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NSAI Standards

Irish Standard
I.S. EN 50124-2:2017

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

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**I.S. EN 50124-2:2017**

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| NSAI | T +353 1 807 3800 | Sales: |
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## National Foreword

I.S. EN 50124-2:2017 is the adopted Irish version of the European Document EN 50124-2:2017, Railway applications - Insulation coordination - Part 2: Overvoltages and related protection

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

# EN 50124-2

March 2017

ICS 29.080.01; 29.280

Supersedes EN 50124-2:2001

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 - Isolationskoordination - Teil 2: Überspannungen und zugeordnete Schutzmaßnahmen

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Europäisches Komitee für Elektrotechnische Normung

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

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# Contents

Page

European foreword ..... 3
Introduction ..... 4
1 Scope ..... 5
2 Normative references ..... 5
3 Terms and Definitions ..... 5
4 Contact line network ..... 6
4.1 Equipment not protected by a metal-oxide arrester ..... 6
4.2 Equipment protected by a metal-oxide arrester ..... 6
4.2.1 General ..... 6
4.2.2 Simulation for long pulse ..... 6
4.2.3 Simulation for short pulse ..... 9
5 Train line network ..... 9
5.1 Equipment not protected by a metal-oxide arrester ..... 9
5.2 Equipment protected by a metal-oxide arrester ..... 10
6 Tests ..... 10
Annex A (informative) Maximum value of voltage *U* according to duration ..... 11
Annex ZZ (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2008/57/EC ..... 13

Tables

Table 1 — Values of the reference voltage $U_p$ ..... 7
Table A.1 — Overvoltages ..... 12
Table ZZ.1 — Correspondence between this European Standard, the TSI “Locomotives and Passenger Rolling Stock” (REGULATION (EU) No 1302/2014 of 18 November 2014) and Directive 2008/57/EC ..... 13
Table ZZ.2 — Correspondence between this European Standard, the TSI “Energy” (REGULATION (EU) No 1301/2014 of 18 November 2014) and Directive 2008/57/EC ..... 13

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# European foreword

This document (EN 50124-2:2017) 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) | 2018–02–06 |
| • latest date by which the national standards conflicting with this document have to be withdrawn | (dow) | 2020–02–06 |

This document supersedes EN 50124-2:2001.

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

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of this document.

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# Introduction

This European Standard is part of the EN 50124 series, Railway applications – Insulation coordination.

EN 50124 consists of two parts:

— EN 50124-1, *Railway applications - Insulation coordination - Part 1: Basic requirements - Clearances and creepage distances for all electrical and electronic equipment*;

— EN 50124-2, *Railway applications - Insulation coordination - Part 2: Overvoltages and related protection*.

This Part 2 deals with the shortest durations of overvoltages referred to as Zone A and Zone B in Figure A.1 in Annex A.

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# 1 Scope

This European Standard applies to:

— fixed installations (downstream of 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 European Standard gives simulation and/or test requirements for protection against transient overvoltages of such equipment.

Long-term overvoltages are not addressed in this document.

# 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 50163:2004, *Railway applications - Supply voltages of traction systems*

EN 50533, *Railway applications - Three-phase train line voltage characteristics*

EN 60099-4, *Surge arresters - Part 4: Metal-oxide surge arresters without gaps for a.c. systems (IEC 60099-4)*

# 3 Terms and Definitions

For the purposes of this document, the following terms and 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 EN 60664–1.

## 3.1 Voltages

**3.1.1**
**overvoltage**
voltage having a peak value exceeding the corresponding peak value of maximum steady-state voltage at normal operating conditions

[SOURCE: EN 60664-1]

**3.1.2**
**long-term overvoltage**
overvoltage at relatively long duration due to voltage variations

Note 1 to entry: A long-term overvoltage is independent of the network load. It is characterized by a voltage/time curve.

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