SLOVENSKI STANDARD
SIST EN 60831-1:2015

01-junij-2015

Nadomešča:
SIST EN 60831-1:1999
SIST EN 60831-1:1999/A1:2003

Samoozdravljivi vzporedni energetski kondenzatorji za izmenične tokovne sisteme z naznačeno napetostjo do vključno 1000 V - 1. del: Splošno - Lastnosti, preskušanje in razvrščanje - Varnostne zahteve - Navodilo za inštaliranje in obratovanje

Shunt power capacitors of the self-healing type for a.c. systems having a rated voltage up to and including 1000 V - Part 1: General - Performance, testing and rating - Safety requirements - Guide for installation and operation

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Condensateurs shunt de puissance autorégénérateurs pour réseaux à courant alternatif de tension assignée inférieure ou égale à 1000 V - Partie 1: Généralités - Caractéristiques fonctionnelles, essais et valeurs assignées - Exigences de sécurité - Guide d'installation et d'exploitation

Ta slovenski standard je istoveten z: **EN 60831-1:2014**

ICS:

31.060.70	Močnostni kondenzatorji	Power capacitors

SIST EN 60831-1:2015 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60831-1

June 2014

ICS 29.120.99; 31.060.70

Supersedes EN 60831-1:1996

English Version

Shunt power capacitors of the self-healing type for a.c. systems having a rated voltage up to and including 1 000 V - Part 1: General - Performance, testing and rating - Safety requirements - Guide for installation and operation (IEC 60831-1:2014)

Condensateurs shunt de puissance autoregénérateurs pour réseaux à courant alternatif de tension assignée inférieure ou égale à 1 000 V - Partie 1: Généralités - Caractéristiques fonctionnelles, essais et valeurs assignées - Règles de sécurité - Guide d'installation et d'exploitation (CEI 60831-1:2014)

Selbstheilende Leistungs-Parallelkondensatoren für Wechselstromanlagen mit einer Bemessungsspannung bis 1 000 V - Teil 1: Allgemeines - Leistungsanforderungen, Prüfung und Bemessung - Sicherheitsanforderungen - Anleitung für Errichtung und Betrieb (IEC 60831-1:2014)

This European Standard was approved by CENELEC on 2014-03-18. 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.

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.

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 33/543/FDIS, future edition 3 of IEC 60831-1, prepared by IEC/TC 33, "Power capacitors and their applications" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60831-1:2014.

The following dates are fixed:

• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2014-12-18
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2017-03-18

This document supersedes EN 60831-1:1996 + A1:2003.

EN 60831-1:2014 includes the following significant technical changes with respect to EN 60831-1:1996 + A1:2003:

a) Updating of the normative references;

b) Test conditions have been clarified;

c) Thermal stability test has been clarified;

d) Maximum permissible voltage and current have been clarified;

e) The protection of the environment has been amended with safety concerns and plastic quality requirements.

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.

This standard covers the Principle Elements of the Safety Objectives for Electrical Equipment Designed for Use within Certain Voltage Limits (LVD - 2006/95/EC).

Endorsement notice

The text of the International Standard IEC 60831-1:2014 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60060-2:2010	NOTE	Harmonised as EN 60060-2:2011 (not modified).
IEC 60110-1:1998	NOTE	Harmonised as EN 60110-1:1998 (not modified).
IEC 60143-1	NOTE	Harmonised as EN 60143-1 (not modified).
IEC 60143-2	NOTE	Harmonised as EN 60143-2 (not modified).
IEC 60143-3	NOTE	Harmonised as EN 60143-3 (not modified).
IEC 60143-4	NOTE	Harmonised as EN 60143-4 (not modified).
IEC 60252-1:2010	NOTE	Harmonised as EN 60252-1:2011 (not modified).

IEC 60358-1	NOTE	Harmonised as EN 60358-1 (not modified).
IEC 61048:2006	NOTE	Harmonised as EN 61048:2006 (not modified).
IEC 61049:1991	NOTE	Harmonised as EN 61049:1993 (modified).
IEC 61071 (series)	NOTE	Harmonised as EN 61071 (series) (not modified).

