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

GB/T 14048.7-2016

Replacing GB/T 14048.7-2006

**Low-voltage switchgear and controlgear -- Part 7-1: Ancillary
equipment -- Terminal blocks for copper conductors**

(English Translation)

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Foreword

GB 14048 "Low-voltage switchgear and control equipment" is divided into the following 21 parts.

- Part 1. General;
- Part 2. Circuit breakers;
- Part 3. switch, isolator, disconnector and fuse combination;
- Part 4-1. Contactors and motor starters Electromechanical contactors and motor starters (including motor protector);
- Part 4-2. Contactors and motor starters - AC semiconductor motor controllers and starters (including soft starters);
- Part 4-3. Contactors and motor starters - AC semiconductor controllers and contactors for non - motor loads;
- Part 5-1 Control circuit Electrical and switching elements Electromechanical control circuit appliances;

- Part 5-2. Control circuit appliances and switching element proximity switches;
- Part 5-3. Control circuit electronics and switching elements - Proximity switches (PDF) with definite function under fault conditions Claim;
- Part 5-4. Control circuit appliances and switching elements - Evaluation of performance of small capacity contacts - Special tests;
- Part 5-5. Control circuit appliances and switching elements - Electrical emergency braking devices with mechanical latch function;
- Part 5-6. Control circuit appliances and switching elements - DC interface (NAMUR) for proximity sensors and switching amplifiers;
- Part 5-7. Control circuit appliances and switching elements for approaching equipment with analog outputs;
- Part 5-8. Control circuit appliances and switching elements - Three enable switches;
- Part 5-9. Control circuit appliances and switching element flow switches;
- Part 6-1. Multifunctional electrical switchgear;
- Part 6-2. Multifunctional electrical appliances (equipment) control and protection switchgear (equipment) (CPS);
- Part 7-1. Terminal blocks for auxiliary devices for copper conductors;
- Part 7-2. Protective devices - Protection conductors for copper conductors - Terminal blocks;
- Part 7-3. Safety requirements for auxiliary device fuses terminal blocks;
- Part 8. Loaded thermal protection (PTC) control unit for rotating electrical machines.

This section is part 7-1 of GB 14048.

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

This part of the replacement GB/T 14048.7-2006 "Low-voltage switchgear and controlgear Part 7-1. auxiliary device copper conductor connection Line terminal block ". The technical differences between this part and GB/T 14048.7-2006 are.

--- "Additional information" should be added by the manufacturer's content "g) Conventional free air heating current (I_{th})" and increased the annotations of the item;

--- Refer to 7.1.3 "Electrical Clearance and Creepage Distance" and 7.2.2 "Dielectric Properties" on "Terminal blocks without U_{imp} specified" its minimum clearance and creepage distances are described in Appendix A ". The manufacturer does not specify the rated impulse withstand Voltage U_{imp} terminal block, the U_{imp} minimum see GB 14048.1-2012 Appendix H ";

--- 7.1.4 "Identification and marking of terminals" Added "For the identification of terminal blocks, yellow-green mixed colors are not allowed" Last paragraph;

--- 7.1.5 "Non-normal heat and fire", after the first paragraph to add a sentence "GB 14048.1-2012 7.1.2.2 In addition to note, not applicable to this part";

--- 7.1.6 "rated cross-sectional area and rated connection capacity", in the first paragraph after the addition of a "consistency verification can be based on 8.3.3.4 Test proceeding";

--- 8.2 "General requirements for testing", add the last paragraph "If one of the terminal blocks can not pass one of the tests Test, you need to repeat the test on the second set of terminal blocks, then all the terminal blocks should be repeated through the test. If this is the one Test is a part of the test sequence, then all the test sequence should be repeated";

--- 8.3.2, 8.3.3.2, 8.4.5 and 8.4.6 on the "thread diameter less than or equal to 2.8mm screw-type clamping parts, tightening torque in accordance with the provisions of Table C.1 or the manufacturer's specified value "are changed to" tightening torque should be GB 14048.1-2012 in Table 4 of the specified value, or according to the manufacturer specified higher torque value. ";

--- 8.3.3.4 "Verification of rated cross-sectional area and rated connection capability" Finally added a new section "Theoretical diameter of the largest conductor see GB 14048.1-2012 in Table 7a (Correspondence between conductor cross-sectional area and diameter)";

In the original appendix A, appendix B, appendix C, delete appendix A and appendix C, retain appendix B, and add new appendix D (Normative). Additional requirements for isolating terminal blocks for testing.

This part uses the re-drafting method to modify the use of IEC 60947-7-1.:2009 (version 3.0) "Low-voltage switchgear and control equipment 7-1 part. auxiliary device copper conductor terminal block".

The technical differences between this part and IEC 60947-7-1.:2009 are.

--- on the normative reference documents to GB 14048.1-2012 low-voltage switchgear and control equipment Part 1. General (IEC 60947-1.:2011, MOD) instead of IEC 60947-1.:2007;

--- AC rated voltage 1140V electrical appliances can refer to this part of the implementation of the electrical performance requirements by the manufacturer and the user association to determine;

- According to China's environmental and material requirements, supplemented by the relevant requirements of the damp-heat performance (7.1.7) and its test method (8.3.3.6) and in the Appendix D made the appropriate editorial changes, that is, the clause No. D.7.1.7 changed to D.7.1.8;

--- For ease of understanding, add a note to the definition of "Terminal block", indicating that

the terminal block in this section is made up of multiple wiring Terminal block combination;

--- For ease of understanding, add the markings to the title of the Appendix D "Test Isolated Terminal Blocks" Also called 'Switch Type Terminals Row "or" isolated terminal strip "and so on.

This part is made by China Electrical Equipment Industry Association.

This part of the national low-voltage electrical appliances Standardization Technical Committee (SAC/TC189) centralized.

This part is responsible for the drafting unit. Shanghai Electric Research Institute.

This part participates in the drafting unit. Phoenix China Investment Co., Ltd., Weidmüller Electric (Shanghai) Co., Ltd., Shanghai Engineering Technology University of Technology, Zhejiang Province, high and low voltage electrical product quality inspection center, Shanghai electrical equipment testing.

This part of the main drafters. Zhang Lili, Huang Jingye, Wu Qingyun, Zhu Shiming, Wang Chengping, Pan Ying, Lin Jie, Sun Jinfeng this part of the previous version of the standard to replace the release of the situation.

--- GB 14048.7-1998, GB/T 14048.7-2006.

Low-voltage switchgear and controlgear - Part 7-1.

Auxiliary device copper conductor terminal block

1.1 Scope

This part of GB 14048 specifies the installation of an electrical connection for copper conductors for use in industrial or similar applications on a support and Mechanical connection of threaded or non-threaded terminal block requirements.

This part applies to the rated voltage AC does not exceed 1000V1), frequency to 1000Hz or DC does not exceed 1500V circuit, with in the connection cross-sectional area of 0.2mm² ~ 300mm² (AWG24/600kcmil) with or without special processing of the round copper wire terminal Sub-row.

1) AC rated voltage 1140V electrical appliances can refer to this part of the implementation. The requirements for electrical performance and other requirements are determined by the manufacturer and the user.

Note: AWG is an abbreviation for "American Wire Gauge" kcmil = 1000cmil 1cmil = 1 round ear = diameter 1 mil round area 1mil = 1/1000 inch the following products may use this section as a guide.

--- need to install a special device on the wire terminal block, such as fast connection terminals or connection connections;