgear and controlgear assemblies* is divided into the following parts:

- Part 0: Requirements manual for low-voltage switchgear and controlgear assemblies
- Part 1: General rules
- Part 2: Power switchgear and controlgear assemblies
- Part 3: Distribution boards intended to be operated by ordinary persons (DBO)¹⁾
- Part 4: Particular requirements for assemblies for construction sites (ACS)²⁾
- Part 5: Assemblies for power distribution in public networks
- Part 6: Busbar trunking systems (busways)
- Part 7: Assemblies for specific applications such as marinas, camping sites, market squares, electric vehicle charging stations

.....

This part is Part 2 of GB 7251.

This part was drafted in accordance with the rules given in GB/T 1.1-2009.

This part was translated and is identical to IEC 61439-2:2011 *Low-voltage switchgear and controlgear assemblies - Part 2: Power switchgear and controlgear assemblies*.

The Chinese documents that have consistent correspondence with the international documents normatively cited in this part are as follows:

- GB/T 17045-2008 *Protection against electric shock - Common aspects for installation and equipment* (IEC 61140:2001, IDT)

The following editorial changes have been made to this part:

- "This standard" is changed to "this part";
- The decimal point symbol "." is used instead of the symbol ",";

¹⁾ This part is applying for project approval.

²⁾ This part is applying for project approval.

-- The preface of the international standard is deleted.

This part was proposed by China Electrical Equipment Industry Association.

This part shall be under the jurisdiction of the National Technical Committee on Low-voltage Switchgear and Controlgear Assemblies of Standardization Administration of China (SAC/TC266).

Drafting organizations of this part: Tianjin Research Institute of Electrical Science Co., Ltd. (National Electric Power Distribution Equipment Quality Supervision and Inspection Center), Chengdu Product Quality Supervision and Inspection Institute, Tianjin Tianchuan Electric Control Distribution Co., Ltd., Changshu Switch Manufacturing Co., Ltd. (formerly Changshu Switchgear Plant), China Quality Certification Center, Chuan Kai Electric Co., Ltd., Transmission and Distribution Branch of Shanghai Electric Group Co., Ltd., Chengdu Tongli Stock Group Co., Ltd., Foretech Elec.App. (Jiangsu) Co., Ltd., Daqo Group Co., Ltd., Jiangsu BRLT Electric Co., Ltd., Guangdong Zhujiang Switchgear Co., Ltd., Shanghai Najie Complete Sets of Electrical Equipment Co., Ltd., Suzhou Electrical Apparatus Science Academy Co., Ltd., Gansu Electric Appliance Research Institute Co., Ltd. (formerly Gansu Electric Appliance Science Institute), Guangzhou Baiyun Electric Equipment Co., Ltd., Anhui Xinlong Electric Appliance Co., Ltd., Chengdu Kexing Electric & Electronic Co., Ltd., Zhucheng Kexin Power Engineering Co., Ltd., Juche (Zhejiang) Science-technology Co., Ltd., Xiamen Minghan Electric Co., Ltd., Guangzhou Southern Power Group Electric Apparatus Co., Ltd., Chongqing Shineng Power Equipment Co., Ltd., Jiangsu Modern Electric Technology Co., Ltd., Hangzhou Zhijiang Switchgear Stock Co., Ltd., Ningbo Tianan (Group) Co., Ltd., Zhejiang Yaoming Power Equipment Co., Ltd., Tianjin Tianchuan Yingke Technology Development Co., Ltd., Shanghai Upun Electric (Group) Co., Ltd., Wenzhou Zhongyi Lockset Electric Co., Ltd., Huapeng Group Co., Ltd., Shenzhen Qihui Electric Co., Ltd., Yuyao Electric Power Equipment Repair and Manufacturing Factory, China Coal Electric Co., Ltd., Zhenjiang klockner Moeller Electrical Systems Co., Ltd.

Main drafters of this part: Zhong Mingzhen, Wang Yang, Liu Jie, Ma Yijun, Cui Jing, Hu Jiangang, Chen Xin, Zhang Qing, Xia Jinhui, Miao Yong, Zhou Jicong, Jin Minyi, Pei Jun, Zhu Wentang, Zhang Baicheng, Wang Xiuzheng, Hu Delin, Li Ping, Wang Yi, Wan Yuchao, Zhang Daxuan, Yan Zhengjun, Liu Xiaolin, Han Ren, He Yong, Li Yanping, Shi Boyi, Ma Xuefeng, Sheng Xiaoyan, Ma Chao, Hou Liang, Zhao Jianyu, Pan Zhengdong, Chen Yunhua, Sun Licheng, Zou Qihong, Wang Yazhi, Guo Qiaogen.

