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

GB/T 47033-2026

Particular requirements for source switching equipment (SSE)

电源切换设备（SSE）的特殊要求

(English Translation)

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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 modified to adopt IEC 62991:2022 "Particular requirements for power switching equipment (SSE)".

The technical differences between this document and IEC 62991:2022, and the reasons therefor, are as follows.

---IEC 60127-1 has been replaced with the normatively referenced GB/T 9364.1. The consistency level of the two documents is modified to suit my needs.

National technical conditions and increased operability (see 8.14.2, 9.17.2, and 9.17.3);

---IEC 60898-2:2016 has been replaced with the normatively referenced GB/T

10963.2-2020. The degree of consistency between the two documents is.

Modifications were made to adapt to my country's technological conditions and increase operability (see 3.1.29, 3.1.30, 3.3.2, 4.2, 5.1, 5.4, 7.1, 8.1 and...).

9.1.3);

---IEC 60669 (all parts) has been replaced with the normatively referenced GB/T 16915 (all parts), and the consistency between the two documents is ensured.

The modifications were made to adapt to my country's technological conditions and increase operability (see 4.2, 5.4.2, 5.4.5, 8.1, and 9.1.3);

---Changes have been made to the terminology and definitions regarding (A-SSE) operating procedures, monitored power deviation, contact transition time, switch position, and position.

Position I, Position II, Usage Category, (Mechanical Switching Device) Operating Cycle, (Mechanical Switching Device) Operating Sequence, Manual Control Local control, remote control, manual operation SSE, remote operation SSE, automatic operation SSE, (SSE) switching unit, (SSE) (SSE) control unit, (SSE) main circuit, (SSE) control circuit, (SSE) control contacts, wiring terminals, connector terminals, Unthreaded terminals, operating parts, extra-low voltage safety system, rated limiting short-circuit current (see 3.1, 3.2.1);

---IEC 60695-2-11:2021 has been replaced by the normatively referenced GB/T 5169.11-2017, and GB/T 1633 has been replaced by...

ISO 306 and GB/T 2423.3 replace IEC 60068-2-78, and GB/T 3956 replaces IEC 60228 and GB/T 5169.10.

It replaces IEC 60695-2-10, GB/T 9364.1 replaces IEC 60127-1, and GB/T 1058 replaces IEC 60212.

GB/T 11021 replaces IEC 60085, and GB/T 16915 (all parts) replaces IEC 60669 (all parts).

GB/T 17626.2 replaces IEC 61000-4-2, GB/T 17626.3 replaces IEC 61000-4-3, and GB/T 17626.4 replaces...

IEC 61000-4-4 was replaced by GB/T 17626.5, which replaced IEC 61000-4-5, and GB/T 17626.6 replaced IEC 61000-GB/T 17626.8 replaces IEC 61000-4-8, and GB/T 17626.11 replaces IEC 61000-4-11.

GB/T 37751.31 replaced IEC 62873-3-1, and GB/T 37751.33 replaced IEC 62873-3-3, to adapt to my country's technical standards.

Technical conditions (see full text).

The following editorial changes have been made to this document.

---Following domestic industry terminology, the definition name has been changed from "human control" to "manual control" to increase operability (see 3.1.24);

---Corrected the error in the index number of Figure 29 in the original IEC document, changing "Q" to "S" (see Figure 29);

---IEC 60364-4-41 has been replaced with GB/T 16895.21, which is cited in the informational reference.

---IEC 61140:2016 has been replaced by GB/T 17045-2020 (referenced for informational purposes).

---IEC 62019 has been replaced with GB/T 20640, which is used for informational reference.

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 Electrical Accessories (SAC/TC67).

Introduction

Proper design and installation considerations can promote the optimization of electrical energy use. Electrical installation techniques provide the necessary services and safety for minimum power consumption.

All levels.

The designers believe this is a general requirement of the design process to determine the optimal use of electrical energy.

As shown in Figure 1, the optimization of electricity use is based on energy efficiency management, which is based on electricity prices, electricity consumption, and real-time adjustments.

Figure 1 Energy Efficiency Management System

See Figure 2 for power switching devices (SSEs) for home and similar uses.

SSE is used for.

---Making energy usage transparent to end users, while also taking into account local power generation or storage;

---Optimize electrical energy from the grid or other local power sources/storage.

Figure 2.Principle of managing two power supplies using a power switching device (SSE).

Note: See Appendix A for examples of SSE usage.

The SSE usage modes include the following.

---Direct power supply mode. Corresponds to normal power supply (powered from the grid). The storage unit can power the device, or it can be powered by the grid or...

Local power supply charging.

---Island mode. The load is supplied by local energy and storage units and is disconnected from the power grid.

---Reverse power supply mode. Supports grid power supply. The storage unit can supply power to the device and/or the grid, or it can be powered by a local power source.

Charge.

Special requirements for power switching equipment (SSE)

1 Scope

This document specifies the classification, characteristics, markings and product information, and operating standards for power switching devices for household and similar purposes.

Conditions, structure and operation requirements, type testing.

This document applies to power switching devices (SSEs) for residential and similar applications. These devices are primarily used for the local production of energy.

And/or storage technologies to achieve energy efficiency (EE) objectives.

The SSE is intended to be installed in a low-voltage production and consumption electrical installation (PEI) to transmit electrical energy.

---Or supply current to devices (direct power supply mode or islanded mode);

---Or transmit to the power grid (reverse transmission mode).

SSE is designed to select and/or combine two power sources in an Energy Management System (EEMS) (e.g., from the grid, local power, storage unit).

(Select from the options), SSE can also be used as a backup power source.

Note 1: The "Islanding Switching Device" (SDFI) feature is under consideration because additional requirements may be required. See Figure 4 in GB/T 16895.37-2025.

SSE is part of stationary electrical installations.

This document applies to rated voltages not exceeding 440VAC, frequencies of 50Hz, 60Hz, or 50/60Hz, and rated currents not exceeding 125V.