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Railway applications – Fixed installations – Electric traction overhead contact lines systems

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RAILWAY APPLICATIONS – FIXED INSTALLATIONS – ELECTRIC TRACTION OVERHEAD CONTACT LINE SYSTEMS

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This commented version (CMV) of the official standard IEC 60913:2024 edition 3.0 allows the user to identify the changes made to the previous IEC 60913:2013 edition 2.0. Furthermore, comments from IEC TC 9 experts are provided to explain the reasons of the most relevant changes, or to clarify any part of the content.

A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text. Experts' comments are identified by a blue-background number. Mouse over a number to display a pop-up note with the comment.

This publication contains the CMV and the official standard. The full list of comments is available at the end of the CMV.

IEC 60913 has been prepared by IEC technical committee 9: Electrical equipment and systems for railways. It is an International Standard.

This third edition cancels and replaces the second edition published in 2013. This edition constitutes a technical revision.

The European standard EN 50119 has served as a basis for the elaboration of this document.

This edition includes the following significant technical changes with respect to the previous edition:

a) title modified;
b) requirements for urban rail systems are included;
c) requirements for rigid overhead contact line (ROCL) are included;
d) additional definitions for new terms are included (Clause 3);
e) clearances and geometry of overhead contact line are improved (Clause 5);
f) urban aspects are added, for example wall anchors (Clause 6);
g) requirements for monitoring devices, automatic earthing and short-circuiting equipment are included (Clause 7);
h) requirements for overhead contact line for electric vehicles with pantograph on electrified roads are added (Annex E)
i) improvements on the basis of EN 50119:2020 and the questionnaire 9/2619A/Q

The text of this International Standard is based on the following documents:

Draft	Report on voting
9/3031/FDIS	9/3052/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

The reader's attention is drawn to the fact that Annex H lists all of the "in-some-country" clauses on differing practices of a less permanent nature relating to the subject of this document.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

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RAILWAY APPLICATIONS – FIXED INSTALLATIONS – ELECTRIC TRACTION OVERHEAD CONTACT LINE SYSTEMS

1 Scope

~~This International Standard applies to electric traction overhead contact line systems in heavy railways, light railways, trolley busses and industrial railways of public and private operators.~~

~~It applies to new installations of overhead contact line systems and for the complete reconstruction of existing overhead contact line systems.~~

This document specifies the requirements and tests for the design of overhead contact line systems, requirements for structures and their structural calculations and verifications as well as the requirements and tests for the design of assemblies and individual parts.

~~This standard does not provide requirements for conductor rail systems where the conductor rails are located adjacent to the running rails.~~

This document is applicable to electric traction overhead contact line systems in heavy railways, light railways, for trolley bus lines, electric road systems **1** (Annex E) and industrial railways of public and private operators. This document is applicable to new installations of overhead contact line systems and for the complete renewal of existing overhead contact line systems.

This document does not apply to ground level conductor rail systems (see Figure 1).

NOTE Ground level conductor rail means conductor rails located adjacent to the running rail, e.g. the third rail or a conductor rail in the ground.

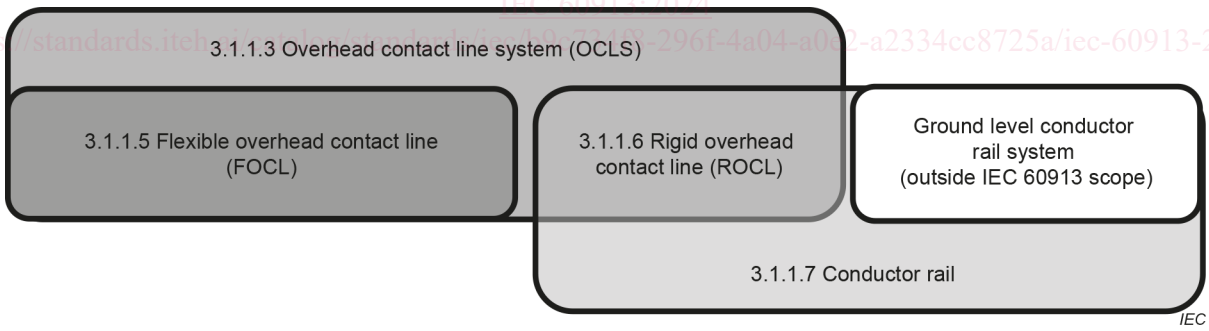

Figure 1 – Scope of contact line systems 2

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

~~NOTE Normative references are made to ISO and IEC standards. For some necessary references, ISO and IEC standards do not exist. In these cases, references are made to European Standards which are normative for Europe according to EN 50119. For non-European countries these references are only informative and listed in the bibliography.~~

~~IEC 60050-811, *International Electrotechnical Vocabulary (IEV) – Chapter 811: Electric traction*~~