

Svenska Elektriska Kommissionen, SEK

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

*Electromagnetic compatibility (EMC) –
Part 4-5: Testing and measurement techniques –
Surge immunity test*

Som svensk standard gäller europastandarden EN 61000-4-5:2006. Den svenska standarden innehåller den officiella engelska språkversionen av EN 61000-4-5:2006.

Nationellt förord

Europastandarden EN 61000-4-5:2006

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 61000-4-5, Second edition, 2005 - Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 61000-4-5, utgåva 1, 1995 och SS-EN 61000-4-5/A1, utgåva 1, 2001, gäller ej fr o m 2009-10-01.

Standarder underlättar utvecklingen och höjer elsäkerheten

Det finns många fördelar med att ha gemensamma tekniska regler för bl a säkerhet, prestanda, dokumentation, utförande och skötsel av elprodukter, elanläggningar och metoder. Genom att utforma sådana standarder blir säkerhetskraven tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

Många standarder inom elområdet beskriver tekniska lösningar och metoder som åstadkommer den elsäkerhet som föreskrivs av svenska myndigheter och av EU.

SEK är Sveriges röst i standardiseringsarbetet inom elområdet

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SEK samordnar svenska intressenters medverkan i SEKs tekniska kommittéer och stödjer svenska experters medverkan i internationella och europeiska projekt.

Stora delar av arbetet sker internationellt

Utformningen av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

Standardiseringsarbetet inom SEK är organiserat i referensgrupper bestående av ett antal tekniska kommittéer som speglar hur arbetet inom IEC och CENELEC är organiserat.

Arbetet i de tekniska kommittéerna är öppet för alla svenska organisationer, företag, institutioner, myndigheter och statliga verk. Den årliga avgiften för deltagandet och intäkter från försäljning finansierar SEKs standardiseringsverksamhet och medlemsavgift till IEC och CENELEC.

Var med och påverka!

Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

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

SEK

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English version

**Electromagnetic compatibility (EMC)
Part 4-5: Testing and measurement techniques -
Surge immunity test
(IEC 61000-4-5:2005)**

Compatibilité électromagnétique (CEM)
Partie 4-5: Techniques d'essai
et de mesure -
Essai d'immunité aux ondes de choc
(CEI 61000-4-5:2005)

Elektromagnetische Verträglichkeit
(EMV)
Teil 4-5: Prüf- und Messverfahren -
Prüfung der Störfestigkeit gegen
Stoßspannungen
(IEC 61000-4-5:2005)

This European Standard was approved by CENELEC on 2006-10-01. 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 77B/467/FDIS, future edition 2 of IEC 61000-4-5, prepared by SC 77B, High frequency phenomena, of IEC TC 77, Electromagnetic compatibility, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61000-4-5 on 2006-10-01.

This European Standard supersedes EN 61000-4-5:1995 + A1:2001.

Particularly the clauses dedicated to coupling/decoupling networks and to test setups are more detailed.

The following dates were fixed:

- | | | |
|--|-------|------------|
| – latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement | (dop) | 2007-07-01 |
| – latest date by which the national standards conflicting
with the EN have to be withdrawn | (dow) | 2009-10-01 |

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61000-4-5:2005 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 60664	NOTE Harmonized as EN 60664 (series) (not modified).
IEC 61643	NOTE Harmonized as EN 61643 (series) (not modified).

Annex ZA
(normative)

**Normative references to international publications
with their corresponding European publications**

The following referenced documents are indispensable for the application 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 When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050-161	- ¹⁾	International Electrotechnical Vocabulary (IEV) Chapter 161: Electromagnetic compatibility	-	-
IEC 60060-1	- ¹⁾	High-voltage test techniques Part 1: General definitions and test requirements	HD 588.1 S1	1991 ²⁾
IEC 60469-1	- ¹⁾	Pulse techniques and apparatus Part 1: Pulse terms and definitions	-	-

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

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ELECTROMAGNETIC COMPATIBILITY (EMC) –

Part 4-5 : Testing and measurement techniques – Surge immunity test

1 Scope and object

This part of IEC 61000 relates to the immunity requirements, test methods, and range of recommended test levels for equipment to unidirectional surges caused by overvoltages from switching and lightning transients. Several test levels are defined which relate to different environment and installation conditions. These requirements are developed for and are applicable to electrical and electronic equipment.

The object of this standard is to establish a common reference for evaluating the immunity of electrical and electronic equipment when subjected to surges. The test method documented in this part of IEC 61000 describes a consistent method to assess the immunity of an equipment or system against a defined phenomenon.

NOTE As described in IEC Guide 107, this is a basic EMC publication for use by product committees of the IEC. As also stated in Guide 107, the IEC product committees are responsible for determining whether this immunity test standard should be applied or not, and if applied, they are responsible for determining the appropriate test levels and performance criteria. TC 77 and its sub-committees are prepared to co-operate with product committees in the evaluation of the value of particular immunity tests for their products.

This standard defines:

- a range of test levels;
- test equipment;
- test setups;
- test procedures.

The task of the described laboratory test is to find the reaction of the EUT under specified operational conditions, to surge voltages caused by switching and lightning effects at certain threat levels.

It is not intended to test the capability of the EUT's insulation to withstand high-voltage stress. Direct injections of lightning currents, i.e, direct lightning strikes, are not considered in this standard.

2 Normative references

The following referenced documents are indispensable for the application 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(161), *International Electrotechnical Vocabulary (IEV) – Chapter 161: Electro-magnetic compatibility*