

Svenska Elektriska Kommissionen, SEK

Fastställt	Utgåva	Sida	Ingår i
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Elektromagnetisk kompatibilitet (EMC) – Del 2-12: Miljöförhållanden – Kompatibilitetsnivåer för lågfrekventa ledningsbundna störningar och signalnivåer på mellanspänningsnät

*Electromagnetic compatibility (EMC) –**Part 2-12: Environment –**Compatibility levels for low-frequency conducted disturbances and signalling
in public medium-voltage power supply systems*

Som svensk standard gäller europastandarden EN 61000-2-12:2003. Den svenska standarden innehåller den officiella engelska språkversionen av EN 61000-2-12:2003.

Nationellt förord

Europastandarden EN 61000-2-12:2003

består av:

- europastandardens ikraftsättningsdokument, utarbetat inom CENELEC
- IEC 61000-2-12, First edition, 2003 - Electromagnetic compatibility (EMC) -
Part 2-12: Environment - Compatibility levels for
low-frequency conducted disturbances and signalling in
public medium-voltage power supply systems

utarbetad inom International Electrotechnical Commission, IEC.

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

Svenska Elektriska Kommissionen, SEK, 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.

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

Box 1284
164 29 Kista
Tel 08-444 14 00
www.sekom.se

Electromagnetic compatibility (EMC)
Part 2-12 : Environment –
Compatibility levels for low-frequency conducted disturbances and
signalling in public medium-voltage power supply systems
(IEC 61000-2-12:2003)

Compatibilité électromagnétique (CEM)
Partie 2-12: Environnement –
Niveaux de compatibilité pour
les perturbations conduites à basse
fréquence et la transmission des signaux
sur les réseaux publics d'alimentation
moyenne tension
(CEI 61000-2-12:2003)

Elektromagnetische Verträglichkeit
Teil 2-12: Umgebungsbedingungen -
Verträglichkeitspegel für niederfrequente
leitungsgeführte Störgrößen und
Signalübertragung in öffentlichen
Mittelspannungsnetzen
(IEC 61000-2-12:2003)

This European Standard was approved by CENELEC on 2003-06-01. 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, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and 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 77A/404/FDIS, future edition 1 of IEC 61000-2-12, prepared by SC 77A, Low frequency phenomena, of IEC TC 77, Electromagnetic compatibility, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61000-2-12 on 2003-06-01.

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) 2004-03-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2006-06-01

Annexes designated "normative" are part of the body of the standard.

Annexes designated "informative" are given for information only.

In this standard, annex ZA is normative and annexes A and B are informative.

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61000-2-12:2003 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 60038	NOTE	Harmonized as HD 472 S1:1989 (modified).
IEC 60868	NOTE	Harmonized as HD 498 S1:1987 (not modified).
IEC 60868-0	NOTE	Harmonized as EN 60868-0:1993 (not modified).
IEC 61000-3-2	NOTE	Harmonized as EN 61000-3-2:2000 (modified).
IEC 61000-3-3	NOTE	Harmonized as EN 61000-3-3:1995 (not modified).

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

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 60071	Series	Insulation co-ordination	EN 60071	Series
IEC 60071-1	- ¹⁾	Insulation co-ordination Part 1: Definitions, principles and rules	EN 60071-1	1995 ²⁾
IEC 61000-2-2	- ¹⁾	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 ²⁾
IEC 61000-2-4	- ¹⁾	Part 2-4: Environment - Compatibility levels in industrial plants for low- frequency conducted disturbances	EN 61000-2-4	2002 ²⁾
IEC 61000-4-7	- ¹⁾	Part 4-7: Testing and measurement techniques - General guide on harmonics and interharmonics measurements and instrumentation, for power supply systems and equipment connected thereto	EN 61000-4-7	2002 ²⁾

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

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ELECTROMAGNETIC COMPATIBILITY (EMC) –

Part 2-12: Environment – Compatibility levels for low-frequency conducted disturbances and signalling in public medium-voltage power supply systems

1 Scope and object

This part of IEC 61000 is concerned with conducted disturbances in the frequency range from 0 kHz to 9 kHz, with an extension up to 148,5 kHz specifically for mains signalling systems. It gives compatibility levels for public medium voltage a.c. distribution systems having a nominal voltage between 1 kV and 35 kV and a nominal frequency of 50 Hz or 60 Hz (see IEC 60038).

Compatibility levels are specified for electromagnetic disturbances of the types which can be expected in public medium voltage power supply systems, for guidance in:

- a) the limits to be set for disturbance emission into public power supply systems (including the planning levels defined in 3.1.5);
- b) the immunity limits to be set by product committees and others for the equipment exposed to the conducted disturbances present in public power supply systems.

The disturbance phenomena considered are:

- voltage fluctuations and flicker;
- harmonics up to and including order 50;
- inter-harmonics up to the 50th harmonic;
- voltage distortions at higher frequencies (above 50th harmonic);
- voltage dips and short supply interruptions;
- voltage unbalance;
- transient overvoltages;
- power frequency variation;
- d.c. components;
- mains signalling.

Most of these phenomena are described in IEC 61000-2-1. In cases where it is not yet possible to establish compatibility levels, some information is provided.

The medium-voltage systems covered by this standard are public distribution systems supplying either:

- a) private installations in which equipment is connected directly or through transformers, or
- b) substations feeding public low-voltage distribution systems.

The compatibility levels specified in this standard apply at the point of common coupling in the case of (a) and at the medium-voltage terminals of the substation in the case of (b). See Clause 4.

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 60071(all parts), *Insulation co-ordination*

IEC 60071-1, *Insulation co-ordination – Part 1: Definitions, principles and rules*

IEC 61000-2-2, *Electromagnetic compatibility (EMC) – Part 2-2: Environment – Compatibility levels for low-frequency conducted disturbances and signalling in public low-voltage power supply systems*

IEC 61000-2-4, *Electromagnetic compatibility (EMC) – Part 2-4: Environment – Compatibility levels in industrial plants for low-frequency conducted disturbances*

IEC 61000-4-7, *Electromagnetic compatibility (EMC) – Part 4-7: Testing and measurement techniques – General guide on harmonics and interharmonics measurements and instrumentation, for power supply systems and equipment connected thereto*