



**NSAI**  
Standards

Irish Standard  
I.S. EN 62196-2:2017

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

**I.S. EN 62196-2:2017**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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Údarás um Chaighdeáin Náisiúnta na hÉireann

## National Foreword

I.S. EN 62196-2:2017 is the adopted Irish version of the European Document EN 62196-2:2017, 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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EUROPEAN STANDARD

**EN 62196-2**

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2017

ICS 29.120.30; 43.120

Supersedes EN 62196-2:2012

English Version

**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  
(IEC 62196-2:2016)**

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 et d'interchangeabilité  
pour les appareils à broches et alvéoles pour courant  
alternatif  
(IEC 62196-2:2016)

Stecker, Steckdosen, Fahrzeugkupplungen und  
Fahrzeugstecker - Konduktives Laden von  
Elektrofahrzeugen - Teil 2: Anforderungen und Hauptmaße  
für die Kompatibilität und Austauschbarkeit von Stift- und  
Buchsensteckvorrichtungen für Wechselstrom  
(IEC 62196-2:2016)

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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**

**EN 62196-2:2017**

**European foreword**

The text of document 23H/324/CDV, future edition 2 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 62196-2:2017.

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) 2017-10-28
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2020-04-28

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## Annex ZA (normative)

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

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NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

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).

Annex ZA of Part 1 applies.

Addition

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 62196-1 (mod)	2014	Plugs, socket-outlets, vehicle connectors and vehicle inlets - Conductive charging of electric vehicles - Part 1: General requirements	EN 62196-1	2014

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IEC 62196-2

Edition 2.0 2016-02

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

**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**

**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 et d’interchangeabilité pour les appareils à broches et alvéoles pour courant alternatif**



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**IEC 62196-2**

Edition 2.0 2016-02

# **INTERNATIONAL STANDARD**

# **NORME INTERNATIONALE**

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**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**

**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 et d’interchangeabilité pour les appareils à broches et alvéoles pour courant alternatif**

INTERNATIONAL  
ELECTROTECHNICAL  
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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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### **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**

#### FOREWORD

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International Standard 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.

This second edition cancels and replaces the first edition published in 2011 and constitutes a technical revision.

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

- a) Standard sheets for configurations type 2 and type 3 have been updated.
- b) Configuration type 2 is now available with optional shutter.

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

CDV	Report on voting
23H/324/CDV	23H/342/RVC

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 62196-1:2014. The clauses of the particular requirements in Part 2 supplement or modify the corresponding clauses in Part 1. Where the text indicates "addition" to or "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 this standard. Where no change is necessary, the words "Clause X of IEC 62196-1:2014 is applicable" are used.

In this standard, 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,
- 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 a.c. vehicle couplers and accessories to be used in conductive charging of electric vehicles, taking the most frequent charging situations into consideration.

IEC 62196 is divided into several parts:

- Part 1: General requirements
- 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 2: Dimensional compatibility and interchangeability requirements for a.c. pin and contact-tube accessories

#### 1 Scope

This part of IEC 62196 applies to plugs, socket-outlets, vehicle connectors and vehicle inlets with pins and contact-tubes of standardized configurations, herein referred to as accessories. They have a nominal rated operating voltage not exceeding 480 V a.c., 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 part of IEC 62196 covers the basic interface accessories for vehicle supply as specified in IEC 62196-1, and intended for use in conductive charging systems for circuits specified in IEC 61851-1:2010.

NOTE 1 Electric road vehicles (EV) implies all road vehicles, including plug-in hybrid road vehicles (PHEV), that derive all or part of their energy from RESS.

These accessories are intended to be used for circuits specified in IEC 61851-1:2010 which operate at different voltages and frequencies and which may include extra-low voltage (ELV) and communication signals.

These accessories may be used for bidirectional power transfer (under consideration).

This standard applies to accessories to be used in an ambient temperature between  $-30\text{ °C}$  and  $+50\text{ °C}$ .

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

NOTE 3 In the following country,  $-35\text{ °C}$  applies: SE.

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

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

The modes and permissible connections are specified in IEC 62196-1:2014.

#### 2 Normative references

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

*Addition:*

IEC 62196-1:2014, *Plugs, socket-outlets, vehicle connectors and vehicle inlets – Conductive charging of electric vehicles – Part 1: General requirements*

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