SVENSK STANDARD

SS-EN IEC 60437, utg 2:2024

2024-09-25

COMMENTED VERSION

Isolatorer – Radiostörningsprovning av isolatorer för högspänning

Radio interference test on high-voltage insulators

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IEC 60437

Edition 3.0 2023-12
COMMENTED VERSION

INTERNATIONAL STANDARD

colour inside

Radio interference test on high-voltage insulators

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 29.080.10

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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RADIO INTERFERENCE TEST ON HIGH-VOLTAGE INSULATORS

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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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) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at https://patents.iec.ch. IEC shall not be held responsible for identifying any or all such patent rights.

This commented version (CMV) of the official standard IEC 60437:2023 edition 3.0 allows the user to identify the changes made to the previous IEC 60437:1997 edition 2.0. Furthermore, comments from IEC TC 36 experts are provided to explain the reasons of the most relevant changes, or to clarify any part of the content.

A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text. Experts' comments are identified by a blue-background number. Mouse over a number to display a pop-up note with the comment.

This publication contains the CMV and the official standard. The full list of comments is available at the end of the CMV.

IEC 60437 has been prepared by IEC technical committee 36: Insulators. It is an International Standard.

This third edition cancels and replaces the second edition published in 1997. This edition constitutes a technical revision.

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

a) Composite station post and composite hollow core station post insulators have been included;
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Draft	Report on voting
36/585/FDIS	36/591/RVD

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This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

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RADIO INTERFERENCE TEST ON HIGH-VOLTAGE INSULATORS

1 Scope

This International Standard specifies the procedure for a radio interference (RI) test carried out in a laboratory on clean and dry insulators at a frequency of 0,5 MHz or 1 MHz or, alternatively, at other frequencies between 0,5 MHz and 2 MHz.

This document applies to insulators for use on AC or DC overhead power lines and overhead traction lines with a nominal voltage greater than 1 000 V. 1

In service the RI characteristics of an insulator may be modified by the ambient conditions, particularly rainfall and other moisture, and by pollution. It is not considered feasible to specify reproducible test conditions to simulate a range of ambient conditions. Hence only tests on clean and dry insulators are specified in this document.

NOTE The effects of insulator surface conditions, including pollution, are presented in ~~Amendment 1 of~~ CISPR 18-2:2017, clause 6.3.

2 Normative references 2

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

~~IEC 60050(471):1984, *International Electrotechnical Vocabulary (IEV) – Chapter 471: Insulators*~~

IEC 60060-1:~~1989~~2010, *High-voltage test techniques – Part 1: General definitions and test requirements*

IEC 60137:~~1995~~2017, *Insulated bushings for alternating voltages above 1 000 V*

IEC 60168:1994, *Tests on indoor and outdoor post insulators of ceramic material or glass for systems with nominal voltages greater than 1 000 V*
IEC 60168:1994/AMD1:1997
IEC 60168:1994/AMD2:2000

IEC 60383-1:~~1993~~2023, *Insulators for overhead lines with a nominal voltage above 1 000 V – Part 1: Ceramic or glass insulator units for a.c. systems – Definitions, test methods and acceptance criteria*

IEC 60383-2:1993, *Insulators for overhead lines with a nominal voltage above 1 000 V – Part 2: Insulator strings and insulator sets for a.c. systems – Definitions, test methods and acceptance criteria*

IEC 61109:2008, *Insulators for overhead lines – Composite suspension and tension insulators for a.c. systems with a nominal voltage greater than 1 000 V – Definitions, test methods and acceptance criteria*

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IEC 61952:2008, *Insulators for overhead lines – Composite line post insulators for A.C. systems with a nominal voltage greater than 1 000 V – Definitions, test methods and acceptance criteria*

IEC 62231:2006, *Composite station post insulators for substations with a.c. voltages greater than 1 000 V up to 245 kV – Definitions, test methods and acceptance criteria*

