

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE



**Plugs, socket-outlets, vehicle connectors and vehicle inlets – Conductive charging of electric vehicles –  
Part 1: General requirements**

**Fiches, socles de prise de courant, prises mobiles de véhicule et socles de connecteurs de véhicule – Charge conductive des véhicules électriques –  
Partie 1: Exigences générales**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**PLUGS, SOCKET-OUTLETS, VEHICLE CONNECTORS AND VEHICLE  
INLETS – CONDUCTIVE CHARGING OF ELECTRIC VEHICLES –****Part 1: General requirements****FOREWORD**

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IEC 62196-1 has been prepared by subcommittee 23H: Plugs, socket-outlets and couplers for industrial and similar applications, and for electric vehicles, of IEC technical committee 23: Electrical accessories. It is an International Standard.

This fourth edition cancels and replaces the third 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) deletion of references to universal AC and DC interfaces;
- b) additional requirements for contact materials and plating;
- c) changes to the temperature rise test to include additional points of measurement;
- d) additional tests for accessories to address thermal stresses and stability, mechanical wear and abuse, and exposure to contaminants;



e) relocation of information and requirements for DC charging to IEC 62196-3.

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

Draft	Report on voting
23H/499/FDIS	23H/503/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](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/standardsdev/publications](http://www.iec.ch/standardsdev/publications).

A list of all parts in the IEC 62196 series, published under the general title *Plugs, socket-outlets, vehicle connectors and vehicle inlets – Conductive charging of electric vehicles*, can be found on the IEC website.

Subsequent parts of IEC 62196 deal with the requirements of particular types of accessories. The clauses of those particular requirements supplement or modify the corresponding clauses in this document.

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

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## INTRODUCTION

IEC 61851 (all parts) specifies requirements for electric vehicle (EV) conductive charging systems.

IEC 62196 (all parts) specifies the requirements for plugs, socket-outlets, vehicle connectors, vehicle inlets and cable assemblies as described in the IEC 61851 series.

Some charging can be achieved by direct connection from an electric vehicle to standard socket-outlets connected to a supply network (mains or electrical grid).

Some modes of charging require a dedicated supply and charging equipment incorporating control and communication circuits.

IEC 62196 (all parts) covers the mechanical, electrical and performance requirements for plugs, socket-outlets, vehicle connectors and vehicle inlets for the connection between the EV supply equipment and the electric vehicle.

The IEC 62196 series consists of the following parts:

- Part 1: General requirements, comprising clauses of a general character.
- Part 2: Dimensional compatibility and interchangeability requirements for AC pin and contact-tube accessories.
- Part 3: Dimensional compatibility and interchangeability requirements for DC and AC/DC pin and contact-tube vehicle couplers.
- Part 3-1: Vehicle connector, vehicle inlet and cable assembly intended to be used with a thermal management system for DC charging.
- Part 4<sup>1</sup>: Dimensional compatibility and interchangeability requirements for DC pin and contact-tube accessories for Class II or Class III applications.
- Part 6: Dimensional compatibility and interchangeability requirements for DC pin and contact-tube couplers for applications using a system of protective electrical separation.

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<sup>1</sup> Pending publication.