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Järnvägstillämpningar – Fasta installationer – Skyddsprinciper för banmatningssystem med växelspänning eller likspänning

Railway applications –

Fixed installations –

Protection principles for AC and DC electric traction systems

Som svensk standard gäller europastandarden EN 50633:2016. Den svenska standarden innehåller den officiella engelska språkversionen av EN 50633:2016.

ICS 29.280.00

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ICS 29.280

English Version

Railway applications - Fixed installations - Protection principles for AC and DC electric traction systems

Applications ferroviaires - Installations fixes - Principes de protection pour les réseaux de traction électrique à courant alternatif et à courant continu

Bahnwendungen - Ortsfeste Anlagen - Schutzprinzipien für AC und DC Bahnenergieversorgungssysteme

This European Standard was approved by CENELEC on 2016-04-18. 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.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

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

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European foreword

This document (EN 50633:2016) has been prepared by CLC/SC 9XC “Electric supply and earthing systems for public transport equipment and ancillary apparatus (Fixed installations)” of 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) 2017-04-18
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2019-04-18

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1 Scope

This European Standard applies to the electrical protection system, provided for AC and DC electric traction systems. It:

- establishes railway specific protection principles;
- describes the railway specific protection system functionality;
- specifies minimum functional requirements and informative examples of their application;
- establishes limitations of the protection system and the acceptability of residual risks;
- specifies principles for conformity assessment.

It applies to:

- railways;
- guided mass transport systems, such as tramways, elevated and underground railways, mountain railways, trolleybus systems, and magnetically levitated systems which use a contact line system.

This European Standard may also be applied to electrified road traffic with a contact line, such as truck-trolley systems.

This European Standard applies to new electric traction systems and may be applied to changes of existing systems.

It does not apply to:

- underground mine traction systems;
- cranes, transportable platforms and similar transportation equipment on rails, temporary structures (e.g. exhibition structures) in so far as these are not supplied directly or via transformers from the contact line system and are not endangered by the traction power supply system;
- suspended cable cars;
- funicular railways;
- magnetic levitated systems (without a contact line system);
- railways with an inductive power supply without contact system;
- railways with a buried contact system that is required to be energized only below the train to ensure safety.

This European Standard does not cover:

- technical requirements for products, e.g. protection devices;
- rules for maintenance of protection systems.

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 50122-1:2011, *Railway applications — Fixed installations — Electrical safety, earthing and the return circuit — Part 1: Protective provisions against electric shock*

EN 50122-3, *Railway applications — Fixed installations — Electrical safety, earthing and the return — Part 3: Mutual Interaction of a.c. and d.c. traction systems*

EN 50123-1, *Railway applications — Fixed installations — D.C. switchgear — Part 1: General*

EN 50123-7-1, *Railway applications — Fixed installations — D.C. switchgear — Part 7-1: Measurement, control and protection devices for specific use in d.c. traction systems — Application guide*

EN 50153, *Railway applications — Rolling stock — Protective provisions relating to electrical hazards*

EN 50327, *Railway applications — Fixed installations — Harmonisation of the rated values for converter groups and tests on converter groups*

EN 50388:2012, *Railway Applications — Power supply and rolling stock — Technical criteria for the coordination between power supply (substation) and rolling stock to achieve interoperability*