Irish Standard
I.S. 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

I.S. EN 50122-2:2010

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English version

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

Applications ferroviaires - Installations fixes - Sécurité électrique, mise à la terre et circuit de retour - Partie 2: Mesures de protection contre les effets des courants vagabonds issus de la traction électrique à courant continu

Bahnanwendungen - Ortsfeste Anlagen - Elektrische Sicherheit, Erdung und Rückleitung - Teil 2: Schutzmaßnahmen gegen Streustromwirkungen durch Gleichstrom-Zugförderungssysteme

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

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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 50122-2 on 2010-10-01.

This document supersedes EN 50122-2:1998 + A1:2002.

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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Figures

1 Scope

This European Standard specifies requirements for protective provisions against the effects of stray currents, which result from the operation of d.c. traction systems.

As experience for several decades has not shown evident corrosion effects from a.c. traction systems and actual investigations are not completed, this European Standard only deals with stray currents flowing from a d.c. traction system.

This European Standard applies to all metallic fixed installations which form part of the traction system, and also to any other metallic components located in any position in the earth, which can carry stray currents resulting from the operation of the railway system.

This European Standard applies to all new d.c. lines and to all major revisions to existing d.c. lines. The principles may also be applied to existing electrified transportation systems where it is necessary to consider the effects of stray currents.

It provides design requirements to allow maintenance.

The range of application includes:

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.

This European 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 from the contact line system and are not endangered by the traction power supply system,

f) suspended cable cars,

g) funicular railways.

This European Standard does not specify working rules for maintenance.

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 50122-3:2010, *Railway applications – Fixed installations – Electrical safety, earthing and the return circuit – Part 3: Mutual interaction of a.c. and d.c. traction systems*

EN 50162:2004, *Protection against corrosion by stray current from direct current systems*

EN 50163, *Railway applications – Supply voltages of traction systems*