

INTERNATIONAL STANDARD



Electric vehicle conductive charging system – Part 23: DC electric vehicle supply equipment





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IEC Secretariat
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTRIC VEHICLE CONDUCTIVE CHARGING SYSTEM –**Part 23: DC electric vehicle supply equipment**

FOREWORD

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This second edition cancels and replaces the first edition published in 2014. This edition constitutes a technical revision.

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

- a) the structure has been rearranged according to IEC 61851-1:2017;
- b) electrical safety requirements in Clause 8 and Clause 12 have been revised based on the requirements in IEC 62477-1 and inspired by the hazard based safety approach of IEC 62368-1;

- c) test methods for checking conformity to the stated requirements have been mostly added; general provisions for compliance tests have been specified in Clause 102;
- d) specific requirements and/or information for the following functions have been added: energy transfer with thermal management system (101.2), bi-directional power transfer control (Annex DD), multi- side B separated EV supply equipment (Annex FF), and communication and energy transfer process (Annex GG);
- e) Annex AA (system A), Annex BB (system B) and Annex CC (system C) have been updated including additions in conjunction with b) and c). This document has been limited to be applicable to system A, system B and system C;
- f) the former Annex DD and Annex EE have been deleted. A new Annex EE, with the requirements for the artificial test load, has been added.
- g) a new informative annex for the touch current and the touch impulse current (Annex HH) has been added.

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

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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.

This document is to be read in conjunction with IEC 61851-1:2017.

The clauses of particular requirements in this document supplement or modify the corresponding clauses in IEC 61851-1:2017. Where the text of subsequent clauses indicates an "addition" to or a "replacement" of the relevant requirement, test specification or explanation of IEC 61851-1:2017, these changes are made to the relevant text of IEC 61851-1:2017, which then becomes part of this document. Where no change is necessary, the words "This clause of IEC 61851-1:2017 is applicable" are used. The new clauses which are not included in IEC 61851-1:2017 have a clause number starting from 101, for example 3.101, 101.1, etc. The annexes of this document are numbered using double-alphabet, for example Annex AA, to avoid confusion with the annexes in IEC 61851-1:2017.

In this document, the following print types are used:

- *test specifications: italic type.*
- notes: smaller roman type.

Figures in this document use L1 and N to represent the connection of the side A of the EV supply equipment to the AC supply network or DC supply network. This is only to simplify the figures and not to impose requirements.

A list of all parts in the IEC 61851 series, published under the general title *Electric vehicle conductive charging system*, can be found on the IEC website.

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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