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

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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EUROPEAN STANDARD
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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

Bahnanwendungen - Ortsfeste Anlagen - Schutzprinzipien
für AC und DC Bahnenergieversorgungssysteme

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Contents

Page

European foreword.....	4
1 Scope	5
2 Normative references	6
3 Terms and definitions	6
4 System to be protected	12
4.1 Description	12
4.2 Interfaces	14
4.2.1 Infeed	14
4.2.2 Rolling stock	14
4.2.3 Electrical installations fed by the electric traction system	15
5 General principles	15
5.1 Objectives	15
5.2 System requirements	16
5.2.1 General	16
5.2.2 Protection reliability methods	17
5.2.3 Load discrimination	19
5.2.4 Speed of protection	19
5.2.5 Selectivity	20
5.2.6 Economic feasibility	20
5.3 Description of the protection system	20
5.4 Fault and abnormal conditions	21
5.5 Protection concept	22
6 Specific requirements of different systems	23
6.1 General	23
6.2 AC systems	23
6.2.1 Power conversion infeed	23
6.2.2 Busbar infeed	24
6.2.3 Line feeder	24
6.2.4 Switching station feeder	27
6.2.5 Autotransformer	28
6.3 DC systems	28
6.3.1 Power conversion infeed	28
6.3.2 DC Busbar infeed	29
6.3.3 Line feeder	30
6.3.4 Switching station feeder	30
6.3.5 Frame leakage protection	31
6.4 Overview of protection reliability methods	31
7 Limitations and residual risks	32
8 Conformity assessment	34
Annex A (informative) Examples of protection schemes	35
A.1 General	35
A.2 Description of the structure of the protection scheme examples	35
A.3 Protection scheme examples	36
Annex B (informative) Example of a Protection Concept for a 25 kV line section	39
B.1 Introduction	39
B.2 Protection Concept	39

B.3	Interfaces.....	40
B.4	Fault Conditions	40
B.5	Clearance times	40
B.6	Main protection functions	40
B.7	Reliability methods	40
B.8	Selectivity.....	41
B.9	Grading time requirements	41
B.10	Coordination requirements	41
B.11	Maintenance requirements.....	41
B.12	Protection device structure.....	41
B.13	Operating sequence	43
	Bibliography.....	45

Figures

Figure 1	— Electric traction system and its interfaces	14
Figure 2	— Example of a protection system	21
Figure 3	— Example for single protected line sections	25
Figure 4	— Example for a grouped protected line section	26
Figure 5	— Example for an extended protected section of an additional line feeder of a short section by bridged section insulation.....	27
Figure A.1	— Key for protection scheme, example of protected section ‘busbar’	35
Figure A.2	— Example of a protection scheme for AC 50 Hz electric traction systems without busbar infeed circuit breaker	36
Figure A.3	— Example of a protection scheme for AC 16,7 Hz electric traction systems with busbar infeed circuit breaker	37
Figure A.4	— Example of a protection scheme for DC electric traction systems with busbar infeed circuit breaker	38
Figure B.1	— System single line diagram.....	39
Figure B.2	— Scheme functional diagram of feeder breakers A1 and A2	43
Figure B.3	— Typical scheme sequence diagram – Fault on Feeder A	44

Tables

Table 1	— Overview of reliability methods	31
Table 2	— Limitations of protection systems and generic residual risks	33

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*

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