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

GB/T 14048.12-2025

Replacing GB/T 14048.12-2016

**Low-voltage switchgear and controlgear - Part 4-3: Contactors
and motor-starters - Semiconductor controllers and
semiconductor contactors for non-motor loads**

低压开关设备和控制设备 第4-3部分：接触器和电动机起动器 非电动机负载用半
导体控制器和半导体接触器

(English Translation)

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References

Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is Part 4-3 of GB/T 14048 "Low-voltage switchgear and controlgear". GB/T 14048 has published the following...

part.

- Part 1: General Provisions;
- Part 2: Circuit Breakers;
- Part 3: Switches, Isolators, Disconnecting Switches and Fuse Combinations;
- Part 4-1. Contactors and Motor Starters Electromechanical contactors and motor starters (including motor protectors);
- Part 4-2. Contactors and Motor Starters. Semiconductor Controllers and Starters (including Soft Starters) for AC Motors;
- Part 4-3. Contactors and Motor Starters. AC Semiconductor Controllers and Contactors for Non-Motor Loads;
- Part 5-1. Control Circuit Appliances and Switching Elements - Electromechanical Control Circuit Appliances;
- Part 5-2. Control Circuits, Electrical Appliances, and Switching Elements (Proximity Switches);
- Part 5-3. Control Circuitry and Switching Elements. Proximity Switches (PDDBs) with Defined Functionality under Fault Conditions Require;
- Part 5-4. Special Tests for Performance Evaluation of Small-Capacity Contacts in Control Circuits and Switching Elements;
- Part 5-5. Electrical emergency braking devices with mechanical latching function, including control circuitry and switching elements;
- Parts 5-6. Control Circuit Electrical Appliances and Switching Elements DC Interface for Proximity Sensors and Switching Amplifiers (NAMUR);
- Parts 5-7. Requirements for control circuit electrical appliances and switching elements for proximity devices with analog outputs;
- Parts 5-8. Control Circuit Electrical Appliances and Switching Elements - Three-position Enable Switch;
- Parts 5-9. Control Circuits, Electrical Appliances, and Switching Elements; Flow Switches;
- Part 6-1. Multifunctional Electrical Transfer Switches;
- Part 6-2. Multifunctional Electrical Appliances (Equipment) Control and Protection Switchgear (Equipment) (CPS);
- Part 7-1. Terminal blocks for copper conductors of auxiliary devices;
- Part 7-2. Protective conductor terminal blocks for copper conductors of auxiliary devices;
- Part 7-3. Safety requirements for auxiliary device fuse terminal blocks;

- Part 7-4.PCB terminal blocks with copper conductors for auxiliary components;
- Part 7-5.Terminal blocks for aluminum conductors in auxiliary components;
- Part 8: Built-in Thermal Protection (PTC) Control Unit for Rotating Electrical Machines;
- Part 9-1.Arc extinguishing devices for active arc fault suppression systems.

This document replaces GB/T 14048.12-2016 "Low-voltage switchgear and controlgear - Part 4-3.Contactors and motor starting".

"AC Semiconductor Controllers and Contactors for Non-Motor Loads" has been revised compared to GB/T 14048.12-2016, except for structural adjustments and editing.

Aside from the sexual alterations, the main technical changes are as follows.

- Added provisions that do not apply to this document (see Chapter 1);
- Added security-related aspects.
 - General requirements (see 8.1.1);
 - Energy-constrained circuits (see 8.1.14);
 - Electronic circuits (see 8.1.1);
- Dedicated wiring accessories have been added (see 6.1, 6.3, 8.1.1, 9.1.2, 9.1.3);
- Power consumption measurement has been added (see 8.2.4.4, 9.3.3.2).

This document is equivalent to IEC 60947-4-3:2020 "Low-voltage switchgear and controlgear - Part 4-3.Contactors and motors".

Semiconductor controllers and semiconductor contactors for non-motor loads of actuators.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Electrical Equipment Industry Association.

This document is under the jurisdiction of the National Technical Committee on Standardization of Low Voltage Electrical Appliances (SAC/TC189).

Introduction

Low-voltage switchgear and control equipment are produced in large quantities and are widely used, including products such as circuit breakers, isolators, disconnector switches and fuse combinations, etc.

Contactors and starters are widely used in various fields such as machinery, power, and electronics, involving multiple aspects such as the control and distribution of electrical energy.