

SLOVENSKI STANDARD

SIST EN 60831-1:2015

01-junij-2015

Nadomešča:

SIST EN 60831-1:1999

SIST EN 60831-1:1999/A1:2003

Samozdravljivi 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

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EUROPEAN STANDARD

EN 60831-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

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)

Selbsteheilende 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)

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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. [SIST EN 60831-1:2015](https://standards.iteh.ai/catalog/standards/sist/d42954e1-6a20-4d1f-9911-100000000000)

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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.

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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).

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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

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
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**

SIST EN 60831-1:2015

<https://standards.iteh.ai/catalog/standards/sist/d42954e1-6a20-4d1f-9911-215571654101/sist-en-60831-1:2015>

**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

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

PRICE CODE
CODE PRIX

W

ICS 29.120.99; 31.060.70

ISBN 978-2-8322-1391-9

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CONTENTS

FOREWORD.....	5
1 Scope.....	7
2 Normative references	8
3 Terms and definitions	8
4 Service conditions	11
4.1 Normal service conditions	11
4.2 Unusual service conditions	12
5 Test requirements.....	12
5.1 General.....	12
5.2 Test conditions	13
6 Classification of tests	13
6.1 Routine tests.....	13
6.2 Type tests.....	13
6.3 Acceptance tests	14
7 Capacitance measurement and output calculation	14
7.1 Measuring procedure	14
7.2 Capacitance tolerances.....	14
8 Measurement of the tangent of the loss angle ($\tan \delta$) of the capacitor.....	15
8.1 Measuring procedure.....	15
8.2 Loss requirements.....	15
9 Voltage tests between terminals	15
9.1 Routine test.....	15
9.2 Type test.....	15
10 Voltage tests between terminals and container	16
10.1 Routine test	16
10.2 Type test.....	16
11 Test of internal discharge device	17
12 Sealing test	17
13 Thermal stability test	17
14 Measurement of the tangent of the loss angle ($\tan \delta$) of the capacitor at elevated temperature.....	19
14.1 Measuring procedure	19
14.2 Requirements	19
15 Lightning impulse voltage test between terminals and container	19
16 Discharge test	19
17 Ageing test.....	20
18 Self-healing test	20
19 Destruction test	20
20 Maximum permissible voltage.....	20
20.1 Long-duration voltages	20
20.2 Switching voltages	21
21 Maximum permissible current	21
22 Discharge device.....	21
23 Container connections.....	22

24	Protection of the environment	22
25	Other safety requirements	22
26	Marking of the unit	22
26.1	Rating plate	22
26.2	Standardized connection symbols	23
26.3	Warning plate	23
27	Marking of the bank	23
27.1	Instruction sheet or rating plate	23
27.2	Warning plate	23
28	General	24
29	Choice of the rated voltage	24
30	Operating temperature	25
30.1	General	25
30.2	Installation	25
30.3	High ambient air temperature	25
30.4	Evaluation of losses	25
31	Special service conditions	26
32	Overvoltages	26
33	Overload currents	27
34	Switching and protective devices and connections	27
35	Choice of creepage distance	28
36	Capacitors connected to systems with audio-frequency remote control	29
37	Electromagnetic compatibility (EMC)	29
37.1	Emission	29
37.2	Immunity	29
37.2.1	General	29
37.2.2	Low-frequency disturbances	29
37.2.3	Conducted transients and high-frequency disturbances	29
37.2.4	Electrostatic discharges	29
37.2.5	Magnetic disturbances	30
37.2.6	Electromagnetic disturbances	30
Annex A (normative) Additional definitions, requirements and tests for power filter capacitors		31
A.1	Terms and definitions	31
A.2	Quality requirements and tests	31
A.2.1	Capacitance tolerance	31
A.2.2	Voltage test between terminals (see Clause 9)	32
A.2.3	Thermal stability test (see Clause 13)	32
A.3	Overloads – Maximum permissible current (see Clause 21)	32
A.4	Markings – Instruction sheet or rating plate (see 27.1)	32
A.5	Guide for installation and operation – Choice of the rated voltage (see Clause 29)	32
Annex B (informative) Formulae for capacitors and installations		33
B.1	Computation of the output of three-phase capacitors from three single-phase capacitance measurements	33
B.2	Resonance frequency	33
B.3	Voltage rise	33

B.4	Inrush transient current	34
B.4.1	Switching in of single capacitor	34
B.4.2	Switching of capacitors in parallel with energized capacitor(s)	34
B.4.3	Discharge resistance in single-phase units or in one-phase or polyphase units	34
	Bibliography	36
	Figure B.1 – k values depending on the method of connection of the resistors with the capacitor units	35
	Table 1 – Letter symbols for upper limit of temperature range	12
	Table 2 – Ambient air temperature for the thermal stability test	18
	Table 3 – Admissible voltage levels in service	20

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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.

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

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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 (IEC 60143-1, -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.