
Elektrostatika - 5-1. del: Zaščita elektronskih naprav pred elektrostatskimi pojavi - Splošne zahteve (IEC 61340-5-1:2024)

Electrostatics - Part 5-1: Protection of electronic devices from electrostatic phenomena - General requirements (IEC 61340-5-1:2024)

Elektrostatik - Teil 5-1: Schutz von elektronischen Bauelementen gegen elektrostatiche Phänomene - Allgemeine Anforderungen (IEC 61340-5-1:2024)

Électrostatique - Partie 5-1: Protection des dispositifs électroniques contre les phénomènes électrostaticques - Exigences générales (IEC 61340-5-1:2024)

Ta slovenski standard je istoveten z: EN IEC 61340-5-1:2024

[SIST EN IEC 61340-5-1:2024](http://standards.slovenski-institut.si/standards/sist/61340-5-1:2024)

<http://standards.slovenski-institut.si/standards/sist/61340-5-1:2024>

ICS:

17.220.99	Drugi standardi v zvezi z elektriko in magnetizmom	Other standards related to electricity and magnetism
31.020	Elektronske komponente na splošno	Electronic components in general

SIST EN IEC 61340-5-1:2024**en**

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN IEC 61340-5-1

June 2024

ICS 17.220.99; 29.020

Supersedes EN 61340-5-1:2016; EN 61340-5-1:2016/AC:2017-05

English Version

**Electrostatics - Part 5-1: Protection of electronic devices from electrostatic phenomena - General requirements
(IEC 61340-5-1:2024)**

Electrostatique - Partie 5-1: Protection des dispositifs électroniques contre les phénomènes électrostatiques - Exigences générales
(IEC 61340-5-1:2024)

Elektrostatik - Teil 5-1: Schutz von elektronischen Bauelementen gegen elektrostatische Phänomene - Allgemeine Anforderungen
(IEC 61340-5-1:2024)

This European Standard was approved by CENELEC on 2024-06-25. 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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

[SIST EN IEC 61340-5-1:2024](https://standards.iteh.ai/)

<https://standards.iteh.ai/catalog/standards/sist/f6b2a4f1-44a0-44ec-9ed3-06f3cba97585/sist-en-iec-61340-5-1-2024>



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

EN IEC 61340-5-1:2024 (E)**European foreword**

The text of document 101/705/FDIS, future edition 3 of IEC 61340-5-1, prepared by IEC/TC 101 "Electrostatics" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61340-5-1:2024.

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) 2025-03-25
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2027-06-25

This document supersedes EN 61340-5-1:2016 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 61340-5-1:2024 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 standard indicated:

IEC 60749-28	NOTE	Approved as EN IEC 60749-28
IEC 60749-26	NOTE	Approved as EN IEC 60749-26
IEC 60749-27	NOTE	Approved as EN 60749-27
IEC 60364 series	NOTE	Approved as HD 60364 series
IEC 61010-1	NOTE	Approved as EN 61010-1
IEC 61140	NOTE	Approved as EN 61140

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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61340-2-3	-	Electrostatics - Part 2-3: Methods of test for determining the resistance and resistivity of solid materials used to avoid electrostatic charge accumulation	EN 61340-2-3	-
IEC 61340-4-1	-	Electrostatics - Part 4-1: Standard test methods for specific applications - Electrical resistance of floor coverings and installed floors	EN 61340-4-1	-
IEC 61340-4-3	-	Electrostatics - Part 4-3: Standard test methods for specific applications - Footwear	EN IEC 61340-4-3	-
IEC 61340-4-5	-	Electrostatics - Part 4-5: Standard test methods for specific applications - Methods for characterizing the electrostatic protection of footwear and flooring in combination with a person	EN IEC 61340-4-5	-
IEC 61340-4-6	-	Electrostatics - Part 4-6: Standard test methods for specific applications - Wrist straps	EN 61340-4-6	-
IEC 61340-4-7	-	Electrostatics - Part 4-7: Standard test methods for specific applications - Ionization	EN 61340-4-7	-
IEC 61340-4-8	-	Electrostatics - Part 4-8: Standard test methods for specific applications - Electrostatic discharge shielding - Bags	EN 61340-4-8	-
IEC 61340-4-9	-	Electrostatics - Part 4-9: Standard test methods for specific applications - Garments	EN 61340-4-9	-
IEC 61340-5-3	-	Electrostatics - Part 5-3: Protection of electronic devices from electrostatic phenomena - Properties and requirements classification for packaging intended for electrostatic discharge sensitive devices	EN IEC 61340-5-3	-
IEC/TS 61340-5-4	-	Electrostatics - Part 5-4: Protection of electronic devices from electrostatic phenomena - Compliance verification		-