Low-voltage switchgear and controlgear assemblies - Part 2:

Power switchgear and controlgear assemblies

1 Scope

This part of GB 7251 defines the specific requirements of power switchgear and controlgear assemblies (PSC-ASSEMBLIES) as follows:

- ASSEMBLIES for which the rated voltage does not exceed 1000 V in case of a.c. or 1000 V in case of d.c.;
- Stationary or movable ASSEMBLIES with or without enclosure;
- ASSEMBLIES intended for use in connection with the generation, transmission, distribution and conversion of electric energy, and for the control of electric energy consuming equipment;
- ASSEMBLIES designed for use under special service conditions, for example in ships and in rail vehicles provided that the other relevant specific requirements are complied with;
- ASSEMBLIES designed for electrical equipment of machines. Supplementary requirements for ASSEMBLIES forming part of a machine are covered by the IEC 60204 series.

This standard applies to all ASSEMBLIES whether they are designed, manufactured and verified on a one-off basis or fully standardized and manufactured in quantity.

The manufacture and/or assembly may be carried out other than by the original manufacturer (see 3.10.1).

This standard does not apply to individual devices and self-contained components, such as motor starters, fuse switches, electronic equipment, etc. which will comply with the relevant product standards. This standard does not apply to the specific types of ASSEMBLIES covered by other parts of GB 7251. For ASSEMBLIES not covered by other parts, this part applies.

NOTE 1: Throughout this part, the abbreviation PSC-ASSEMBLY (see 3.1.101) is used for a power switchgear and controlgear ASSEMBLY.

NOTE 2: Supplementary requirements for ASSEMBLIES in ships are covered by IEC 60092-302.

be complied with in the different positions as well as during transfer from one position to another.

Additional subclauses:

8.5.2.101 Withdrawable parts

Withdrawable parts shall have in addition an isolated position (see 3.2.103) and may have a test position (see 3.2.102), or a test situation (see 3.1.102). They shall be distinctly located in these positions. These positions shall be clearly discernible.

In PSC-ASSEMBLIES with withdrawable parts, all live parts shall be protected in such a manner that they cannot unintentionally be touched when the door, if any, is open and the withdrawable part is withdrawn from the connected position or removed. Where an obstacle or shutter is used, they shall meet the requirements of 8.4.6.2.5 of GB 7251.1-2013.

For the electrical conditions associated with the different positions of withdrawable parts, see Table 103.

8.5.2.102 Interlocking and padlocking of removable and withdrawable parts

Unless otherwise specified, the removable and withdrawable parts shall be fitted with a device, which ensures that the apparatus can only be removed/withdrawn and/or re-inserted after its main circuit has been interrupted.

In order to prevent unauthorized operation, the removable and withdrawable parts or their associated ASSEMBLY location may be provided with a lockable means to secure them in one or more of their positions.

Addition:

8.5.101 Description of the types of electrical connections of functional units

The types of electrical connections of functional units within PSC-ASSEMBLIES or parts of PSC-ASSEMBLIES can be denoted by a three-letter code:

- the first letter denotes the type of electrical connection of the main incoming circuit;
- the second letter denotes the type of electrical connection of the main outgoing circuit;
- the third letter denotes the type of electrical connection of the auxiliary circuits.

The following letters shall be used:

This is an excerpt of the PDF (Some pages are marked off intentionally)

Full-copy PDF can be purchased from 1 of 2 websites:

1. <https://www.ChineseStandard.us>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Select your country (currency), for example: USA (USD); Germany (Euro).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Tax invoice can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with download links).

2. <https://www.ChineseStandard.net>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Add to cart. Only accept USD (other currencies - <https://www.ChineseStandard.us>).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with PDFs attached, invoice and download links).

Translated by: Field Test Asia Pte. Ltd. (Incorporated & taxed in Singapore. Tax ID: 201302277C)

About Us (Goodwill, Policies, Fair Trading...): <https://www.chinesestandard.net/AboutUs.aspx>

Contact: Wayne Zheng, Sales@ChineseStandard.net

Linkin: <https://www.linkedin.com/in/waynezhengwenrui/>

----- The End -----