



**NSAI**  
Standards

Irish Standard  
I.S. EN 62196-3:2014

Plugs, socket-outlets, vehicle connectors and vehicle inlets - Conductive charging of electric vehicles - Part 3: Dimensional compatibility and interchangeability requirements for d.c. and a.c./d.c. pin and contact-tube vehicle couplers

**I.S. EN 62196-3:2014**

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NSAI  
1 Swift Square,  
Northwood, Santry  
Dublin 9

T +353 1 807 3800  
F +353 1 807 3838  
E standards@nsai.ie  
W NSAI.ie

Sales:  
T +353 1 857 6730  
F +353 1 857 6729  
W standards.ie

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EUROPEAN STANDARD

**EN 62196-3**

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2014

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English Version

**Plugs, socket-outlets, vehicle connectors and vehicle inlets -  
Conductive charging of electric vehicles - Part 3: Dimensional  
compatibility and interchangeability requirements for d.c. and  
a.c./d.c. pin and contact-tube vehicle couplers  
(IEC 62196-3:2014)**

Fiches, socles de prise de courant, prises mobiles de  
véhicule et socles de connecteur de véhicule - Charge  
conductive des véhicules électriques - Partie 3: Exigences  
dimensionnelles de compatibilité et d'interchangeabilité  
pour les connecteurs de véhicule à broches et alvéoles  
pour courant continu et pour courants alternatif et continu  
(CEI 62196-3:2014)

Stecker, Steckdosen und Fahrzeugsteckvorrichtungen -  
Konduktives Laden von Elektrofahrzeugen - Teil 3:  
Anforderungen an und Hauptmaße für Stifte und Buchsen  
für die Austauschbarkeit von Fahrzeugsteckvorrichtungen  
zum dedizierten Laden mit Gleichstrom und als kombinierte  
Ausführung zum Laden mit Wechselstrom/Gleichstrom  
(IEC 62196-3:2014)

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

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European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

## **Foreword**

The text of document 23H/303/FDIS, future edition 1 of IEC 62196-3, prepared by IEC/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 62196-3:2014.

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) 2015-05-28
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2017-07-24

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This standard covers the Principle Elements of the Safety Objectives for Electrical Equipment Designed for Use within Certain Voltage Limits (LVD - 2006/95/EC).

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## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

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.

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NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: [www.cenelec.eu](http://www.cenelec.eu).

Clause 2 of EN 62196-1:2014 applies, except as follows.

*Additional normative reference:*

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 62196-2	2011	Plugs, socket-outlets, vehicle connectors and vehicle inlets - Conductive charging of electric vehicles - Part 2: Dimensional compatibility and interchangeability requirements for a.c. pin and contact-tube accessories	EN 62196-2 +A11 +A12	2012 2013 2014

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**IEC 62196-3**

Edition 1.0 2014-06

# **INTERNATIONAL STANDARD**

# **NORME INTERNATIONALE**

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**Plugs, socket-outlets, vehicle connectors and vehicle inlets – Conductive charging of electric vehicles –  
Part 3: Dimensional compatibility and interchangeability requirements for d.c. and a.c./d.c. pin and contact-tube vehicle couplers**

**Fiches, socles de prise de courant, prises mobiles de véhicule et socles de connecteur de véhicule – Charge conductive des véhicules électriques –  
Partie 3: Exigences dimensionnelles de compatibilité et d’interchangeabilité pour les connecteurs de véhicule à broches et alvéoles pour courant continu et pour courants alternatif et continu**





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

Tel.: +41 22 919 02 11  
Fax: +41 22 919 03 00  
[info@iec.ch](mailto:info@iec.ch)  
[www.iec.ch](http://www.iec.ch)

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**IEC 62196-3**

Edition 1.0 2014-06

# **INTERNATIONAL STANDARD**

# **NORME INTERNATIONALE**

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**Plugs, socket-outlets, vehicle connectors and vehicle inlets – Conductive charging of electric vehicles –  
Part 3: Dimensional compatibility and interchangeability requirements for d.c. and a.c./d.c. pin and contact-tube vehicle couplers**

**Fiches, socles de prise de courant, prises mobiles de véhicule et socles de connecteur de véhicule – Charge conductive des véhicules électriques –  
Partie 3: Exigences dimensionnelles de compatibilité et d’interchangeabilité pour les connecteurs de véhicule à broches et alvéoles pour courant continu et pour courants alternatif et continu**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

**Part 3: Dimensional compatibility and interchangeability requirements  
for d.c. and a.c./d.c. pin and contact-tube vehicle couplers**

## FOREWORD

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International Standard IEC 62196-3 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.

