

ICS 31.220.10

CCS L 23



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

GB/T 34989-2017

**Connectors -- Safety requirements and tests
(English Translation)**

Issued on: November 1, 2017

Implemented on: May 1, 2018

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

Table of Contents

Foreword
1 Scope
2 Normative references
3 Terms and definitions
4 Technical Information (Electrical Rating)
5 Category
5.1 General
5.2 Anti-shock protection classification
5.3 Classification by connector
5.4 Sort by connector's additional features
6 Structural requirements and performance
6.1 General
6.2 Logo and identification number
6.3 Anti-misinsertion (not interposable)
6.4 Protection against electric shock
6.5 Ground Protection
6.6 Terminals and termination methods
6.7 Interlocking device
6.8 Anti-aging
6.9 Universal Design
6.10 Breaking Capacity Connector (CBC) Design
6.11 Free Connector Design
6.12 Degree of protection (IP code)
6.13 Dielectric strength
6.14 Mechanical and Electrical Life
6.15 Temperature range
6.16 Temperature rise
6.17 Cable clamp
6.18 Mechanical strength
6.19 Clearances and creepage distances
6.20 Insulation
6.21 Corrosion resistance

7 Test

7.1 General

7.2 Sample Preparation

7.3 Performance Test

7.4 Non-rewirable free connector process test list (routine test)

7.5 Test Schedule

Appendix A (Informative) Details of the provisions of the information

Appendix B (Informative) Connector Supplementary Information

References

Figure 1 temperature rise test device

Figure 2 bending test device

Table 1 to protect the conductor or contact with live parts can reach the smallest metal cross-section

Table 2 Applicable Terminals and Termination Methods

Table 3 Tests for Terminations or Terminations and Termination

Table 4 Mechanical and Electrical Life

Table 5 Temperature range

Table 6 cable clamp test value

Table 7 cable clamp test value

Table 8 Test voltage

Table 9 Number of samples required for testing

Table 10 Group A --- Mechanical Tests

Table 11 Group B --- life test

Table 12 Group C --- temperature test

Table 13 Group D --- Climate Test

Table 14 Group E --- Degree of protection test

Table B.1 Connector Type

Table B.2 auxiliary methods of connector classification

Foreword

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

This standard uses redrafted Law to amend the use of IEC 61984:2008 "Connector Safety Requirements and Tests." this standard and IEC 61984:2008 technical differences and the reasons are as follows.

--- On normative references, this standard made a specific technical differences in adjustment to adapt to China's technical conditions, adjust the situation Concentration reflected in the second chapter "Normative references", the specific adjustments are as follows;

- Equivalent with the international standard GB/T 2421.1 instead of IEC 60068-1;
- Equivalent to the use of international standards GB/T 2423.53 instead of IEC 60068-2-70;
- Equivalent with the international standard GB/T 4210 instead of IEC 60050-581;
- Equivalent with the international standard GB/T 5095.1 instead of IEC 60512-1;
- Equivalent to the use of international standards GB/T 5095.2 instead of IEC 60512-2;
- Equivalent to the use of international standards GB/T 5095.3 instead of IEC 60512-3;
- Equivalent to the use of international standards GB/T 5095.5 instead of IEC 60512-5;
- Equivalent to the use of international standards GB/T 5095.11 instead of IEC 60512-11;
- Equivalent to the use of international standards GB/T 5465.2 instead of IEC 600417;
- Equivalent to the use of international standards GB/T 16842 instead of IEC 61032;
- Equivalent to the use of international standards GB/T 16895.21 instead of IEC 60364-4-41;
- Equivalent to the use of international standards GB/T 17045 instead of IEC 61140;
- Equivalent to the international standard GB/T 18290.2 instead of IEC 60352-2;
- Equivalent to the use of international standards GB/T 18290.5 instead of IEC 60352-5.

--- As GB/T 4208-2017 instead of IEC 60529:1989, it will IEC 60529 Chapter 5 of "the use of test force 20N "50mm spherical" contact probe test guards "was changed to." The first characteristic figure is 1, using a test force of 50N $\pm$ 5N ball probe test guards "(see 6.4.2.2, 7.5 in Table 14-E1 group);

--- As GB/T 4208-2017 instead of IEC 60529:1989, it will IEC 60529 Chapter 5 of "the use of test force 20N test refers to the test guards, "to" the first characteristic number of 2, with a test force of 10N $\pm$ 1N articulation Test means protective devices "(see 6.4.1, 6.4.2.3, 6.4.3, 7.5 in Table 14-E1 group).

Please note that some of this document may be patentable. The issuing agencies of this document do not bear the responsibility of identifying these patents.

This standard proposed by the Ministry of Industry and Information Technology of the People's Republic of China.

This standard by the National Electrical Equipment Standardization Technical Committee

Electromechanical Components (SAC/TC166) centralized.

This standard was drafted unit. Zhejiang Yonggui Electric Co., Ltd..

1 Scope

This standard specifies the connector of technical information (electrical rating), classification, structural requirements and performance and testing.

This standard applies to no detailed specification or detailed specification reference to the standard safety requirements, rated voltage AC or DC 50V ~ 1000V, contacts rated current not higher than 125A connector.

For the rated voltage not higher than 50V connector can use this standard as a reference to use, in this case, the clearance and creepage the distance refers to the provisions of GB/T 16935.1.

This standard can also be used as a connector for each contact rated current higher than 125A can be used as a reference.

This standard does not apply to existing safety standards in the device (or device) connector.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 2421.1 Electrical and Electronic Products Environmental Testing Overview and Guidelines (GB/T 2421.1-2008, IEC 60068-1:1988, IDT) GB/T 2423.53 Environmental testing for electric and electronic products Part 2. Test methods Test Xb. Marked by friction of hands and Print text wear (GB/T 2423.53-2005, IEC 60068-2-70:1995, IDT) GB/T 3956-2008 Cable conductor (IEC 60228:2004, IDT) GB/T 4208-2017 Enclosure Rating (IP Code) (IEC 60529:2013, IDT) GB/T 4210 Electrotechnical terminology Electromechanical components for electronic equipment (GB/T 4210-2015, IEC 60050-581:2008, IDT) GB/T 5095.1 Electromechanical components for electronic equipment - Basic test procedures and measurement methods - Part 1. General (GB/T 5095.1-1997, idtIEC 60512-1) GB/T 5095.2 Electromechanical components for electronic equipment - Basic test procedures and measurement methods - Part 2. General inspection, electrical continuity and contact resistance test, insulation test and voltage stress test (GB/T 5095.2-1997, idtIEC 60512-2) GB/T 5095.3 Electromechanical components for electronic equipment - Basic test procedures and measurement methods - Part 3. Current carrying capacity test (GB/T 5095.3-1997, idtIEC 60512-3) GB/T 5095.5 Electromechanical components for electronic equipment - Basic test procedures and measurement methods - Part 5. Impact test