

## **Raudteealased rakendused. Isolatsiooni koordineatsioon. Osa 2: Ülepinged ja ülepingekaitse**

Railway applications - Insulation coordination - Part 2: Overvoltages and related protection

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 50124-2:2002 sisaldab Euroopa standardi EN 50124-2:2001 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 10.09.2002 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 50124-2:2002 consists of the English text of the European standard EN 50124-2:2001.</p> <p>This document is endorsed on 10.09.2002 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p><b>Käsitlusala:</b></p> <p>This prEN 50124-2 applies to: - Fixed installations (downstream the secondary of the substation transformer) and rolling stock equipment linked to the contact line of one of the systems defined in EN 50163; - Rolling stock equipment linked to a train line. This prEN 50124-2 gives simulation and/or test requirements for protection against transient overvoltages of such equipment. Long-term overvoltages are not treated in this document</p>	<p><b>Scope:</b></p> <p>This prEN 50124-2 applies to: - Fixed installations (downstream the secondary of the substation transformer) and rolling stock equipment linked to the contact line of one of the systems defined in EN 50163; - Rolling stock equipment linked to a train line. This prEN 50124-2 gives simulation and/or test requirements for protection against transient overvoltages of such equipment. Long-term overvoltages are not treated in this document</p>
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**Võtmesõnad:** co-ordination, definition, definitions, electrical insulating materials, insulation coordination, metal oxide arresters, overvoltage, overvoltage protection, protective measures, railroad vehicles, railway applications, railway vehicles, railways, transient

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English version

**Railway applications - Insulation coordination  
Part 2: Overvoltages and related protection**

Applications ferroviaires -  
Coordination de l'isolement  
Partie 2: Surtensions et protections  
associées

Bahnanwendungen -  
Isulationskoordination  
Teil 2: Überspannungen und geeignete  
Schutzmaßnahmen

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**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 the Technical Committee CENELEC TC 9X, Electrical and electronic applications in railways.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50124-2 on 1998-10-01.

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) 2001-10-01
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 2002-10-01

Annexes designated "informative" are given for information only.  
In this standard, annex A is informative.

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## Introduction

This European Standard is part of the series EN 50124, Railway applications - Insulation coordination, which consists of two parts:

- EN 50124-1 Part 1: Basic requirements - Clearances and creepage distances for all electrical and electronic equipment;
- EN 50124-2 Part 2: Overvoltages and related protection.

This EN 50124-2 is also linked to EN 50163:1995, Railway applications - Supply voltages of traction systems. This EN 50124-2 deals with the shortest durations of overvoltages referred to as zone A and zone B in annex A of EN 50163, which is reproduced as an informative annex A of this EN 50124-2.

## 1 Scope

This European Standard applies to:

- Fixed installations (downstream the secondary of the substation transformer) and rolling stock equipment linked to the contact line of one of the systems defined in EN 50163;
- Rolling stock equipment linked to a train line.

This standard gives simulation and/or test requirements for protection against transient overvoltages of such equipment.

Long-term overvoltages are not treated in this document.

## 2 Normative references

This European Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate place in the text and the publications are listed thereafter. 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.

EN 50123-5	1997	Railway applications - Fixed installations - D.C. switchgear Part 5: Surge arresters and low-voltage limiters for specific use in d.c. systems
EN 50163	1995	Railway applications - Supply voltages of traction systems
EN 60099-1	1994	Surge arresters Part 1: Non-linear resistor type gapped surge arresters for a.c. systems (IEC 60099-1:1991)
EN 60099-4	1993	Surge arresters Part 4: Metal-oxide surge arresters without gaps for a.c. systems (IEC 60099-4:1991)
HD 625.1 S1	1996	Insulation coordination for equipment within low-voltage systems Part 1: Principles, requirements and tests (IEC 60664-1:1992, modified)
UIC 550	1994	Power supply installations for passenger stock

## 3 Definitions

For the purpose of this standard, the following definitions apply:

NOTE The definitions are in accordance with those of EN 50163 (see also annex A). Long-term, medium-term and short-term overvoltages are equivalent to respectively temporary, switching and lightning overvoltages defined in HD 625.1 S1 (IEC 60664-1).

### 3.1 overvoltage

any voltage having a peak value exceeding the corresponding peak value of maximum steady-state voltage at normal operating conditions [IEC 60664-1]