The text of this standard is based on the following documents:

FDIS	Report on voting
23H/303/FDIS	23H/306/RVD

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all the parts in the IEC 62196 series, 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 part of IEC 62196 is to be read in conjunction with IEC 62196-1. The clauses of the particular requirements in Part 3 supplement or modify the corresponding clauses in Part 1. Where the text indicates an "addition" to or a "replacement" of the relevant requirement, test specification or explanation of Part 1, these changes are made to the relevant text of Part 1, which then becomes part of the standard.

Subclauses, figures, tables or notes which are additional to those in IEC 62196-1 are numbered starting from 301.

In this standard, the following print types are used:

- requirements proper: in roman type;
- *test specifications: in italic type*;
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- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

## INTRODUCTION

Responding to global challenges of CO<sub>2</sub> reduction and energy security, the automobile industries have been accelerating the development and commercialization of electric vehicles and hybrid electric vehicles.

In addition to the prevailing hybrid electric vehicles, battery electric vehicles including plug-in hybrid electric vehicles are going to be mass-marketed.

To support the diffusion of such vehicles, this standard provides the standard interface configurations of vehicle couplers to be used in conductive charging of electric vehicles, taking the most frequent charging situations into consideration.

IEC 62196 is divided into several parts as follows:

- Part 1: General requirements, comprising clauses of a general character.
- Part 2: Dimensional compatibility and interchangeability requirements for a.c. pin and contact-tube accessories.
- Part 3: Dimensional compatibility and interchangeability requirements for d.c. and a.c./d.c. pin and contact-tube vehicle couplers.

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

### Part 3: Dimensional compatibility and interchangeability requirements for d.c. and a.c./d.c. pin and contact-tube vehicle couplers

#### 1 Scope

This part of IEC 62196 is applicable to vehicle couplers with pins and contact-tubes of standardized configuration, herein also referred to as “accessories”, intended for use in electric vehicle conductive charging systems which incorporate control means, with rated operating voltage up to 1 500 V d.c. and rated current up to 250 A, and 1 000 V a.c. and rated current up to 250 A.

This part of IEC 62196 applies to high power d.c. interfaces and combined a.c./d.c. interfaces of vehicle couplers specified in IEC 62196-1:2014, and intended for use in conductive charging systems for circuits specified in IEC 61851-1:2010, and IEC 61851-23:2014.

The d.c. vehicle connectors covered by this part of the standard are used only in charging mode 4, according to Case C in Clause 6.2 of IEC 61851-1:2010, Figure 3 in Clause 6.3.1 of IEC 61851-1:2010 and IEC 62196-2:2011.

The d.c. vehicle inlets covered by this part of the standard are used only in charging mode 4, according to Case C in Clause 6.2 of IEC 61851-1:2010, Figure 3 in Clause 6.3.1 of IEC 61851-1:2010.

These vehicle couplers are intended to be used for circuits similar to those specified in IEC 61851-23 which operate at different voltages and which may include ELV and communication signals.

This part of IEC 62196 applies to the vehicle couplers to be used in an ambient temperature of between –30 °C and +50 °C.

NOTE 1 In some countries, other requirements may apply.

NOTE 2 In the following country, –35 °C applies: SE.

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

#### 2 Normative references

Clause 2 of IEC 62196-1:2014 applies, except as follows.

*Additional normative reference:*

IEC 62196-2:2011, *Plugs, socket-outlets, vehicle connectors and vehicle inlets – Conductive charging of electric vehicles – Part 2: Dimensional compatibility and interchangeability requirements for a.c. pin and contact-tube accessories*

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