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INTERNATIONAL STANDARD

NORME INTERNATIONALE

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

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

IEC 62497-2:2010

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 62497-2 has been prepared by IEC technical committee 9: Electrical equipment and systems for railways.

This standard is based on EN 50124-2.

The text of this standard is based on the following documents:

FDIS	Report on voting
9/1336/FDIS	9/1359/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of IEC 62497 series, under the general title *Railway applications – Insulation coordination*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

This International Standard is part of the series IEC 62497, Railway applications – Insulation coordination.

IEC 62497 consists of two parts:

– IEC 62497-1: Part 1: Basic requirements – Clearances and creepage distances for all electrical and electronic equipment;

– IEC 62497-2: 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 informative Annex A.

RAILWAY APPLICATIONS – INSULATION COORDINATION –

Part 2: Overvoltages and related protection

1 Scope

This part of IEC 62497 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 IEC 60850;

– 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 standard.

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.

IEC 60099-1, *Surge arresters – Part 1: Non-linear resistor type gapped arresters for a.c. systems*

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

IEC 60850, *Railway applications – Supply voltages of traction systems*

IEC 61992-5, *Railway applications – Fixed installations – D.C. switchgear – Part 5: Surge arresters and low-voltage limiters for specific use in d.c. systems*

UIC 550, *Power supply installations for passenger stock*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply:

3.1
voltages

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

3.1.2
temporary overvoltage
an overvoltage of relatively long duration due to voltage variations