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

GB/T 14048.18-2016

Replacing GB/T 14048.18-2008

**Low-voltage switchgear and controlgear -- Part 7-3: Ancillary
equipment -- Safety requirements for fuse terminal blocks
(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, disconnecter 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 electronics and switching elements Electromechanical control circuits - Electrical appliances;
- Part 5-2. Control circuit appliances and switching element proximity switches;
- Part 5-3. Control circuit appliances and switching elements Approximate switch (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 Proximity to the sensor and switching amplifier DC interface (NAMUR);
- 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 7-3 of GB 14048.

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

This part replaces GB/T 14048.18-2008 "Low-voltage switchgear and controlgear Part 7-3. Auxiliary device fuses Line terminal block safety requirements ". The technical differences between this part and GB/T 14048.18-2008 are.

- delete definition 2.8 "rated cross-sectional area" and 2.9 "rated wiring capacity";
- 5.2 "Additional information", change g) to "the manufacturer's stated dissipation power (PV) for overload and short circuit protection and Fuse rated current value "; h) modified to "manufacturer's stated special short-circuit protection rated power dissipation value (PVK) and fuse Body rated current value ";
- 5.3 "Mark on the package", the last increase in the terms "fuse breaking capacity should be based on its installation in the expected short circuit Level to select "as new paragraph, increase" can be printed on the packaging and printed on the "warning" words and indicate in accordance with IEC 60127-2.

The breaking capacity of the fuse link required in 2003 shall be selected as "Note" according to its intended short-circuit level at the installation site;

- 7.1.3 "Electric clearance and creepage distance", the second paragraph is promoted to the first paragraph, the second item of item a) is modified to "the same Series and size of the fuse terminal block between the live parts of the insulation ";

--- 8.3.3.1 "Mechanical strength test of clamping parts" In paragraph 2 and paragraph 4, the words "thread diameter less than or equal to 2.8 mm Screw-type clamping parts of the tightening torque "content; and clearly stipulates that the test should be in the five fuse terminals block center terminal Block position on two clamping members;

--- 8.4.5 "Temperature rise of clamps" and 8.5.2.4 "Thread conditions" for "Threaded clamps with thread diameters less than or equal to 2.8 mm Tightening, torque shall be in accordance with IEC 60947-7-1.:2009 Table C.1 or higher value specified by manufacturer " "Higher torque as specified by the manufacturer";

- modify the contents of 8.5.2.5 "analog fuse links for tubular fuse links";

--- Table 2 "Simulated fuse" in the "5 x 20" size corresponding to the maximum power dissipation and the associated resistance value increased by 8A and 10A two levels of value.

This part uses the translation method equivalent to IEC 60947-7-3.:2009 (version 2.0) "Low-voltage switchgear and control equipment Section 7-3 Min. safety requirements for auxiliary device fuses terminal blocks ".

In this part of the normative reference to the international documents have a consistent correspondence between the following documents.

--- GB 9364.2-1997 Small fuses - Part 2. Tubular fuse links (IEC 60127-2. 1988, IDT) GB 14048.1-2012 Low-voltage switchgear and controlgear - Part 1. General (IEC 60947-1.:2011, MOD) Low voltage switchgear and controlgear - Part 7-1. auxiliary devices - Terminals for copper conductors - GB/T 14048.7-2016 Sub-row (IEC 60947-7-1.:2009, MOD) this part makes the following editorial changes.

- to remove the preamble of international standards;

- Table A.1 format is inaccurate and modified according to IEC 60127-6;

In Chart B.1 to B.4 of Appendix B, $TS_1 = TA_{\Delta}TS_1$ (the temperature measured near the surface of the part), IEC is the "The temperature measured on the surface of the susceptible material" is a typo, which, according to the standard context, is replaced by "easy access to the component surface Measured temperature ".

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.

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Jinfeng.

This part of the previous version of the standard to replace the release of the situation.

--- GB/T 14048.18-2008.

Introduction

The fuse terminal block standard not only includes the requirements of the terminal block, but also consider the GB 9364.1-2015 and Specification and requirements for tubular fuse - links in IEC 60127-2.:2003. The link between this standard and the tubular fuse link is established Tubular fuse (rated current with rated characteristics of 5mm x 20mm or 6.3mm x 32mm) Voltage, maximum voltage drop and minimum sustained dissipation power) and IEC 60947-7-1.:2009 requirements for terminal block with the basis of. In this way, you can determine the quality of the "fuse terminal block".

An important fact is that when using a fuse-type fuse with a fuse terminal block, the heat of the fuse under the rated load Much less heat than under overload conditions. The rated load is the result of the maximum current drop through the rated current, but under overload conditions, There is a considerable increase in the power dissipation equal to the maximum sustained dissipation power specified in IEC 60127-2.:2003.

In industrial applications, a single fuse terminal block is used in a set of terminal blocks, or many fuse terminals are shaped Into a unique arrangement, which makes the same fuse under the same current dissipation. In addition, it should also be considered in the general range of the fuse (for overload and short circuit protection), some of the fuse terminal block is specifically used for GB 16895.5 provisions of the short circuit such as in a control circuit that does not exhibit an overload (ie, a safety coil, indicator, or the like).

Therefore, there are four different types of use to be specified in the catalog or on the fuse terminal block. See Appendix B for details.

Low voltage switchgear and control equipment Part 7-3. auxiliary device fuses Safety requirements for terminal blocks

1.1 Scope

This part of GB 14048 is suitable for use with threaded and non-threaded connections to hard copper conductors (single or multi-stranded) or soft copper conductors Type Clamp Fuse Terminal Block. The fuse terminal block carries or uses the pipe fuse described in IEC 60127-2.:2003.

Mainly used for AC does not exceed 1000V, frequency to 1000Hz or DC does not exceed 1500V, the maximum short circuit breaking capacity of 1500A of industrial or similar applications.