

ICS 13.120
CCS K 09



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

GB/T 4706.91-2024

Replacing GB 4706.91-2008

**Safety of household and similar electrical appliances - Part 91:
Particular requirements for electric fence energizers**

家用和类似用途电器的安全 第91部分：电围栏激励器的特殊要求

(English Translation)

Issued on: July 24, 2024

Implemented on: August 1, 2026

**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 conditions for testing
6 Categories
7 Markings and instructions
8 Protection against contact with live parts
9 Starting of electrical appliances
10 Input power and current
11 Fever
12 Empty Chapter
13 Leakage current and electrical strength at operating temperature
14 Transient overvoltage
15 Moisture resistance
16 Leakage current and electrical strength
17 Overload protection of transformers and related circuits
18 Durability
19 Abnormal working conditions
20 Stability and mechanical hazards
21 Mechanical strength
22 Structure
23 Internal wiring
24 Element
25 Power connection and external cord
26 Terminal block for external conductor
27 Grounding measures
28 Screws and connections
29 Creepage distances, clearances and solid insulation
30 Heat and flame retardant

31 Rust-proof

32 Radiation, toxicity and similar hazards

Appendix

Appendix A (Informative) Routine Test

Appendix B (Normative) Appliances powered by rechargeable batteries

Appendix S (Normative) Appliances powered by non-rechargeable batteries or batteries not rechargeable in the equipment

Appendix AA (Informative) Circuit for Independently Controlling the Switching Speed of Main Pulse Switching Devices

Appendix BB (Normative) Electric Fence Installation and Connection Instructions

Appendix CC (Informative) Installation of Security Electric Fence

References

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 91 of GB/T 4706 "Safety of Household and Similar Electrical Appliances". GB/T 4706 has been published as follows part.

--- Part 1: General requirements;

--- Part 2: Particular requirements for electric irons;

--- Part 121: Particular requirements for professional ice cream machines.

This document replaces GB 4706.91-2008 "Particular requirements for safety electric fence actuators for household and similar electrical appliances" and Compared with GB 4706.91-2008, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

--- Added "Security Electric Fence Exciter", "Independent Timing Security Exciter", "Non-Independent Timing Security Exciter", and "Security Exciter Group" "R-type exciter", "R-type exciter group", "S-type exciter", "S-type exciter group", "security exciter pulse time signal", "pulse "Impulse timing signal source" "Security electric exciter system" terms and definitions (see 3.5.109, 3.5.110, 3.5.111, 3.5.112, 3.5.113, 3.5.114, 3.5.115, 3.5.116, 3.6.102, 3.6.103, 3.8.112);

--- Changed the definition of rated current (see 3.1.6, 3.1.6 of the 2008 edition);

--- Changed the description of the actuator marking symbols (see 7.1, 7.1 of the 2008

edition);

- Changed the symbol of the actuator (see 7.6, 7.6 of the 2008 edition);
- Added the instruction manual information of security actuator (see 7.104);
- Changed the additional test method for transient overvoltage of Class D exciter (see 14.103, 14.103 of the 2008 edition);
- Added technical requirements for power supply voltage setting and testing (see Table 102, Table 103 and Table 104);
- Changed the limit of pulse repetition frequency (see 19.13, 19.13 of the 2008 edition);
- Added the description of simulated failure modes and pulse time signal source failures for abnormal operation (see 19.106, 19.107);
- Added R-type security exciter test group configuration (see Figure 104) and S-type security electric exciter test group configuration (see Figure 105);
- Added requirements for actuator output components (see 22.12);
- Changed the scope of the clause (see 22.31 and 22.32, 2008 edition of 22.31 and 22.32);
- Added additional measures required when using programmable protection electronic circuits (see 22.46);
- Added requirements for removable power supply devices for Class D exciters (see 22.56);
- Added structural requirements for parts clearance, standard load pulse energy, output characteristics, etc. (see 22.112~22.115);
- Deleted the requirements for the connection method of the battery-driven exciter cord (see 25.5 of the 2008 edition);
- Changed the schematic diagram of the actuator (see Figures 101 and 102, Figure 101 of the 2008 edition);
- Added R-type security exciter test group configuration (see Figure 104) and S-type security electric exciter test group configuration (see Figure 105);
- Added appliances powered by non-rechargeable or rechargeable batteries not in the equipment (see Appendix S);
- Changed the relevant terms for the security electric fence requirements in the non-security exciter group (see Appendix BB in BB.2, 2008 edition Appendix BB of BB.2);
- Changed the requirements for security electric fences in security actuator groups (see BB.3, BB.2 of the 2008 edition).

This document is equivalent to IEC 60335-2-76:2018 "Safety of Household and Similar Electrical Appliances Part 2-76.Electric Fence Actuators" Special Requirements for the following minimal editorial changes were made to this document.

--- The name of the standard was changed to "Safety of Household and Similar Electrical Appliances Part 91: Particular Requirements for Electric Fence Exciters", and the standard was strengthened.

Coordination of the quasi-system.

Introduction

GB/T 4706 "Safety of Household and Similar Electrical Appliances" mostly adopts IEC 60335. On this basis, GB/T 4706 refers to the structure of IEC 60335 is divided into several parts, consisting of general requirements and special requirements. Part 1 is general requirements, and the other parts are for products covered by special requirements, their safety requirements are general requirements used in combination with the special requirements.

The requirements include supplements and modifications to the corresponding clauses in the general requirements to provide complete requirements for each product.

This document is the protection requirements for electrical, mechanical, thermal, fire and radiation risks when the appliance is used normally in accordance with the instructions for use.

This document also covers abnormal conditions that may occur during use and considers how electromagnetic interference may affect the safe operation of the equipment.

This document has taken into account the requirements specified in GB/T 16895 "Low Voltage Electrical Installations". The appliance is connected to the power supply in accordance with the electrical wiring rules.

requirements are coordinated.

If multiple functions of an appliance involve other parts of GB/T 4706, the other parts shall apply to the appliance separately as long as it is reasonable.

Each function. If applicable, consider the impact of one function on other functions.

When no additional requirements are given in other parts for hazards already included in this document, GB/T 4706.1 applies.

GB/T 4706 is a standard covering appliance safety and takes precedence over general standards/horizontal standards covering the same subject.

This document is used in conjunction with GB/T 4706.1-2024 "Safety of Household and Similar Electrical Appliances Part 1: General Requirements".