



# SLOVENSKI STANDARD

## oSIST prEN 50562-1:2025

01-julij-2025

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**Fiksni postroji za železniške naprave - Varnost napajalnih sistemov električne vleke - 1. del: Splošni pristop za konvencionalne načine uporabe, funkcije in lastnosti**

Fixed installations for railway applications - Safety of electric traction power supply systems - Part 1: Generic approach for conventional applications, functions and properties

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Električna vlečna oprema

Electric traction equipment

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Will supersede EN 50562:2018 (PART)

English Version

**Fixed installations for railway applications - Safety of electric  
traction power supply systems - Part 1: Generic approach for  
conventional applications, functions and properties**

To be completed

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This draft European Standard is submitted to CENELEC members for enquiry.  
Deadline for CENELEC: 2025-08-22.

It has been drawn up by CLC/SC 9XC.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CENELEC 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 CEN-CENELEC Management Centre has the same status as the official versions.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

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**prEN 50562-1:2025 (E)****86 European foreword**

87 This document (prEN 50562-1:2025) has been prepared by CLC/SC 9XC “Electric supply and earthing  
88 systems for public transport equipment and ancillary apparatus (Fixed installations)” of CLC/TC 9X  
89 “Electrical and electronic applications for railways”.

90 This document is currently submitted to the Enquiry.

91 The following dates are proposed:

- latest date by which the existence of this document has to be announced at national level (doa) dav + 6 months
- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) dav + 12 months
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) dav + 36 months (to be confirmed or modified when voting)

92 This document will partially supersede EN 50562:2018.

93 prEN 50562-1:2025 includes the following significant technical changes with respect to EN 50562:2018:

94 — The standard has been supplemented by a second part. Part 1 covers conventional applications,  
95 functions and properties by the application of codes of practice. Part 2 covers non-conventional  
96 applications, functions and properties by application of codes of practice of other provenance,  
97 comparison with reference systems and explicit risk estimation.

98 — Annex B “Documents related to EN 50562” has been removed. The content has been shifted to the  
99 Bibliography.

100 — The content of Annex C “Combination of risk acceptance principles” has been integrated in Part 2.

101 — The content of Annex D “Guidance of software for safety functions on system level” has been  
102 integrated in Part 2.

103 The prEN 50562 series consists of the following parts:

104 — Part 1: Generic approach for conventional applications, functions and properties

105 — Part 2: Generic approach for non-conventional applications, functions and properties

106 This document has been prepared under a standardization request addressed to CENELEC by the  
107 European Commission. The Standing Committee of the EFTA States subsequently approves these  
108 requests for its Member States.

109 For the relationship with EU Legislation, see informative Annex ZZ, which is an integral part of this  
110 document.

## 111 Introduction

112 This document supports the application of both parts of EN 50126 with the focus on safety but can also be  
 113 used independently as a standard for the process, protective measures and demonstration of safety for the  
 114 electric traction power supply systems. Within this document “safety” is used with respect to harm to people  
 115 and environment. Safety in terms of harm to assets is covered in the relevant product and application  
 116 standards.

117 This document has been developed specifically to support the realization of EN 50126-1:2017 and  
 118 EN 50126-2:2017 within the context of safety for electric traction power supply systems. It provides generic  
 119 building blocks which assist the fulfilment of the requirements of life cycle steps given in EN 50126-1:2017  
 120 and EN 50126-2:2017. Product and application standards are traditionally applied in fixed installations to  
 121 ensure safety and performance in terms of e.g. reliability and cost efficiency. Within this document the link  
 122 between existing product and application standards, technical specifications for interoperability and  
 123 EN 50126-1:2017 and EN 50126-2:2017 is given.

124 This document complies with the principles of the life cycle modelling according to EN 50126-1:2017 and  
 125 EN 50126-2:2017 by tailoring the risk assessment process, but it does not define the life cycle itself. The  
 126 relation between the process steps and the life cycle proposed in EN 50126-1:2017 and EN 50126-2:2017  
 127 is indicated in prEN 50562-1:2025, Clause 5. This means that this document encompasses major parts of  
 128 the EN 50126-1:2017 and EN 50126-2:2017 life cycle ranging from the concept and system description,  
 129 hazard identification to the demonstration of the implemented protective measures according to EN 50126-  
 130 1:2017 and EN 50126-2:2017. It is not intended to summarize any product and application standard but to  
 131 supplement and ease their application also within the framework of EN 50126-1:2017 and  
 132 EN 50126-2:2017.

133 During the preparation of this document, it became obvious that the residual risks associated with  
 134 conventional electric traction power supply systems are acceptable. This conclusion is based on long term  
 135 experience from several European railways. The technical systems used by these European railways in  
 136 their conventional electric traction power supply systems are equivalent to the generic reference system  
 137 described in this document. In 2006, confidential field data that were taken into account represent more  
 138 than 1 200 000 year km operational experience. To exemplify, the equivalent would be a network size of  
 139 about 80 000 km and the operational experience laid down in traceable field data would cover a period of  
 140 15 years of service. No fatality was reported caused by a product property or a failure of a specified function  
 141 of the conventional electric traction power supply systems.

142 Publications and public surveys from the European Union support the conclusions above even up today.

143 The document is split into two parts. Part 1 establishes the code of practice for electric traction power supply  
 144 systems. It provides a generic approach that is intended to serve for conventional applications, functions  
 145 and properties. It includes a systems description for the generic reference system (see Figure 1) and the  
 146 related subsystems. The interfaces with respect to safety at the system borders and the respective aspects  
 147 to be coordinated are described. Based on the list of top-level hazards and protective measures for risk  
 148 mitigation and hazard control are derived and indications for the verification and validation procedures are  
 149 given.

150 prEN 50562-2:2025 covers the specific approach that supports the implementation of non-conventional  
 151 applications, functions and properties in electric traction power supply systems in the sense of Part 1. It  
 152 includes the two risk acceptance principles that are not considered in Part 1. It describes the basic  
 153 procedure for the comparison with a similar system and an explicit risk estimation at the functional level  
 154 including SIL determination. In this way it is possible to use codes of practice or accepted solutions not  
 155 listed in this document.