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**Järnvägsanläggningar –
Fasta installationer –
Elsäkerhet, jordning och returströmkrets –
Del 3: Ömsesidig påverkan mellan växelströmsbanor och likströmsbanor**

Railway applications –

Fixed installations –

Electrical safety, earthing and the return circuit –

Part 3: Mutual Interaction of a.c. and d.c. traction systems

Som svensk standard gäller europastandarden EN 50122-3:2010. Den svenska standarden innehåller den officiella engelska språkversionen av EN 50122-3:2010.

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.

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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 Svensk Elstandard

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

**Railway applications -
Fixed installations -
Electrical safety, earthing and the return circuit -
Part 3: Mutual Interaction of a.c. and d.c. traction systems**

Applications ferroviaires -
Installations fixes -
Sécurité électrique, mise à la terre et
circuit de retour -
Partie 3: Interactions mutuelles entre
systèmes de traction en courant alternatif
et en courant continu

Bahnanwendungen -
Ortsfeste Anlagen -
Elektrische Sicherheit, Erdung und
Rückleitung -
Teil 3: Gegenseitige Beeinflussung von
Wechselstrom- und
Gleichstrombahnsystemen

This European Standard was approved by CENELEC on 2010-10-01. 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, 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, 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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

This European Standard was prepared by SC 9XC, Electric supply and earthing systems for public transport equipment and ancillary apparatus (Fixed installations), of Technical Committee CENELEC TC 9X, Electrical and electronic applications for railways. It was submitted to the formal vote and was approved by CENELEC as EN 50122-3 on 2010-10-01.

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

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) 2011-10-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2013-10-01

This draft European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and covers essential requirements of EC Directives 96/48/EC (HSR), 2001/16/EC (CONRAIL) and 2008/57/EC (RAIL). See Annex ZZ.

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1 Scope

This European Standard specifies requirements for the protective provisions relating to electrical safety in fixed installations, when it is reasonably likely that hazardous voltages or currents will arise for people or equipment, as a result of the mutual interaction of a.c. and d.c. electric traction systems.

It also applies to all aspects of fixed installations that are necessary to ensure electrical safety during maintenance work within electric traction systems.

The mutual interaction can be of any of the following kinds:

- parallel running of a.c. and d.c. electric traction systems;
- crossing of a.c. and d.c. electric traction systems;
- shared use of tracks, buildings or other structures;
- system separation sections between a.c. and d.c. electric traction systems.

Scope is limited to basic frequency voltages and currents and their superposition. This European Standard does not cover radiated interferences.

This European Standard applies to all new lines, extensions and to all major revisions to existing lines for the following electric traction systems:

- a) railways;
- b) guided mass transport systems such as:
 - 1) tramways,
 - 2) elevated and underground railways,
 - 3) mountain railways,
 - 4) trolleybus systems, and
 - 5) magnetically levitated systems, which use a contact line system;
- c) material transportation systems.

The standard does not apply to:

- d) mine traction systems in underground mines;
- e) cranes, transportable platforms and similar transportation equipment on rails, temporary structures (e.g. exhibition structures) in so far as these are not supplied directly or via transformers from the contact line system and are not endangered by the traction power supply system for railways;
- f) suspended cable cars;
- g) funicular railways;
- h) procedures or rules for maintenance.

NOTE The rules given in this European Standard can also be applied to mutual interaction with non-electrified tracks, if hazardous voltages or currents can arise from a.c. or d.c. electric traction systems.

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.

EN 50122-1:2010, *Railway applications – Fixed installations – Electrical safety, earthing and the return circuit – Part 1: Protective provisions against electric shock*

EN 50122-2:2010, *Railway applications – Fixed installations – Electrical safety, earthing and the return circuit – Part 2: Provisions against the effects of stray currents caused by d.c. traction systems*