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

GB/T 6115.3-2026

Replacing GB/T 6115.3-2002

Series capacitors for power systems - Part 3: Internal fuses

电力系统用串联电容器 第3部分：内部熔丝

(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 Part 3 of GB/T 6115 "Series Capacitors for Power Systems". GB/T 6115 has already published the following parts.

- Part 1: General Provisions;
- Part 2: Protection devices for series capacitor banks;
- Part 3: Internal Fuse;
- Part 4: Thyristor-controlled series capacitors.

This document supersedes GB/T 6115.3-2002 "Series Capacitors for Power Systems - Part 3: Internal Fuses", and is consistent with...

Compared with GB/T 6115.3-2002, apart from structural adjustments and editorial changes, the main technical changes are as follows.

---The scope has been changed to explain the main contents specified in this document (see Chapter 1, Chapter 1 of the 2002 edition);

---The terms "internal fuse," "limiting voltage," "rated voltage of capacitor," "capacitor bank protection," and "unbalance protection" have been removed.

Meaning (see 1.3.1~1.3.5 in the 2002 edition);

---The term and definition of "rated voltage of capacitor element" have been added (see 3.1);

---Added requirements regarding the fuse's ability to withstand specific discharge currents (see 4.3.3);

---The isolation test for the internal fuse has been added, and can be performed on two different units (see 5.2.3.1);

---The preheating capacitor and electrical breakdown element in the internal fuse isolation test method have been removed (see A.2 in the 2002 edition).

This document is modified to adopt IEC 60143-3:2015 "Series capacitors for power systems - Part 3: Internal fuses".

The technical differences between this document and IEC 60143-3:2015, and the reasons therefor, are as follows.

---The scope has been changed to explain the main contents specified in this document (see Chapter 1);

---Added isolation requirements for u_2 (see 4.2).

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 Power Capacitors (SAC/TC45).

Introduction

GB/T 6115 "Series Capacitors for Power Systems" is proposed to consist of four parts.

---Part 1: General Principles. The purpose is to establish the general principles and relevant

rules that need to be followed when using series capacitors in power systems.

---Part 2: Protective Equipment for Series Capacitor Banks. The purpose is to establish the general guidelines that must be followed when designing protective equipment for series capacitor banks.

Body principles and related rules.

---Part 3: Internal Fuses. The purpose is to establish the specific requirements and relevant rules for internal fuses used in series capacitors.

---Part 4: Thyristor-Controlled Series Capacitors. The purpose is to establish the specific requirements for thyristor-controlled series capacitors and...

Relevant rules.

Series capacitors for power systems Part 3: Internal Fuse

1 Scope

This document specifies the performance and testing of internal fuses for series capacitors and provides coordination guidelines for internal fuses and capacitor bank protection.

This document applies to the use of internal fuses to disconnect faulty capacitor elements, thereby allowing the remainder of the capacitor cell and the capacitor itself to be discharged.

The capacitor bank containing the capacitor unit continues to operate. This type of fuse is not used as a replacement for switching devices such as circuit breakers, or capacitors.

Replacement for external protection of the device assembly or any part thereof.

The purpose of this document is.

---Describe the relevant performance and testing requirements;

---Provides coordination guidelines for internal fuse and capacitor bank protection.

Note: External fuses for series capacitors are specified in Appendix A of GB/T 6115.1-2026, "External Fuses and Capacitor Units Protected by External Fuses".

The test requirements and application guidelines are described in the document.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

GB/T 6115.1-2026 Series capacitors for power systems - Part 1: General principles (IEC 60143-1:2015, MOD) Note. The content referenced in GB/T 6115.1-2026 is not technically different from the content referenced in IEC 60143-1:2004.

GB/T 6115.2-2017 Series capacitors for power systems - Part 2: Protective equipment for series capacitor banks (IEC 60143-2:2012, MOD) Note. There are no technical differences between the content referenced in GB/T 6115.2-2017 and the content referenced in IEC 60143-2:2012.

3 Terms and Definitions

The terms and definitions defined in GB/T 6115.1-2026 and GB/T 6115.2-2017, as well as the following terms and definitions, apply to this document.

UNE

The root mean square value of AC voltage specified when designing capacitor components.

4.1 Overview

A fuse is connected in series with a component; if the component fails, the fuse is used to disconnect the faulty component. Therefore, the current and voltage of the fuse...

The range depends on the design of the capacitor, and in some cases, on the design of the capacitor bank to which the fuse is connected.

Typically, the operation of an internal fuse depends on one or more of the following two factors.