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

GB/T 14048.8-2016

Replacing GB/T 14048.8-2006

**Low-voltage switchgear and controlgear -- Part 7-2: Ancillary
equipment -- Protective conductor terminal blocks for copper
conductors**

(English Translation)

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Table of Contents

Preface
Basic requirements
2 Definition
Category
4 Features
5 Product information
6 Normal use, installation and transportation conditions

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 7-2 of the GB 14048 "Low Voltage Switchgear and Controlgear".

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

Replacement of GB/T 14048.8-2006 "Low-voltage switchgear and controlgear - Part 7-2. Supplementary devices for copper conductors Protection conductor terminal block ". The technical differences between this part and GB/T 14048.8-2006 are.

--- 8.3.3.1 "Clamping parts mechanical strength test" delete paragraph 2 and paragraph 4 of the content;

- 8.4.5 "Temperature rise test" The connection of the conductor in paragraph 4 and the bracket shall be carried out in accordance with Table B.1 (for thread diameter less than or equal to in the 2.8mm screw-type clamping parts) and GB 14048.1-2006 in Table 4, the torque specified by the manufacturer or the larger Torque value "to" conductor connection and bracket connection should be in accordance with GB 14048.1-2012 in Table 4 of the tightening torque or Manufacturer specified higher torque value ";

--- 8.4.6 "Short-time withstand current test" in paragraph 2 "tightening torque according to GB 14048.1-2006 in Table 4 or Appendix B

Table B.1 (for threaded clamps with thread diameters less than or equal to 2.8 mm) or specified by the manufacturer for larger torques

Value "to" tightening torque according to the provisions of Table 4 of GB 14048.1-2012 or the manufacturer specified higher torque value ";

- Delete Appendix B (Normative Appendix). Tightening torque used to verify the mechanical strength of threaded clamps.

This part is modified using IEC 60947-7-2.:2009 (version 3.0) "Low-voltage switchgear and controlgear Part 7-2. Auxiliary devices Pieces of copper conductor to protect the conductor terminal block ".

The technical differences between this section and IEC 60947-7-2.:2009 are as follows.

--- according to China's actual, the scope of application increased AC rated voltage 1140V appliances;

--- GB 14048.1-2012 "Low-voltage switchgear and controlgear Part 1. General" (IEC 60947-1.:2011, MOD) instead of the reference document IEC 60947-1.:2007;

--- GB/T 14048.7-2016 "Low-voltage switchgear and controlgear - Part 7-1. Connection of auxiliary devices for copper conductors Terminal block "(IEC 60947-7-1.:2009, MOD) instead of reference document IEC 60947-7-1;

--- According to China's environmental and material requirements, supplemented the provisions of the relevant requirements of wet and heat and its test methods;

--- For ease of understanding, note 3 is added to Definition 2.1 "Protective conductor terminal block".

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. Weidmüller Electric (Shanghai) Co., Ltd., Phoenix China Investment Co., Ltd., Shanghai Electric Appliance Equipment testing.

1.1 Scope

This part of GB 14048 specifies the protection conductor terminal blocks for screw-type or non-threaded clamps that are primarily intended for use in industry.

Request, with PE protection function of the terminal block is not greater than 120mm² (250kcmil), with PEN protection function of the terminal block or equal to 10mm² (AWG8).

Note: AWG is an abbreviation for "American Wire Gauge".

kcmil = 1000cmil

1cmil = 1 round wire = diameter 1 mil round area 1mil = 1/1000 inch.

The protective conductor terminal block is used for electrical and mechanical connections

between the copper conductor and the mounting bracket.

This part applies to the rated voltage of not more than 1000V¹⁾, the frequency of 1000Hz AC circuit and not more than 1500V DC Circuit with a cross-sectional area of 0.2mm² ~ 120mm² (AWG24kcmil ~ 250kcmil) prefabricated or non-preformed copper conductor the conductor terminal block, the protective conductor terminal block, and the terminal block specified in GB/T 14048.7-2016 are normally used together.

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.

The following products may use this section as a guide.

- the need to install a special device on the conductor to protect the conductor terminal block, such as quick connect end or connection;
- through the edge or tip piercing the insulation to achieve direct contact with the conductor terminal block, such as insulation transfer even and so on.

When quoting GB 14048.1-2012, this section substitutes the term "clamping part" instead of "terminal".

1.2 Normative references

The following documents are indispensable for the application of this document. For dated references, only the dated edition applies to this article Pieces. For undated references, the latest edition (including all modifications) applies to this document.

GB 7251.1-2013 Low voltage switchgear and controlgear - Part 1. General (IEC 61439-1.:2011, IDT) GB 14048.1-2012 Low - voltage switchgear and controlgear - Part 1. General (IEC 60947-1.:2011, MOD) GB/T 14048.7-2016 Low voltage switchgear and controlgear - Part 7-1. Secondary devices - Terminal blocks for copper conductors (IEC 60947-7-1.:2009, MOD) GB/T 19334-2003 The size of low-voltage switchgear and control equipment in the complete sets of switchgear and control equipment for electrical equipment Standard mounting rail for rail support (IEC 60715. 1981, IDT)

2 Definition

The following terms and definitions, as defined in GB/T 14048.7-2016 and the following terms and definitions, apply to this document.