

ICS 29.120.40; 29.130.20



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

GB/T 14048.11-2024

**Low-voltage switchgear and controlgear - Part 6-1: Multiple
function equipment - Transfer switching equipment
(English Translation)**

Issued on: April 25, 2024

Implemented on: November 1, 2024

Issued by: State Administration for Market Regulation

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Foreword

This document was drafted in accordance with the rules given in GB/T 1.1-2020, Directives for standardization - Part 1.Rules for the structure and drafting of standardizing documents.

This document is Part 6-1 of GB/T 14048, Low-voltage switchgear and controlgear.

The following parts have been issued under GB/T 14048.

- Part 1.General rules;
- Part 2.Circuit-breakers;

- Part 3.Switches, disconnectors, switch-disconnectors and fuse-combination units;
- Part 4-1.Contactors and motor-starters - Electromechanical contactors and motor-starters (Including motor protector);
- Part 4-2.Contactors and motor starters - Semiconductor controllers and starters for AC motors (including soft starters);
- Part 4-3.Contactors and motor-starters - AC semiconductor controllers and contactors for non-motor loads;
- Part 5-1.Control circuit devices and switching element - Electromechanical control circuit devices;
- Part 5-2.Control circuit appliances and switching elements - Proximity switches;
- Part 5-3.Control circuit devices and switching elements - Requirements for proximity devices with defined behaviour under fault conditions (PDDB);
- Part 5-4.Control circuit devices and switching elements - Method of assessing the performance of low-energy contacts - Special test;
- Part 5-5.Control circuit devices and switching elements - Electrical emergency stop device with mechanical latching function;
- Part 5-6.Control circuit devices and switching elements - DC interface for proximity sensors and switching amplifiers (NAMUR);
- Part 5-7.Control circuit devices and switching elements - Requirements for proximity devices with analogue output;
- Part 5-8.Control circuit devices and switching elements - Three-position enabling switches;
- Part 5-9.Control circuit devices and switching elements - Flow rate switches;
- Part 6-1.Multiple function equipment - Transfer switching equipment;
- Part 6-2.Multiple function equipment control and protective switching devices (or equipment) (CPS);

- Part 7-1.Ancillary equipment - Terminal blocks for copper conductors;
- Part 7-2.Ancillary equipment - Protective conductor terminal blocks for copper conductors;
- Part 7-3.Ancillary equipment - Safety requirements for fuse terminal blocks;
- Part 7-4.Ancillary equipment - PCB terminal blocks for copper conductors;
- Part 7-5.Ancillary equipment - Terminal blocks for aluminium conductors;
- Part 8.Loaded thermal protection (PTC) control units for rotating electrical machines;
- Part 9-1.Active arc-fault mitigation systems - Arc quenching devices;

This document replaces GB/T 14048.11-2016, Low-voltage switchgear and controlgear

- Part 6-1.Multiple function equipment - Transfer switching equipment. Compared with GB/T 14048.11-2016, except for structural adjustment and editorial changes, the main technical changes are as follows.

- Add the provisions for the scope to which this document does not apply (see Clause 1; Clause 1 of the 2016 edition);
- Update terms and definitions (see Clause 3; Clause 3 of the 2016 edition);
- Add multi-source transfer switching equipment (see Clause 4, Annex D);
- Add bus-tie transfer switching equipment (see Clause 4, Annex E);
- Add bypass transfer switching equipment (see Clause 4, Annex F);
- Change the definition of utilization category (see 5.4; 5.4 of the 2016 edition);
- Change the marking requirements (see 6.2; 6.2 of the 2016 edition);
- Add requirements for clearances and creepage distances (see 8.1.6);
- Add requirements and tests for mechanical and electrical interlock (see 8.2.1.2, 9.2.3.2);
- Add requirements for operating sequences (see 6.3);
- Change the requirements for rated short-time withstand current (see 5.3.6.2, 8.2.5.1, 9.2.5.2; 5.3.6.1, 8.2.5.1, 9.3.4.3 of the 2016 edition);
- Change the requirements for electromagnetic compatibility (see 8.3, 9.2.8; 8.3,

9.5 of the 2016 edition);

-- Add test sequence V - critical load current performance of equipment with a DC rating (see 8.2.6, 9.2.7).

This document adopts IEC 60947-6-1.2021 Low-voltage switchgear and controlgear - Part 6-1. Multiple function equipment - Transfer switching equipment by modification.

This document has made the following structural adjustments compared to IEC 60947-6-1.2021.

-- 3.1 corresponds to 3.3 of IEC 60947-6-1.2021; 3.2 corresponds to 3.4 of IEC 60947-6-1.2021; 3.3 corresponds to 3.5 of IEC 60947-6-1.2021; 3.4 corresponds to 3.6 of IEC 60947-6-1.2021;

-- Add Annex C ~ Annex F.

The technical differences between this document and IEC 60947-6-1.2021 and their reasons are as follows.

-- Use the normatively referenced GB/T 14048.3 to replace IEC 60947-3.2020, to adapt to our country's technical conditions and increase operability (see 3.2.5, 9.2.6.1);

-- Add the terms and definitions for specific transfer switching equipment in

3.1.6 to adapt to our country's technical conditions and increase operability;

-- Add the terms and definitions related to purposely introduced time delays in

3.2.11 to adapt to our country's technical conditions and increase operability;

-- Add multi-source transfer switching equipment [see Clause 4 f) and Annex D] to adapt to our country's technical conditions and increase operability;

-- Add bus-tie transfer switching equipment [see Clause 4 f) and Annex E] to adapt to our country's technical conditions and increase operability;

-- Add bypass transfer switching equipment [see Clause 4 f) and Annex F] to adapt to our country's technical conditions and increase operability;

-- According to the product technical requirements, change the description of the