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

GB/T 16915.2-2024

Replacing GB/T 16915.2-2012

**Switches for household and similar fixed electrical installations
- Part 2-1: Particular requirements for electronic control devices**

家用和类似用途固定式电气装置的开关 第2-1部分：电子控制装置的特殊要求

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

1. Structure and drafting rules for standardization documents" Drafting. This document is Part 2-1 of GB/T 16915 "Switches for household and similar fixed electrical installations". GB/T 16915 has been The following parts were published.

1. General requirements (GB/T 16915.1);

1. Particular requirements for electronic control devices (GB/T 16915.2);

2. Particular requirements for electromagnetic remote control switches (RCS) (GB/T 16915.3);

3. Particular requirements for time delay switches (TDS) (GB/T 16915.4);

4. Particular requirements for disconnectors (GB/T 16915.5);

6. Particular requirements for fire switches for external or internal marking and lighting (GB/T 16915.7). This document replaces GB/T 16915.2-2012 "Switches for household and similar fixed electrical installations Part 2-

1 Scope

GB/T 16915.2-2024 carries the particular requirements for electronic switches and control devices in household and similar fixed electrical installations: the dimmers, touch and proximity switches, timers, occupancy sensors and the electronic wall devices that have replaced the mechanical switch in most new Chinese installations. It works as a modification of the general requirements of Part 1, clause by clause, which is why its clause structure mirrors that part exactly, from the ratings and marking through the protection against electric shock, the terminals, the construction, the insulation resistance and electric strength, the temperature rise, the switching capacity, the normal operation endurance, the mechanical strength and the heat and fire resistance. The requirements that matter most here are the ones a mechanical switch never needed: the behaviour of the electronic control under abnormal supply conditions, the leakage current through a device that is never fully off, the immunity and emission requirements for a device with a switching power stage sitting in a wall box, and the endurance of a semiconductor switching element under the load types a lighting circuit presents. The 2024 edition replaces GB/T 16915.2-2012, which is superseded, and takes effect on 1 October 2025.

This chapter in GB/T 16915.1-2024 is replaced by the following content. This document specifies electronic control gear, including electronic switches, home and building electronic systems (HBES)/building automation and control systems. Classification, protection against electric shock, grounding measures, structural requirements, mechanical properties, electrical properties of BACS switches and related electronic auxiliary devices And other technical requirements. This document applies to electronic switches and HBES/BACS switches for household and similar fixed electrical installations, for indoor or outdoor use. The rated voltage of these switches shall not exceed 250V AC and the rated current shall

not exceed 16A. This document also applies to electronic auxiliary devices, such as sensors and buttons, with a rated voltage not exceeding 250 V AC and 120 V DC. This document also applies to electronic remote control switches (RCS) and electronic time delay switches (TDS). Annex FF gives specific requirements. Only passive components [e.g., resistors, capacitors, inductors, positive temperature coefficient (PTC) and negative temperature coefficient (NTC) components, varistors, Switches on printed wiring boards and connectors] are not considered to be electronic control devices. This document also applies to operating lighting circuits, controlling the brightness of lamps (dimmers), controlling the speed of electric motors (e.g. exhaust fans, etc.) and Electronic switches and HBES/BACS switches for other purposes (e.g. heating control). To achieve the above operation and/or control, electronic signals can be transmitted through several media, such as power lines (power lines), twisted pair cables, optical Fiber, radio frequency and infrared, etc..

--- Artificially through starting elements, buttons, cards, etc., with the help of sensing surfaces or sensing elements, through contact, proximity, rotation, light, sound or Heat, etc.

---Through changes in physical quantities, such as light, temperature, humidity, time, wind speed, and human presence;

---Through other external influences. This document also applies to electronic control gear including integrated radio receivers and transmitters. This document covers only the mounting box requirements necessary for testing electronic control gear. The requirements for general installation boxes are given in GB/T 17466 (all parts) (if any). Electronic control devices conforming to this document are suitable for use in environments where the ambient air temperature does not normally exceed 35°C and occasionally reaches 40°C¹⁾. Use in an ambient temperature of -5°C. 1) Some areas of my country have a subtropical climate. Considering the most severe conditions, the ambient temperature of electronic switches is usually not more than 35°C, but may occasionally reach The ambient temperature for use specified in IEC 60669-2-1:2021 is "usually not exceeding 25°C, but occasionally reaching 35°C". Note

1. For low temperature, see Appendix D. This document does not address functional safety aspects. Functional safety requirements are covered by the standards for the controlled equipment. In places with special conditions, for example, on board ships, vehicles and similar places and in hazardous places (e.g., places where explosions may occur). side), special construction and/or additional requirements may be required. This document is not intended to cover devices designed to be incorporated into appliances or devices intended to be delivered with specific appliances, as well as devices specified in GB/T 14536 (all parts) or devices within the scope of GB/T 15092. Design examples of electronic switches and HBES/BACS switches and examples of their functions are given in Appendix AA. According to GB/T 42079, Appendix CC gives additional requirements for electronic control devices using DLT technology.

5 Switches for household and similar fixed electrical installations.

Part 2-

5.Switches for household and similar fixed electrical installations. Switches and related accessories for building electronic systems (HBES) This document is based on GB/T 16915.2-2012 and integrates Compared with GB/T 16915.2-2012, GB/T 16915.6-2015 has the following major technical changes, in addition to structural adjustments and editorial changes. The following.

--- HBES/BACS switches were added to the scope; "electronic switches" were changed to "electronic control devices" (see Chapter 1,.2012 edition) Chapter 1);

3.101 Electronic switches,

3.102 Residential and building electronic systems/building automation and control systems HBES/BACS, 3.103HBES/BACS switch,

3.105 extra low voltage,

3.106 functional extra low voltage,

3.107 safety extra low voltage circuit,

3.108 Protection of extra-low voltage circuits,

3.109 Simple isolation,

3.110 Protective isolation,

3.111 Basic insulation,

3.112 Supplementary insulation,

3.113 Double insulation,

3.114 Reinforced insulation,