



DPC: 24 / 30491793 DC

BSI Group Headquarters

389 Chiswick High Road London W4 4AL

Tel: +44 (0)20 8996 9000

Fax: +44 (0)20 8996 7400

www.bsigroup.com

Date: 24 April 2024

Origin: European

Latest date for receipt of comments: 12 June 2024

Project No. 2024/01215

Responsible committee: GEL/9/3 Railway Electrotechnical Applications - Fixed Equipment

Interested committees:

Title: Draft BS EN 50122-2/A1 Fixed installations for railway applications - Electrical safety, earthing and the return circuit

Part 2: Provisions against the effects of stray currents caused by DC traction systems

Please notify the secretary if you are aware of any keywords that might assist in classifying or identifying the standard or if the content of this standard

- i) has any issues related to 3rd party IPR, patent or copyright
- ii) affects other national standard(s)
- iii) requires additional national guidance or information

**WARNING: THIS IS A DRAFT AND MUST NOT BE REGARDED OR USED AS A BRITISH STANDARD.
THIS DRAFT IS NOT CURRENT BEYOND 12 June 2024**

This draft is issued to allow comments from interested parties; all comments will be given consideration prior to publication. No acknowledgement will normally be sent. **See overleaf for information on the submission of comments.**

No copying is allowed, in any form, without prior written permission from BSI except as permitted under the Copyright, Designs and Patent Act 1988 or for circulation within a nominating organization for briefing purposes. Electronic circulation is limited to dissemination by e-mail within such an organization by committee members.

Further copies of this draft may be purchased from BSI Shop <http://shop.bsigroup.com> or from BSI Customer Services, Tel: +44(0) 20 8996 9001 or email cservices@bsigroup.com. British, International and foreign standards are also available from BSI Customer Services.

Information on the co-operating organizations represented on the committees referenced above may be obtained from <http://standardsdevelopment.bsigroup.com>

Responsible Committee Secretary: Ms Bash Berry (BSI)

Direct tel: 0203 142 5620

E-mail: bash.berry@rssb.co.uk

Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
------------------	------------------------

1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/Figure/ Table/Note	Type of comment	Commend (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	

English Version

**Fixed installations for railway applications - Electrical safety,
earthing and the return circuit - Part 2: Provisions against the
effects of stray currents caused by DC traction systems**

Installations Fixes pour applications ferroviaires - Sécurité
électrique, mise à la terre et circuit de retour - Partie 2:
Mesures de protection contre les effets des courants
vagabonds issus de la traction électrique à courant continu

Ortsfeste Anlagen für Bahnanwendungen - Elektrische
Sicherheit, Erdung und Rückleitung - Teil 2:
Schutzmaßnahmen gegen Streustromwirkungen durch
Gleichstrombahnen

This draft amendment prA1, if approved, will modify the European Standard EN 50122-2:2022; it is submitted to CENELEC members for enquiry.
Deadline for CENELEC: 2024-07-12.

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

If this draft becomes an amendment, 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.

This draft amendment 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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

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.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

Contents

Page

European foreword.....	3
1 Modification to the Title	4
2 Modification to Clause 4, Identification of hazards and risks.....	4
3 Modification to 5.1, General.....	4
4 Modification to 5.2, General Criteria for the protection of the tracks	4
5 Modification to 5.3, Criteria for systems with steel reinforced concrete or metallic structures	5
6 Modification to 6.2.3, Track system	5
7 Modification to 6.2.6, Electrical separation between the return circuit and system parts with earth-electrode effect	5
8 Modification to 7.3, Adjacent pipes or cables.....	6
9 Modification to 7.4, Voltage limiting devices	6
10 Modification to Clause 8, Protective provisions applied to metallic structures	6
11 Modification to A.1, Rail resistance	6
12 Modification to A.2, Conductance per length between running rails and steel reinforced structures	7
13 Modification to A.3, Conductance per length for track sections without civil structure	7
14 Modification to A.4, Local conductance per length for track sections without civil structure	8
15 Modification to A.5, Insulated rail joints.....	8
16 Modification to B.1, Repetitive measurements of the rail potential to monitor the conductance.....	8
17 Modification to C.1, Estimation of the stray currents passing from the running rails to the earth	9
18 Modification to C.2, Estimation of the longitudinal voltage in steel reinforced structures ..	9
19 Modification to D.1, General	9
20 Modification to D.2.1, General	9
21 Modification to D.2.2, Initial test.....	9
22 Modification to D.2.3, Heat Aging	9
23 Modification to D.2.4, Influence of winter weather and rain	10
24 Modification to D.2.5, Acceptance criterion of the tests	10
25 Modification to Bibliography	10