



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

GB/T 19749.2-2022

**Coupling capacitors and capacitor dividers - Part 2: DC or AC
single-phase coupling capacitor connected between line and
ground for power line carrier-frequency (PLC) application**

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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 of Standardization Documents" drafted.

This document is part 2 of GB/T 19749 "Coupling capacitors and capacitive voltage dividers". GB/T 19749 has issued the following part.

- Part 1. General;
- Part 2. DC or AC single-phase coupling capacitors connected between lines and ground for power line carrier (PLC);
- Part 3. AC or DC coupling capacitors for harmonic filters.

This document uses the redrafted method to modify and adopt IEC 60358-2.2013 "Coupling capacitors and capacitive voltage dividers - Part 2. Connected to the line AC or DC Single-Phase Coupling Capacitors for Power Line Carriers (PLC) to Earth".

The technical differences between this document and IEC 60358-2.2013 and their reasons are as follows.

--- Regarding normative reference documents, this document has made adjustments with technical differences to adapt to the technical conditions of our country and the circumstances of the adjustment.

The situation is reflected in Chapter 2 "Normative References", and the specific adjustments are as follows.

* Replace IEC 60481 with non-equivalent GB/T 7329 which adopts international standards;

- * Replacing IEC 60060-1 with GB/T 16927.1 which has been modified to adopt international standards;
- * Replacing IEC 60358-1:2012 with GB/T 19749.1-2016 which has been modified to adopt international standards;
- * Deleted IEC 60060-2 and IEC 61869-5;
- * Added references to GB/T 11021 and GB/T 11032-2020.

--- Delete the type of "low-voltage terminal permanent grounding" in the "Scope" chapter (see Chapter 1 of the International Standard), because it is not within the scope of this document

For the relevant requirements, please refer to GB/T 19749.1; at the same time, the "low-voltage terminal of the coupling capacitor will never be connected to other equipment" is added.

long-term grounding", further clarifying the scope.

--- The word "arrester" that appears alone in the international standard is clearly defined as "AC gapless metal oxide arrester". Due to IEC original

In the routine test of 9.2.200.2.2 voltage limiting devices, the title of item b) has only the word "lightning arrester" in English, and the title of item a) is "empty".

"Air gap arrester" does not correspond. Then the test content is the power frequency reference voltage measurement, which is an AC gapless metal oxide

The specific test of the chemical arrester (MOA), so the title of item b) is clarified.

---In "10.201.3 Type Test of Voltage-Limiting Devices with Drain Coils", the "AC gapless metal oxide avoidance" is added.

Lightning arrester" test requirements. Because in 10.201.3, only air gap arresters and spark gap arresters are tested

Type test regulations, and there were AC gapless metal oxide arresters in routine tests before, so here

The corresponding clause of GB/T 11032-2020 adds the test of lightning impulse protection level.

The following editorial changes have been made to this document.

--- In accordance with the requirements of GB/T 1.1-2020, the given rules are standardized, and some arrangements and writing formats have been modified;

--- For the convenience of understanding, the standard name is changed to "The DC or AC single-phase coupling between the line and the ground for the power line carrier (PLC)

Combined capacitor";

--- Number the table of carrier accessories nameplate information in 12.2 as table.201;

--- Changed "Appendix AA" to "Appendix 2A", and adjusted the bar number and figure number accordingly;

--- Adjusted references.

Please note that some content of this document may be patented. The issuing agency of this document assumes no responsibility for identifying patents.

Introduction

GB/T 19749 "Coupling Capacitors and Capacitive Voltage Dividers" is intended to consist of the following four parts.

--- Part 1.General. The purpose is to establish general principles and related rules to be followed by coupling capacitors and capacitive voltage dividers.

--- Part 2.DC or AC single-phase coupling capacitors connected between line and ground for power line carrier (PLC). aim at

Specific requirements and related rules for establishing such coupling capacitors.

--- Part 3.AC or DC coupling capacitors for harmonic filters. The purpose is to establish the special characteristics of such coupling capacitors

requirements and related rules.

--- Part 4.DC or AC single-phase capacitive voltage divider connected between line and ground. The purpose is to establish the

Special requirements and related rules.

This document is used together with GB/T 19749.1-2016, unless otherwise specified in this document, this document implements GB/T 19749.1-2016

Provisions. In order to simplify the repeated expression of the same requirements, the terms of this document are the same as GB/T 19749.1-2016, when GB/T 19749.1-

When a clause in.2016 is not covered in this document, the clause shall apply as long as it is reasonable. When this document states "additions", "modifications" or

When "replaced", the relevant content in GB/T 19749.1-2016 shall be adjusted accordingly. Supplement to these terms in the same reference

are given under the heading, while additional clauses are numbered starting at.200.

Coupling Capacitors and Capacitive Dividers

Part 2.Connected between line and ground for power lines

DC or AC single-phase coupling capacitors for carrier (PLC)

1 Scope

This document specifies the terminology and definition of DC or AC single-phase coupling capacitors connected between line and ground for power line carrier (PLC) use

Definition, conditions of use, ratings, design requirements, test conditions, test classification, routine tests, type tests, special tests and marks.

This document applies to capacitors complying with Chapter 1 of GB/T 19749.1-2016, with the following additions.

This document is applicable to power line load with rated voltage above 1000V, connected between line and ground, and frequency of 30kHz~500kHz

Wave (PLC) equipment connection, or DC or AC single-phase coupling connected with similar purpose (DC or AC) equipment with a power frequency of 15Hz~60Hz combined capacitor.

Transmission requirements for coupling equipment for power line carrier (PLC) systems are given in GB/T 7329.

The low-voltage terminal of the coupling capacitor is permanently grounded when not connected to other equipment.

NOTE. A typical diagram of coupling capacitors to which this document applies is shown in Figure A.200.1.

2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, dated citations

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

GB/T 7329 Power Line Carrier Combination Equipment (GB/T 7329-2008, IEC 60481.1974, NEQ)

GB/T 11021 Electrical Insulation Heat Resistance and Representation Method (GB/T 11021-2014, IEC 60085.2007, IDT)

GB/T 11032-2020 AC gapless metal oxide arrester (IEC 60099-4.2014, MOD)