NSAI Standards

Irish Standard
I.S. EN 50500:2008&A1:2015

Measurement procedures of magnetic field levels generated by electronic and electrical apparatus in the railway environment with respect to human exposure

I.S. EN 50500:2008&A1:2015

Incorporating amendments/corrigenda/National Annexes issued since publication:

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Údarás um Chaighdeáin Náisiúnta na hÉireann

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50500:2008/A1

March 2015

ICS 17.240

English Version

Measurement procedures of magnetic field levels generated by electronic and electrical apparatus in the railway environment with respect to human exposure

Procédures de mesure des niveaux de champ magnétique générés par les appareils électriques et électroniques dans l'environnement ferroviaire en regard de l'exposition humaine

Messverfahren für magnetische Felder, die durch elektronische und elektrische Geräte in der Bahnumgebung erzeugt werden, hinsichtlich der Exposition von Personen

This amendment A1 modifies the European Standard EN 50500:2008; it was approved by CENELEC on 2015-01-12. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 CEN-CENELEC Management Centre or to any CENELEC member.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Ref. No. EN 50500:2008/A1:2015 E

Foreword

This document (EN 50500:2008/A1:2015) has been prepared by CLC/TC 9X "Electrical and electronic applications for railways".

The following dates are fixed:

• latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2016-01-12
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2018-01-12

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50500

July 2008

ICS 17.240

English version

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This European Standard was approved by CENELEC on 2008-06-01. 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.

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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

Ref. No. EN 50500:2008 E

Foreword

This European Standard was prepared by the Technical Committee CENELEC TC 9X, Electrical and electronic applications for railways.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50500 on 2008-06-01.

This European Standard is to be read in conjunction with EN 50392.

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)	2009-06-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2011-06-01

Contents

Introduction

The intention of this European Standard is to establish a suitable measuring/calculation method for determining the magnetic fields in the space around the equipment mentioned in the scope, to standardize operating conditions and to fix measuring/calculation distances. It offers a method to demonstrate compliance with the council recommendation 1999/519/EC (see Bibliography) and Directive 2004/40/EC (see Bibliography).

1 Scope

The scope of this product-family standard is limited to apparatus, systems and fixed installations which are intended for use in the railway environment. The frequency range covered is 0 Hz to 300 GHz.

Technical considerations and measurements are necessary for frequencies up to 20 kHz because no relevant field strengths are expected above due to the physical nature of EMF-sources in the railway environment.

The object of this standard is to provide measurement and calculation procedures of electric and magnetic field levels generated by electronic and electrical apparatus in the railway environment with respect to human exposure.

The regulations regarding the protection of human being during exposure to non-ionizing electromagnetic fields in the railway environment are different within the countries of European Community. This standard offers a procedure regarding measurement, simulation and evaluation.

At present two European documents regarding EMF have to be considered:
a) Council Recommendation 1999/519/EC of 12 July 1999 (see Bibliography);
b) Directive 2004/40/EC (see Bibliography).

The measurement procedures and points of measurement cover also the aspect of persons bearing active implantable medical devices.

NOTE 1 Not covered is the risk assessment for persons bearing active implants in magnetic field generated by electronic and electrical apparatus in the railway environment.

Not covered are personal electronic devices (e.g. mobile phones, notebooks, wireless communication systems etc.) of passengers and workers.

Not covered are intentional transmitters with frequencies higher than 20 kHz.

NOTE 2 These apparatus (with a working frequency of 9 kHz or higher) are covered by R&TTE Directive and have to comply also with LVD (Low Voltage Directive). In this view these apparatus have also limitation of EM fields or a “safety-distance” for these apparatus must be given.