SVENSK STANDARD

SS-EN IEC 61000-4-2, utg 3:2025

Fastställd	Sida	Ansvarig kommitté
2025-11-19	1 (82)	SEK TK EMC

Elektromagnetisk kompatibilitet (EMC) – Del 4-2: Mät- och provningsmetoder – Provning av immunitet mot elektrostatiska urladdningar

Electromagnetic compatibility (EMC) – Part 4-2: Testing and measuring techniques – Electrostatic discharge immunity test

Som svensk standard gäller europastandarden EN IEC 61000-4-2:2025. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 61000-4-2:2025.

Nationellt förord

Europastandarden EN IEC 61000-4-2:2025

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 61000-4-2, Third edition, 2025 - Electromagnetic compatibility (EMC) - Part 4-2: Testing and measuring techniques - Electrostatic discharge immunity test**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 61000-4-2, utg 2:2009 med eventuella tillägg, ändringar och rättelser gäller ej fr o m 2028-04-30.

ICS 33.100.20

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Standarder underlättar utvecklingen och höjer elsäkerheten

Det finns många fördelar med att ha gemensamma tekniska regler för bl a mätning, säkerhet och provning och för utförande, skötsel och dokumentation av elprodukter och elanläggningar.

Genom att utforma sådana standarder blir säkerhetsfordringar tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

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Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 61000-4-2

April 2025

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Supersedes EN 61000-4-2:2009

English Version

Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test (IEC 61000-4-2:2025)

Compatibilité électromagnétique (CEM) - Partie 4-2: Techniques d'essai et de mesure - Essai d'immunité aux décharges électrostatiques (IEC 61000-4-2:2025)

Elektromagnetische Verträglichkeit (EMV) - Teil 4-2: Prüf- und Messverfahren - Prüfung der Störfestigkeit gegen die Entladung statischer Elektrizität (IEC 61000-4-2:2025)

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 61000-4-2:2025 E

SEK Svensk Elstandard

SS-EN IEC 61000-4-2, utg 3:2025

European foreword

The text of document 77B/896/FDIS, future edition 3 of IEC 61000-4-2, prepared by SC 77B "High frequency phenomena" of IEC/TC 77 "Electromagnetic compatibility" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61000-4-2:2025.

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) 2026-04-30
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2028-04-30

This document supersedes EN 61000-4-2:2009 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.

This document has been prepared under a standardization request addressed to CEN-CENELEC by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

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 61000-4-2:2025 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 61000-6-1	NOTE	Approved as EN IEC 61000-6-1
IEC 62368-1	NOTE	Approved as EN IEC 62368-1

IEC 61000-4-2

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

BASIC EMC PUBLICATION
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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ELECTROMAGNETIC COMPATIBILITY (EMC) –

Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test

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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IEC 61000-4-2 has been prepared by subcommittee 77B: High-frequency phenomena, of IEC technical committee 77: Electromagnetic compatibility. It is an International Standard.

It forms Part 4-2 of IEC 61000. It has the status of a basic EMC publication in accordance with IEC Guide 107.

This third edition cancels and replaces the second edition published in 2008. This edition constitutes a technical revision.

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

a) added a calibration requirement for ESD generators with air discharge tip;
b) added a normative annex for test setups for particular kind of equipment (see Annex I);

c) added an informative annex for wearable devices (see Annex J);

d) added an informative annex on how to select test points and give guidance on how to specify the number of pulses for direct contact discharges (see Annex E);

e) moved Clause 9 into a new informative annex (see Annex K);

f) improved current calibration procedure;

g) improved measurement uncertainty considerations with examples of uncertainty budgets;

h) moved post-installation tests into a new informative Annex G since they cannot be performed in a controlled environment.

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

Draft	Report on voting
77B/896/FDIS	77B/897/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 61000 series, published under the general title *Electromagnetic compatibility (EMC)*, 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.

INTRODUCTION

IEC 61000-4 is a part of the IEC 61000 series, according to the following structure:

Part 1: General

General consideration (introduction, fundamental principles)

Definitions, terminology

Part 2: Environment

Description of the environment

Classification of the environment

Compatibility levels

Part 3: Limits

Emission limits

Immunity limits (in so far as they do not fall under the responsibility of the product committees)

Part 4: Testing and measurement techniques

Measurement techniques

Testing techniques

Part 5: Installation and mitigation guidelines

Installation guidelines

Mitigation methods and devices

Part 6: Generic standards

Part 9: Miscellaneous

Each part is further subdivided into several parts, published either as international standards or as technical specifications or technical reports, some of which have already been published as sections. Others will be published with the part number followed by a dash and a second number identifying the subdivision (example: IEC 61000-6-1).

This part of IEC 61000 is an International Standard which gives immunity requirements and test procedures related to electrostatic discharge.

ELECTROMAGNETIC COMPATIBILITY (EMC) –

Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test

1 Scope

This part of IEC 61000 relates to the immunity requirements and test methods for electrical and electronic equipment subjected to static electricity discharges from operators directly and from personnel to adjacent objects. It additionally specifies ranges of test levels which relate to different environmental, and installation conditions and establishes test procedures.

The objective of this document is to establish a common and reproducible basis for evaluating the performance of electrical and electronic equipment when subjected to electrostatic discharges. In addition, it includes electrostatic discharges which can occur from personnel to objects near the equipment.

This document specifies:

– ideal waveform of the discharge current;
– range of test levels;
– test equipment;
– test setup;
– test procedure;
– calibration procedure;
– measurement uncertainty.

This document gives specifications for tests performed in laboratories and guidance to post-installation tests.

This document is not intended to specify the tests to be applied to particular apparatus or systems. The main aim is to give a general basic reference to all concerned product committees. The product committees remain responsible for the appropriate choice of the tests and the severity level to be applied to their equipment.

This document excludes tests intended to evaluate the ESD sensitivity of devices during handling and packaging. It is not intended for use in characterizing the performance of ESD protection circuits.

2 Normative references

There are no normative references in this document.