~~CISPR 16-1:1993, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1: Radio disturbance and immunity measuring apparatus*~~

CISPR 16-1-1:2019, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-1: Radio disturbance and immunity measuring apparatus – Measuring apparatus*

CISPR 18-2:~~1986~~2017, *Radio interference characteristics of overhead power lines and high-voltage equipment – Part 2: Methods of measurement and procedure for determining limits* ~~Amendment 1 (1993)~~

SVENSK STANDARD

SS-EN IEC 60437, utg 2:2024

Fastställd	Sida	Ansvarig kommitté
2024-09-25	1 (17)	SEK TK 36

Isolatorer – Radiostörningsprovning av isolatorer för högspänning

Radio interference test on high-voltage insulators

Som svensk standard gäller europastandarden EN IEC 60437:2024. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 60437:2024.

Nationellt förord

Europastandarden EN IEC 60437:2024

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 60437, Third edition, 2023 - Radio interference test on high-voltage insulators**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 60437, utg 1:1997 med eventuella tillägg, ändringar och rättelser gäller ej fr o m 2027-01-19.

ICS 29.080.10

Denna standard är fastställd av SEK Svensk Elstandard,
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SEK Svensk Elstandard svarar för standardiseringen inom elområdet i Sverige och samordnar svensk medverkan i internationell och europeisk standardisering. SEK är en ideell organisation med frivilligt deltagande från svenska myndigheter, företag och organisationer som vill medverka till och påverka utformningen av tekniska regler inom elektrotekniken.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 60437

January 2024

ICS 29.080.10

Supersedes EN 60437:1997

English Version

Radio interference test on high-voltage insulators (IEC 60437:2023)

Essai de perturbations radioélectriques des isolateurs pour haute tension (IEC 60437:2023)

Funkstörprüfungen an Hochspannungsisolatoren (IEC 60437:2023)

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. EN IEC 60437:2024 E

SEK Svensk Elstandard

SS-EN IEC 60437, utg 2:2024

European foreword

The text of document 36/585/FDIS, future edition 3 of IEC 60437, prepared by IEC/TC 36 "Insulators" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60437:2024.

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) 2024-10-19
•	latest date by which the national standards conflicting with the document have to be withdrawn	(dow) 2027-01-19

This document supersedes EN 60437:1997 and all of its amendments and corrigenda (if any).

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

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 60437:2023 was approved by CENELEC as a European Standard without any modification.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 Where 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.cencenelec.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 60137	2017	Insulated bushings for alternating voltages above 1000 V	EN 60137	2017
IEC 60168	1994	Tests on indoor and outdoor post insulators of ceramic material or glass for systems with nominal voltages greater than 1000 V	EN 60168	1994
+ A1	1997		+ A1	1997
+ A2	2000		+ A2	2000
IEC 60383-1	2023	Insulators for overhead lines with a nominal voltage above 1000 V - Part 1: Ceramic or glass insulator units for a.c. systems - Definitions, test methods and acceptance criteria	EN IEC 60383-1	2023
IEC 60383-2	1993	Insulators for overhead lines with a nominal voltage above 1000 V - Part 2: Insulator strings and insulator sets for a.c. systems - Definitions, test methods and acceptance criteria	EN 60383-2	1995
IEC 61109	2008	Insulators for overhead lines - Composite suspension and tension insulators for a.c. systems with a nominal voltage greater than 1 000 V - Definitions, test methods and acceptance criteria	EN 61109	2008
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CISPR 16-1-1	2019	Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-1: Radio disturbance and immunity measuring apparatus - Measuring apparatus	EN IEC 55016-1-1	2019
CISPR 18-2	2017	Radio interference characteristics of overhead power lines and high-voltage equipment - Part 2: Methods of measurement and procedure for determining limits	-	-

IEC 60437

Edition 3.0 2023-12

INTERNATIONAL STANDARD

NORME INTERNATIONALE

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INTERNATIONAL
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IEC 60168:1994/AMD2:2000

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