

ICS 29.120.40
CCS K 60



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

GB 16915.2-2012

Replacing GB/T 16915.2-2012, GB/T 16915.6-2015

**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：电子开关的特殊要求

(English Translation)

Issued on: September 29, 2024

Implemented on: October 1, 2025

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

Table of Contents

Preface	
Introduction	
1 Scope	
2 Normative references	
3 Terms and definitions	
4 General requirements	
5 General notes on the test	
6 Rated value	
7 Categories	
8 Sign	
9 Dimensional inspection	
10 Protection against electric shock	
11 Grounding measures	
12 Terminal	
13 Structural requirements	
14 Switch mechanism	
15 Aging resistance, protection provided by the switch housing and moisture resistance	
16 Insulation resistance and electrical strength	
17 Temperature rise	
18 Switching capacity	
19 Normal Operation	
20 Mechanical strength	
21 Heat resistant	
22 Screws, current-carrying parts and connections	
23 Creepage distance, electrical clearance and distance through sealant	
24 Resistance of insulating materials to abnormal heat, flame and tracking	
25 Rust prevention	
26 Electromagnetic compatibility (EMC) requirements	
101 Abnormal Conditions	
102 Element	
103 Electromagnetic Field (EMF)	

Appendix A (Normative) Additional requirements for switches with flexible cable outlet devices and flexible cable retention devices

Appendix B (Informative) To make IEC 60669-1 conform to IEC 60998 (all parts), IEC 60999 (all parts) and GB/T

Changes in plan due to requirements

Appendix C (Informative) Source of the circuit 19.3

Appendix D (informative) Additional requirements and tests for switches intended to be used at temperatures below -5°C

Appendix AA (Informative) Electronic switch or HBES/BACS switch type examples and functions

Appendix BB (Informative) Source of circuit. 19.106 Explanation

Appendix CC (Normative) Complies with GB/T 42079 Additional requirements for electronic control devices using DLT technology

Appendix DD (Informative) Test Device

Appendix EE (Informative) Electrical interface specification for phase-cut dimming lighting systems

Appendix FF (Normative) Electronic RCS and

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.

--- Part 1: General requirements (GB/T 16915.1);

--- Part 2-1.Particular requirements for electronic control devices (GB/T 16915.2);

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

--- Part 2-3.Particular requirements for time delay switches (TDS) (GB/T 16915.4);

--- Part 2-4.Particular requirements for disconnectors (GB/T 16915.5);

--- Part 2-6.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.Electronic switches Part 2-5.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);

--- Added 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, 3.120 Phase dimmer, 3.125 Live parts, 3.126 Hazardous live parts,

3.127 Definition of loop-through function (see Chapter 3);

--- Changed the definitions of electronic auxiliary devices, rated load, minimum load and minimum current (Chapter 3, Chapter 3 of the 2012 edition);

--- Changed the test specimens required (see Table 1, Table 101 of the 2012 edition);

--- Added requirements for gateways, power supplies and other components installed in electronic control devices (see Chapter 4);

--- Added the requirements for the number of samples required for testing HBES/BACS switches equipped with circuit breakers (see 5.101);

--- Changed the rated voltage (see 6.1, 6.1 of the 2012 edition);

--- Changed the rated current (see 6.2, 6.2 of the 2012 edition);

--- Added classification (see Chapter 7);

--- Changed the general requirements for marking, and added the corresponding marking content for HBES/BACS switches (see 8.1, 8.1 of the 2012 edition);

--- Added the "LED" symbol, and the electronic switch or heating device for resistive load and motor load HBES/BACS switch marking requirements (see 8.2);

--- Added requirements for HBES/BACS switch marking (see 8.3 and 8.6);

--- Changed "live parts" to "hazardous live parts" (see Chapter 10, Chapter 10 of the 2012

edition);

--- Added the requirements for the protection impedance of electronic control devices with protection level IPX0 (see 10.2);

--- Added requirements for adjusting set points (see 10.101).

--- Added protection against electric shock requirements for SELV, PELV or FELV circuits (see 10.103);

--- Increased contact current protection requirements (see 10.104).

--- Changed the requirements for grounding measures (see Chapter 11, Chapter 11 of the 2012 edition);

--- Added terminal requirements (see Chapter 12);

--- Changed the structural requirements (see 13.5, 13.5 of the 2012 edition).

--- Added requirements for surface-mounted switches with protection levels of IPX4, IPX5 and IPX6 installed on the wall (see 13.9);

--- Added requirements for HBES/BACS switch structure (see 13.101, 13.102);

--- Deleted the requirements for the time delay switch and replaced them with the requirements for the free end of the wire (see 13.103 of the 2012 edition);

--- Added requirements for HBES/BACS switch mechanisms (see Chapter 14);

--- Deleted the requirements for electronic remote control switches and electronic time delay switches in the switch mechanism (see 14.101 of the 2012 edition);

--- Changed the test voltage, test voltage application point and minimum insulation resistance for verifying electrical strength (see Table 15, 2012 edition

Table 14);

--- Added requirements for HBES/BACS switch temperature rise and loop-through circuit requirements (see Chapter 17);

--- Added the requirements for the switching capacity of HBES/BACS switches (see Chapter 18);

--- Added requirements for normal operation of HBES/BACS switches (see Chapter 19);

--- Deleted the requirements for electronic remote control switches and electronic delay switches in normal operation (see 19.106, 19.107 and 19.108); Added the contact mechanism, Requirements for designing electronic switches for heating devices and HBES/BACS switches and contact mechanisms for motor control circuits See 19.106, 19.107 and 19.108;