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 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu

Publication	Year	Title	EN/HD	Year
IEC 60060-1	2010	High-voltage test techniques - Part 1: General definitions and test requirements	EN 60060-1	2010
IEC 60269-1	2006	Low-voltage fuses - Part 1: General requirements	EN 60269-1	2007
IEC 60695-2-12	2010	Fire hazard testing - Part 2-12: Glowing/hot-wire based test methods - Glow-wire flammability index (GWFI) test method for materials	EN 60695-2-12	2010
IEC 60831-2	2014	Shunt power capacitors of the self-healing type for a.c. systems having a rated voltage up to and including 1000 V - Part 2: Ageing test, self-healing test and destruction test	EN 60831-2	2014
IEC 61000-2-2	2002	Electromagnetic compatibility (EMC) - Part 2-2: Environment - Compatibility levels for low-frequency conducted disturbances and signalling in public low-voltage power supply systems	EN 61000-2-2	2002
IEC 61000-4-1	2006	Electromagnetic compatibility (EMC) - Part 4-1: Testing and measurement techniques - Overview of IEC 61000-4 series	EN 61000-4-1	2007

IEC 60831-1

Edition 3.0 2014-02

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Shunt power capacitors of the self-healing type for a.c. systems having a rated voltage up to and including 1 000 V –
Part 1: General – Performance, testing and rating – Safety requirements – Guide for installation and operation

Condensateurs shunt de puissance autoregénérateurs pour réseaux à courant alternatif de tension assignée inférieure ou égale à 1 000 V –
Partie 1: Généralités – Caractéristiques fonctionnelles, essais et valeurs assignées – Règles de sécurité – Guide d'installation et d'exploitation

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

SHUNT POWER CAPACITORS OF THE SELF-HEALING TYPE FOR A.C. SYSTEMS HAVING A RATED VOLTAGE UP TO AND INCLUDING 1 000 V –

Part 1: General – Performance, testing and rating – Safety requirements – Guide for installation and operation

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.
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International Standard IEC 60831-1 has been prepared by IEC technical committee 33: Power capacitors and their applications.

This third edition cancels and replaces the second edition published in 1996 and Amendment 1:2002. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) Updating of the normative references;
b) Test conditions have been clarified;
c) Thermal stability test has been clarified;
d) Maximum permissible voltage and current have been clarified;

e) The protection of the environment has been amended with safety concerns and plastic quality requirements.

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

FDIS	Report on voting
33/543/FDIS	33/550/RVD

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.

A list of all parts in the IEC 60831 series, published under the general title *Shunt power capacitors of the self-healing type for a.c. systems having a rated voltage up to and including, 1 000 V* can be found on the IEC website.

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

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

The contents of the corrigendum of May 2014 have been included in this copy.

SHUNT POWER CAPACITORS OF THE SELF-HEALING TYPE FOR A.C. SYSTEMS HAVING A RATED VOLTAGE UP TO AND INCLUDING 1 000 V –

Part 1: General – Performance, testing and rating – Safety requirements – Guide for installation and operation

1 Scope

This part of the IEC 60831 series is applicable to both capacitor units and capacitor banks intended to be used, particularly, for power-factor correction of a.c. power systems having a rated voltage up to and including 1 000 V and frequencies of 15 Hz to 60 Hz.

This part of IEC 60831 also applies to capacitors intended for use in power filter circuits. Additional definitions, requirements, and tests for power filter capacitors are given in Annex A.

The following capacitors are excluded from this part of IEC 60831:

– Shunt power capacitors of the non-self-healing type for a.c. systems having a rated voltage up to and including 1 000 V (IEC 60931-, -2 and -3).

– Shunt capacitors for a.c. power systems having a rated voltage above 1 000 V (IEC 60871-1, -2, -3 and -4).

– Capacitors for inductive heat-generating plants operating at frequencies between 40 Hz and 24 000 Hz (IEC 60110-1 and -2)

– Series capacitors (IEC60143-1, -2, -3 and -4)

– AC motor capacitors (IEC 60252-1 and -2)

– Coupling capacitors and capacitor dividers (IEC 60358-1)

– Capacitors for power electronic circuits (IEC 61071).

– Small a.c. capacitors to be used for fluorescent and discharge lamps (IEC 61048 and IEC 61049).

– Capacitors for suppression of radio interference (under consideration).

– Capacitors intended to be used in various types of electrical equipment, and thus considered as components.

– Capacitors intended for use with d.c. voltage superimposed on the a.c. voltage.

Accessories such as insulators, switches, instrument transformers, fuses, etc., should be in accordance with the relevant IEC standards and are not covered by the scope of this part of IEC 60831.

The object of this part of IEC 60831 is to:

a) formulate uniform rules regarding performances, testing and rating;

b) formulate specific safety rules;

c) provide a guide for installation and operation.