

### SLOVENSKI STANDARD SIST EN 60358-3:2014

01-julij-2014

Nadomešča:

SIST HD 597 S1:2001

Sklopni kondenzatorji in kondenzatorski delilniki - 3. del: Sklopni kondenzatorji za izmenični ali enosmerni tok za filtre harmonskih frekvenc (IEC 60358-3:2013)

Coupling capacitors and capacitor dividers - Part 3: AC or DC coupling capacitors for harmonic-filters applications

# iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN 60358-3:2014

https://standards.iteh.ai/catalog/standards/sist/f7d87497-919b-477c-b82d-

Ta slovenski standard je istoveten 2: 0bb/si EN-60358-3:2014

ICS:

31.060.99 Drugi kondenzatorji Other capacitors

SIST EN 60358-3:2014 en

SIST EN 60358-3:2014

# iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN 60358-3:2014

https://standards.iteh.ai/catalog/standards/sist/f7d87497-919b-477c-b82d-624d39ffa0bb/sist-en-60358-3-2014

### **EUROPEAN STANDARD**

### EN 60358-3

## NORME FUROPÉENNE **EUROPÄISCHE NORM**

March 2014

ICS 29.120.99; 29.240.99

Supersedes HD 597 S1:1992 (partially)

**English version** 

### Coupling capacitors and capacitor dividers -Part 3: AC or DC coupling capacitors for harmonic-filters applications (IEC 60358-3:2013)

Condensateurs de couplage et diviseurs capacitifs - Partie 3: Condensateur de couplage à courant alternatif ou à courant continu pour des applications à filtres harmoniques (CEI 60358-3:2013)

Kopplungskondensatoren und kapazitive Teiler – Teil 3: Kopplungskondensatoren für Wechsel- oder Gleichstrom als Oberwellenfilter (IEC 60358-3:2013)

### iTeh STANDARD PREVIEW (standards.iteh.ai)

This European Standard was approved by CENELEC on 2014-01-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration/sist/f7d87497-919b-477c-b82d-

624d39ffa0bb/sist-en-60358-3-2014
Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

### **CENELEC**

European Committee for Electrotechnical Standardization Comité Européen de Normalisation Electrotechnique Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B - 1000 Brussels

#### Foreword

The text of document 33/510/CDV, future edition 1 of IEC 60358-3, prepared by IEC/TC 33, "Power capacitors and their applications" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60358-3:2014.

The following dates are fixed:

| • | latest date by which the document has<br>to be implemented at national level by<br>publication of an identical national<br>standard or by endorsement | (dop) | 2014-10-01 |
|---|---|-------|------------|
| • | latest date by which the national standards conflicting with the document have to be withdrawn  | (dow) | 2017-01-01 |

This document supersedes HD 597 S1:1992 (partially).

This European Standard is to be used in conjunction with EN 60358-1:2012 and its amendments.

This Part 3 supplements or modifies the corresponding clauses in EN 60358-1:2012.

When a particular subclause of Part 1 is not mentioned in this Part 3, that subclause applies as far as is reasonable. Where this standard states "addition", "modification" or "replacement", the relevant text in Part 1 is to be adapted accordingly. I ANDARD PREVIEW

For additional clauses, subclauses, figures, tables or annexes, the following numbering system is used:

- subclauses, tables and figures which are additional to those in Part 1 are numbered starting from 300;
- additional tables or annexes are lettered AA\_BB\_etc<sub>8-3-2014</sub>
- as the notes are integrated into the clauses, their numbering starts from 1 as usual.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

#### **Endorsement notice**

The text of the International Standard IEC 60358-3:2013 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 60633 NOTE Harmonized as EN 60633.

### Annex ZA

(normative)

# Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Replace Annex ZA of EN 60358-1:2012 with the following:

| Publication<br>IEC 60060-1  | <u>Year</u><br>2010 | Title High-voltage test techniques - Part 1: General definitions and test requirements  | <u>EN/HD</u><br>EN 60060-1 | <u>Year</u><br>2010 |
|-----------------------------|---------------------|---|----------------------------|---------------------|
| IEC 60060-2                 | -                   | High-voltage test techniques - Part 2: Measuring systems  | EN 60060-2                 | -                   |
| IEC 60358-1<br>+ corr. July | 2012<br>2013        | Coupling capacitors and capacitor dividers - Part 1: General rules  | EN 60358-1<br>+ AC:2013    | 2012<br>2013        |
| IEC 60358-2                 | iT                  | Coupling capacitors and capacitor dividers - Part 2: AC or DC single-phase coupling capacitor connected between line and ground for power line carrier-frequency (PLC) application ndards.iten.ai | EN 60358-2                 | -                   |
| IEC 60481                   | -                   | Coupling devices for power line carrier systems SIST EN 60358-3:2014  | -                          | -                   |
| IEC 61869-5                 | https://sta         | ndnstrument transformers/sist/f7d87497-919b-477 Part 56Additional requirements for capacitor voltage transformers   | ©EN261869-5                | -                   |

SIST EN 60358-3:2014

# iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN 60358-3:2014

https://standards.iteh.ai/catalog/standards/sist/f7d87497-919b-477c-b82d-624d39ffa0bb/sist-en-60358-3-2014



IEC 60358-3

Edition 1.0 2013-11

## INTERNATIONAL STANDARD

## NORME INTERNATIONALE



Coupling capacitors and capacitor dividers – PREVIEW
Part 3: AC or DC coupling capacitor for harmonic-filters applications

Condensateurs de couplage et diviseurs capacitifs –
Partie 3: Condensateur de couplage à courant alternatif ou à courant continu pour des applications à filtres harmoniques 58-3-2014

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

PRICE CODE CODE PRIX N

ICS 29.120.99; 29.240.99

ISBN 978-2-8322-1274-5

Warning! Make sure that you obtained this publication from an authorized distributor.

Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.

### **CONTENTS**

| FOF          | REWORD   | 3  |
|--------------|--|----|
| INT          | RODUCTION  | 5  |
| 1            | Scope  | 6  |
| 2            | Normative references   | 6  |
| 3            | Terms and definitions  | 6  |
| 4            | Service conditions   | 7  |
| 5            | Ratings  | 7  |
| 6            | Design requirements  | 7  |
| 7            | Test conditions  | 7  |
| 8            | Classification of tests  | 7  |
| 9            | Routine tests  | 8  |
| 10           | Type tests   | 10 |
| 11           | Special tests – Mechanical strength test   | 11 |
| 12           | Marking of the equipment   | 11 |
| Ann          | ex AA Typical diagram of a filter capacitor  | 12 |
| Ann          | ex BB (informative) High-frequency characteristics of filter capacitors  | 13 |
| Bibl         | iographyiTeh.STANDARD.PREVIEW  | 15 |
| Figu         | ure 300 – Connection for voltage test of tuning device   | 9  |
| Figu<br>term | ure AA.1 – Example of a diagram for a filter capacitor (with and without low voltage ninal)  | 12 |
| Figu         | re AA.2 – Example of a diagram for a filter capacitor with tuning device   | 12 |
|              | re BB.1 – Wiring diagram of the measuring circuit for the high frequency acitance and equivalent series resistance of a coupling capacitor | 14 |
|              | re BB.2 – Relation between length and capacitance where capacitive deviation – .50 % can be fulfilled up to 500 kHz                        | 14 |
| Tab          | lo 300 Marking of the rating plate   | 11 |

### INTERNATIONAL ELECTROTECHNICAL COMMISSION

#### COUPLING CAPACITORS AND CAPACITOR DIVIDERS -

## Part 3: AC or DC coupling capacitor for harmonic-filters applications

#### **FOREWORD**

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 624d39ffa0bb/sist-en-60358-3-2014

  5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60358-3 has been prepared by IEC technical committee 33: Power capacitors and their applications.

The text of this standard is based on the following documents:

| CDV        | Report on voting |
|------------|------------------|
| 33/510/CDV | 33/526/RVC       |

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

**-4** -

A list of all parts in the IEC 60358 series, published under the general title *Coupling* capacitors and capacitor dividers, can be found on the IEC website.

This standard is Part 3 of IEC 60358, published under the general title Coupling capacitor and capacitor dividers.

This International Standard is to be used in conjunction with the latest edition of IEC 60358-1:2012 and its amendments. It was established on the basis of the first edition (2012) of that standard.

This Part 3 supplements or modifies the corresponding clauses in IEC 60358-1:2012.

When a particular subclause of Part 1 is not mentioned in this Part 3, that subclause applies as far as is reasonable. When this standard states "addition", "modification" or "replacement", the relevant text in Part 1 is to be adapted accordingly.

For additional clauses, subclauses, figures, tables or annexes, the following numbering system is used:

- subclauses, tables and figures which are additional to those in Part 1 are numbered starting from 300;
- additional tables or annexes are lettered AA, BB, etc.
- as the notes are integrated into the clauses, their numbering starts from 1 as usual.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the lectweb site under thitp://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

SIST EN 60358-3:2014

- reconfirmed, https://standards.iteh.ai/catalog/standards/sist/f7d87497-919b-477c-b82d-
- withdrawn, 624d39ffa0bb/sist-en-60358-3-2014
- replaced by a revised edition, or
- amended.

IMPORTANT – The "colour inside" logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this publication using a colour printer.

60358-3 © IEC:2013

**-5-**

### INTRODUCTION

This series consists of the following parts:

IEC 60358-1:2012, Coupling capacitor and capacitor dividers – Part 1: General rules

IEC 60358-2:2013, Coupling capacitor and capacitor dividers – Part 2: AC or DC single-phase coupling capacitor connected between line and ground for power line carrier-frequency (PLC) application

IEC 60358-3:2013<sup>1</sup>, Coupling capacitor and capacitor dividers – Part 3: AC or DC coupling capacitor for harmonic-filters applications

IEC 60358-4: -2, Coupling capacitor and capacitor dividers – Part 4: AC or DC single-phase capacitor-divider and RC-divider connected between line and ground (except for CVTs which belong to IEC 61869 series)

# iTeh STANDARD PREVIEW (standards.iteh.ai)

<u>SIST EN 60358-3:2014</u> https://standards.iteh.ai/catalog/standards/sist/f7d87497-919b-477c-b82d-624d39ffa0bb/sist-en-60358-3-2014

<sup>1</sup> To be published.

<sup>2</sup> Under consideration.