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Plugs, socket-outlets, vehicle connectors and vehicle  
inlets - Conductive charging of electric vehicles - Part 2:  
Dimensional compatibility requirements for AC pin and  
contact-tube accessories

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 62196-2:2022 sisaldab Euroopa standardi EN IEC 62196-2:2022 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 62196-2:2022 consists of the English text of the European standard EN IEC 62196-2:2022.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 25.11.2022.	Date of Availability of the European standard is 25.11.2022.
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ICS 29.120.30, 43.120

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English Version

Plugs, socket-outlets, vehicle connectors and vehicle inlets -  
Conductive charging of electric vehicles - Part 2: Dimensional  
compatibility requirements for AC pin and contact-tube  
accessories  
(IEC 62196-2:2022)

Fiches, socles de prise de courant, prises mobiles de  
véhicule et socles de connecteurs de véhicule - Charge  
conductive des véhicules électriques - Partie 2: Exigences  
dimensionnelles de compatibilité pour les appareils à  
broches et alvéoles pour courant alternatif  
(IEC 62196-2:2022)

Stecker, Steckdosen, Fahrzeugkupplungen und  
Fahrzeugstecker - Konduktives Laden von  
Elektrofahrzeugen - Teil 2: Maßliche  
Kompatibilitätsanforderungen an  
Wechselspannungssteckvorrichtungen mit Stiften und  
Buchsen  
(IEC 62196-2:2022)

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Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

## European foreword

The text of document 23H/502/FDIS, future edition 3 of IEC 62196-2, prepared by SC 23H "Plugs, Socket-outlets and Couplers for industrial and similar applications, and for Electric Vehicles" of IEC/TC 23 "Electrical accessories" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62196-2:2022.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2023-08-23
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2025-11-23

This document supersedes EN 62196-2:2017 and all of its amendments and corrigenda (if any).

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In the official version, for Bibliography, the following notes have to be added for the standard indicated:

- IEC 61851 (series) NOTE Harmonized as EN IEC 61851 (series)  
IEC 62196-3:2022 NOTE Harmonized as EN IEC 62196-3:2022 (not modified)

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Plugs, socket-outlets, vehicle connectors and vehicle inlets – Conductive charging of electric vehicles –  
Part 2: Dimensional compatibility requirements for AC pin and contact-tube accessories**

**Fiches, socles de prise de courant, prises mobiles de véhicule et socles de connecteurs de véhicule – Charge conductive des véhicules électriques –  
Partie 2: Exigences dimensionnelles de compatibilité pour les appareils à broches et alvéoles pour courant alternatif**



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# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

**Plugs, socket-outlets, vehicle connectors and vehicle inlets – Conductive charging of electric vehicles –  
Part 2: Dimensional compatibility requirements for AC pin and contact-tube accessories**

**Fiches, socles de prise de courant, prises mobiles de véhicule et socles de connecteurs de véhicule – Charge conductive des véhicules électriques –  
Partie 2: Exigences dimensionnelles de compatibilité pour les appareils à broches et alvéoles pour courant alternatif**

INTERNATIONAL  
ELECTROTECHNICAL  
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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**PLUGS, SOCKET-OUTLETS, VEHICLE CONNECTORS AND VEHICLE INLETS – CONDUCTIVE CHARGING OF ELECTRIC VEHICLES –****Part 2: Dimensional compatibility requirements  
for AC pin and contact-tube accessories**

## FOREWORD

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IEC 62196-2 has been prepared by IEC 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 third edition cancels and replaces the second edition published in 2016. This edition constitutes a technical revision.

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

- a) interchangeability requirements have been removed from the title of Part 2;
- b) alignment with IEC 62196-1:2022 and IEC 62196-3:2022;
- c) alignment with IEC 61851-1:2017.

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

Draft	Report on voting
23H/502/FDIS	23H/506/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 the 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.

This document is to be read in conjunction with IEC 62196-1:2022. The clauses of the particular requirements in this document supplement or modify the corresponding clauses in IEC 62196-1:2022. Where the text indicates "addition" to or "replacement" of the relevant requirement, test specification or explanation of IEC 62196-1:2022, these changes are made to the relevant text of IEC 62196-1:2022, which then becomes part of this document. Where no change is necessary, the words "Clause X of IEC 62196-1:2022 is applicable" are used.

Subclauses, figures, tables, or notes which are additional to those in IEC 62196-1:2022 are numbered starting from 201.

In this document, the following print types are used:

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

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- reconfirmed,
- withdrawn,
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- amended.

## INTRODUCTION

IEC 61851 (all parts) specifies requirements for electric vehicle (EV) conductive supply equipment.

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

Some charging using on-board vehicle chargers can be achieved by direct connection from an electric vehicle to an AC supply network using common socket-outlets or by the use of equipment incorporating control and communication circuits.

To support the connection of AC power for such vehicles, this document provides the standard interface configurations of AC vehicle couplers and accessories to be used in conductive charging of electric vehicles, taking the most frequent charging situations into consideration.

IEC 62196 consists of the following parts:

- Part 1: General requirements, comprising clauses of a general character.
- Part 2: Dimensional compatibility requirements for AC pin and contact-tube accessories.
- Part 3: Dimensional compatibility 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: Dimensional compatibility requirements for DC pin and contact-tube accessories for Class II or Class III applications.
- Part 6: Dimensional compatibility requirements for DC pin and contact-tube couplers for applications using a system of protective electrical separation.

# PLUGS, SOCKET-OUTLETS, VEHICLE CONNECTORS AND VEHICLE INLETS – CONDUCTIVE CHARGING OF ELECTRIC VEHICLES –

## Part 2: Dimensional compatibility requirements for AC pin and contact-tube accessories

### 1 Scope

This part of IEC 62196 applies to EV plugs, EV socket-outlets, vehicle connectors and vehicle inlets with pins and contact-tubes of standardized configurations, herein referred to as accessories. These accessories have a nominal rated operating voltage not exceeding 480 V AC, 50 Hz to 60 Hz, and a rated current not exceeding 63 A three phase or 70 A single phase, for use in conductive charging of electric vehicles.

This document covers the basic interface accessories for vehicle supply as specified in IEC 62196-1:2022.

NOTE 1 The term "Electric road vehicles (EV)" comprises all road vehicles, including plug-in hybrid road vehicles (PHEV) that derive all or part of their energy from the rechargeable energy storage systems (RESS).

These accessories are intended to be used for circuits specified in IEC 61851-1:2017, which operate at different voltages and frequencies, and which can include extra-low voltage (ELV) and communication signals.

The use of these accessories for bidirectional power transfer is under consideration.

This document applies to accessories to be used in an ambient temperature between –30 °C and +40 °C.

NOTE 2 In the following country, other requirements regarding the lower temperature may apply: NO.

NOTE 3 In the following country, –35 °C applies: SE.

These accessories are intended to be connected only to cables with copper or copper-alloy conductors.

Vehicle inlets and vehicle connectors described in this document are intended to be used for charging in modes 1, 2 and 3, cases B and C. The EV socket-outlets and EV plugs covered by this document are intended to be used for charging mode 3 only, case A and B.

The modes and permissible connections are specified in IEC 61851-1:2017.

### 2 Normative references

Clause 2 of IEC 62196-1:2022 applies, except as follows:

*Addition:*

IEC 62196-1:2022, *Plugs, socket-outlets, vehicle connectors and vehicle inlets – Conductive charging of electric vehicles – Part 1: General requirements*