IEC 61340-5-1

Edition 3.0 2024-05

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Electrostatics –
Part 5-1: Protection of electronic devices from electrostatic phenomena –
General requirements**

**Électrostatique –
Partie 5-1: Protection des dispositifs électroniques contre les phénomènes
électrostatiques – Exigences générales**

[SIST EN IEC 61340-5-1:2024](https://standards.iteh.ai/SIST/61340-5-1:2024)

<https://standards.iteh.ai/catalog/standards/sist/f6b2a4f1-44a0-44ec-9ed3-06f3cba97585/sist-en-iec-61340-5-1-2024>

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 17.220.99, 29.020

ISBN 978-2-8322-8889-4

**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

FOREWORD.....	3
INTRODUCTION.....	5
1 Scope.....	7
2 Normative references	7
3 Terms, definitions and abbreviated terms	8
3.1 Terms and definitions.....	8
3.2 Abbreviated terms.....	9
4 Personnel safety.....	10
5 ESD control program	10
5.1 General.....	10
5.1.1 ESD control program requirements	10
5.1.2 ESD control program manager or coordinator	10
5.1.3 Tailoring	10
5.2 ESD control program administrative requirements.....	10
5.2.1 ESD control program plan.....	10
5.2.2 Training plan	11
5.2.3 Product qualification plan	11
5.2.4 Compliance verification plan	12
5.3 ESD control program plan technical requirements.....	12
5.3.1 General	12
5.3.2 Grounding/equipotential bonding systems.....	12
5.3.3 Personnel grounding.....	14
5.3.4 ESD protected areas (EPA)	15
5.3.5 Packaging.....	18
5.3.6 Marking	18
Annex A (informative) Tailoring examples	19
Bibliography.....	21
Figure 1 – Schematic of an EPA with a ground reference.....	13
Figure 2 – Schematic of an equipotential bonding system	14
Table 1 – Grounding/bonding requirements.....	14
Table 2 – Personnel grounding requirements	15
Table 3 – EPA technical requirements	17
Table 4 – Packaging requirements	18

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTROSTATICS –

Part 5-1: Protection of electronic devices from electrostatic phenomena – General requirements

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.
- 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) 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.

IEC 61340-5-1 has been prepared by IEC technical committee 101: Electrostatics. It is an International Standard.

This third edition cancels and replaces the second edition published in 2016. This edition constitutes a technical revision.

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

- a) definitions have been added to the document;
- b) updates to product qualification requirements;
- c) subclause 5.3.3 now includes a reference to groundable static control garment systems;
- d) Table 2 was replaced;

- e) subclause 5.3.4.2 was updated to define what an insulator is;
- f) subclause 5.3.4.3 was updated to include a definition for isolated conductor;
- g) Table 3 was updated, technical items added, including a reference to IEC 61340-5-4 for compliance verification testing;
- h) Table 4 was added as a summary of the requirements in IEC 61340-5-3 and to include requirements for compliance verification of packaging;
- i) Annex A was replaced: the former Annex is no longer required. Annex A are examples of tailoring.

The text of this International Standard is based on the following documents:

Draft	Report on voting
101/705A/FDIS	101/710/RVD

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

The language used for the development of this International Standard is English.

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.

A list of all parts in the IEC 61340 series, published under the general title *Electrostatics*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.